The Digital Donga:

Universal Access and Service in South Africa

(1994 - 2014)

by

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Declaration

I declare that the entirety of the work contained herein is my own, original work, that I am the authorship owner thereof (unless to the extent explicitly otherwise stated) and that I have not previously in its entirety or in part submitted it for obtaining any qualification.

Signed:

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Ethics Clearance

The field work for this research was undertaken subject to and in accordance with ethics clearance protocol no H14/05/10 from the University of the Witwatersrand.

Abstract

At the dawn of South Africa's democracy, the majority of its citizens, black, poor and disenfranchised, found themselves at the far side of a deep digital donga[1], cut off from telephony infrastructure, services and content.

At the same time a movement to reform the telecommunications sector was sweeping the globe, driven by technological change, business imperatives and shifting market structures. Its vehicles were a loose cluster of international telecommunications institutions, including the International Telecommunication Union, the World Bank and the WTO. It called for a fundamental overhaul of existing telecommunications regimes, prescribing in their stead: the privatisation of state-owned monopoly telephone incumbents, the introduction of competition into the telecommunications market, and the establishment of independent regulation of the ICT sector. And it developed and espoused a series of international 'best practice' interventions designed to ensure the universal availability and affordability of telecommunications services for those individuals and communities too poor or too remote to enjoy access to ICT infrastructure, services and content.

From 1994, the incoming ANC government embarked on a fundamental reform of the country's telecommunications sector, through a consultative process that led to the passage of legislation that was to shape the country's ICT sector going forward. In addition to creating an independent regulator, and to providing for 'managed liberalisation' of the sector, this included extensive provisions designed to ensure universal, affordable access to telecommunications for all South Africans, particularly the country's poor, black, rural majority.

Rollout and service obligations were imposed on licensees. Levies were collected from licensees, into a fund designed to finance the extension of ICT infrastructure and to support 'needy persons' in securing access to telecommunications services. A dedicated agency was created to manage the fund, and to advance and promote the cause of universal access and service. Some years later a series of licences were awarded to small-scale entrepreneurs in order to provide telecommunications services to under-serviced areas.

[1] South African term for a narrow, steep-sided, dry gully formed by water erosion.

This study documents the rise of international best practice for universal access and service, and examines how this influenced South Africa's adoption of the specific mix of interventions listed above.

The study then proceeds to examine the implementation track record in respect of each of the key interventions listed above, identifying and accounting for the relative degree of policy success and failure in each case.

The study is informed by regime theory to account for the rise of the precepts of international 'best practice' in respect of universal access and service. It further uses policy diffusion and transfer theory to examine how international practices were adopted and adapted by South African policy-makers and regulators. Finally, the literature on policy success and failure is used to examine and account for the implementation track record in respect of each of the key interventions. The outcomes are shown to be at best mixed, often precarious or conflicted, with multiple instances of outright failure.

Finally, conclusions are drawn regarding the applicability and value of the conceptual framework adopted. Regime theory, along with the concept of epistemic communities, and the theory of policy diffusion, are shown to offer a valuable structural framework for case study research such as this, albeit with some limitations. Despite the implementation of universal access and service interventions having largely failed, a long-term paradigm shift in the ICT landscape has resulted, suggesting that theoretical and practical questions of policy success and failure may need further examination.

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To Shafiah.

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Not least to so many nameless South Africans, in poor households and remote communities, those still without telephony services, those struggling to find affordable, good quality telephony, those still cut off from the cornucopia of the Internet, bypassed by broadband, and the victims of fibre to other people's homes. May these lessons be used to help your livelihoods and enrich your lives.

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Glossary of Acronyms, Abbreviations and Terminology[2]

2G	Second-generation basic mobile telecommunications network or service, for example GSM (qv)
3G	Third-generation mobile telecommunications technology network or service, basic broadband standard, providing a minimum data transfer rate of 200 k/bits/sec and offering expanded broadband capabilities for mobile data applications
4G	Fourth-generation mobile telecommunications technology network or service, advanced broadband standard, offering both mobility and very high bandwidth, benchmarked at 1 g/bit/s
Acacia Initiative	IDRC (qv) programme, established in 1996, supporting ICT4D (qv) research and demonstration projects across Africa, now terminated
Access network	The part of the telecommunications network that provides the direct connection to the end user, often referred to as the 'last mile' or the 'local loop'
ADSL	Asymmetric Digital Subscriber Line, a data communications technology that enables high speed data transmission over copper telephone lines by utilising bandwidth outside normal telephony frequency ranges, with asymmetrically greater bandwidth assigned to download vs upload traffic
ANC	African National Congress, founded in 1912, former national liberation movement, governing party in South Africa since 1994
Apartheid	System of racial segregation in South Africa, enforced through legislation by the ruling National Party (1948 – 1994), severely curtailing the freedoms, rights and movements of the majority 'blacks', 'coloureds' and 'Indians' in order to maintain 'white' minority rule
ARPU	Average revenue per user, revenue benchmark commonly used in mobile communication services, derived by dividing total revenue earned by the number of subscribers, typically per year or month
ASGISA	Accelerated and Shared Growth Initiative for South Africa, macro-economic policy adopted by ANC in 2006, replacing GEAR (qv)
Asymmetric regulation	Application of differential regulatory requirements to different regulated entities, usually based on their levels of market power or market share or differing USOs (qv)

[2] This Glossary has been developed and compiled by the author during the course of an extensive academic teaching career. The definitions presented here are either original, or derive from multiple sources: considered, condensed, combined, reworked and rewritten. As such, citation of individual entries is impossible. In any event, many of the existing glossaries and dictionaries plagiarise each other. Readers looking for a reasonably comprehensive, third-party glossary, are referred to the ITU's most recent glossary: (2014, p. 179ff). In addition, Wikipedia contains useful additional information on many of entries covered here.

AT&T	American multinational telecommunications company, headquartered in Dallas, Texas, with roots in American Telephone & Telegraph Corporation (founded 1885), part of the Bell stable of companies
ATF	African Telecommunications Forum, established in 1993 as a 'black' economic empowerment consortium in the sector, succeeded by SACF (qv)
ATU	African Telecommunications Union, successor since 1999 to PATU (qv), specialised agency of the African Union focused on ICTs, with 46 member states, and 16 associate members (mostly operators)
AU	African Union. Established in 2002, as a continental union, successor to the OAU (qv), it aims to promote, *inter alia*, unity, solidarity, political and social-economic integration and development, human rights, peace and security
Backbone	The core part of a telecommunications network that handles the major voice and data traffic of a country
Backhaul	High-capacity fixed or wireless connectivity dedicated to the transport of aggregate communication signals from base stations to the core network
Bandwidth	The range of frequencies available to be occupied by signals, usually measured in bits per second (bit/s). The higher the bandwidth, the faster the data transfer rate and hence the greater amount of information that can be transmitted in a given time
Bantustan	Territory set aside under the policy of *apartheid* (qv) for 'black' South Africans on the basis of ethnic homogeneity, thus often non-contiguous, in an attempt to create 'autonomous' nation states in order to preserve 'white' minority rule in the rest of South Africa
Base station	A radio transmitter / receiver and antenna used in the mobile cellular network, which maintains communications with handsets etc within a given cell and which transmits traffic to other components of the network
Basic service	The provision and carriage of voice telephony service, although some definitions also include telex and telegraph services
BBBEE / BEE	Broad-based Black Economic Empowerment. SA government policy aimed at increasing wealth and participation in the economy by groups historically disadvantaged under *apartheid* (qv)
BEREC	Body of European Regulators for Electronic Communications, established by the European Parliament in 2009, replacing ERG (qv)
Best effort	Traffic delivery standard in which the network exerts its best effort to ensure that the traffic is delivered, but provides no guarantee that all traffic will be delivered
BMI-T	BMI TechKnowledge, prominent ICT research and consultancy firm (South Africa)
Broadband	High capacity Internet access, usually 1 M/bit/s in one or both directions, or as defined by the regulatory authorities from time to time, using a range of technologies such as 3G (qv), 4G (qv), ADSL (qv), CDMA (qv), FTTH (qv), HSPA (qv), LTE (qv), WiMax (qv) etc

BS	Broadcasting Service, a category of electronic communications service and licence as defined in the ECA (qv)
BSS	Business Support Systems. IT systems used by telecommunications operators to manage customer-facing business operations, including product and customer management, orders and billing
BT	British Telecom (United Kingdom), incumbent fixed-line operator, privatised in 1984
Bypass	Telephony calling arrangement whereby a customer can access long-distance, international, or other services without using the local (monopoly or incumbent) operator's switched network, in order to take advantage of cheaper traffic routing
Callback	Telephony calling arrangement where the originator of a telephone call is immediately called back via a second responding call, usually to take advantage of cheaper traffic routing
Carrier Pre-select	Process whereby a telephony subscriber whose line is maintained by one company, usually a former monopoly incumbent provider, can choose to have some of their calls automatically routed across a different telephone company's network
CDMA	Code division multiple access, a technology for digital transmission of radio signals, based on spread spectrum techniques where each voice or data call uses the whole radio band but is assigned a unique code
CDITP	Centre for the Development of Information Technology Policy, ANC think tank established in 1991, focusing on ICT sector reform
Cell-C	Mobile telecommunications operator (South Africa), awarded SA's third mobile licence in June 2001, following controversial licensing procedure, majority owned by Saudi Oger, a Saudi Arabian construction company
Cellular	Mobile telephony service provided by a network of base stations, each of which covers the area of one geographic cell within the total service area
CEO	Chief Executive Officer
Cherry-picking	Pejorative conceptual metaphor referring to the perceived operator practice of selectively providing telecommunications services to high-revenue or low-cost customers (ie usually affluent individuals or businesses, and in urban areas) in preference to less profitable users (ie the poor and those in rural areas). Aka 'Cream-skimming' (qv)
CIDA	Canadian International Development Agency, formed in 1968 by the Government of Canada to administer foreign aid programmes in developing countries, operating in partnership with other Canadian development bodies such as the IDRC (qv)
CLI	Calling line identification. A telephony service that transmits a caller's number to the called party's handset before the call is answered

CODESA	Convention for a Democratic South Africa, negotiating forum involving the National Party, the ANC (qv) and a number of other political organisations, which met twice, in December 1991 and May 1992, in a failed attempt to agree the substance and process of a transition to democratic, majority rule
Collocation	Facility-sharing in which one operator (usually: the incumbent, subject to regulation, and for an agreed fee) houses communications equipment of its competitor(s) to facilitate connectivity to end users
Connectivity	The capability to provide end users with connections to communication networks such as the Internet
Convergence	Phenomenon marked by the increasing integration of previously discrete ICT infrastructure and devices, services and content, leading to the blurring of previously distinct lines between market segments such as broadcasting, telecommunications and Internet access
Corporatisation	Reorganising the structure of a public sector or state-owned entity to operate according to efficient business principles, but without altering ownership, into a legal entity with a private-sector type of corporate structure; often undertaken as a preliminary step before subsequent privatisation (qv)
COSATU	Congress of South African Trade Unions, historically ANC-aligned trade union federation, founded in 1985
Coverage	The extent of a mobile or wireless network, usually measured in terms of geographic (territorial area) or population coverage, often expressed as a percentage
CPE	Customer premises equipment, end user devices connected to the telecommunications network, such as telephones, handsets, computers
Cream-skimming	Pejorative conceptual metaphor referring to the perceived operator practice of selectively providing telecommunications services to high-revenue or low-cost customers (ie usually affluent individuals or businesses, and in urban areas) in preference to less profitable users (ie the poor and those in rural areas). Aka 'Cherry-picking' (qv)
CST	Community service telephone, a subsidised universal access model intended to provide telephony services to under-serviced areas and communities, a key component of the USOs (qv) imposed on the mobile licensees in South Africa
CUASA	Communications Users Association of South Africa, umbrella body representing business users of telecommunications services, established in 2001
CWU	Communication Workers' Union, an affiliate of COSATU, organising workers in the ICT sector. Established in May 1996 through a merger of the largely 'Black' Post and Telecommunication Workers Association (POTWA) with the ('Indian') South African Post Telecommunication Employees Association (SAPTEA) and the ('Coloured') Post Office Employees Association (PEASA)

Cybercafé	Place where one can use a computer with Internet access for a fee, usually per hour or minute, and which may or may not serve as a regular café as well. Also known as an Internet café
DBSA	The Development Bank of Southern Africa, established in 1983 to support *apartheid*-created 'bantustans', now supporting developmental infrastructure provision in South Africa and the African continent through access to development finance and by promoting sustainable development solutions
DECT	Digital enhanced cordless telecommunications, a radio technology standard using time division multiple access (TDMA) for voice data applications (such as cordless telephones, wireless offices and even wireless telephone lines to the home), and which Telkom (qv) unsuccessfully rolled out to meet some of their USOs in rural areas
Digital divide	Economic and social inequality between categories of persons in respect of access to, use of, or knowledge of ICTs (qv), usually highlighting disparities according to demographic categories such as wealth, geographic location, race, gender, education etc. The divide between differing countries or regions of the world is referred to as the global digital divide
DoC	Department of Communications, formerly the Department of Posts and Telecommunications, later split into Department of Telecommunications and Postal Services (DTPS) and Department of Communications (DoC) in May 2014
Dominance	Regulatory classification of an operator that has the largest market share in a given market segment or that is otherwise able to exercise significant market power in the same or other market segments
dti	Department of Trade and Industry (South Africa), government department responsible commercial and industrial policy, and its implementation
DTPS	See DoC (qv)
e-rate	The provision of discounted rates to eligible educational institutions to fund access to telecommunications, the Internet and related services
EC	European Commission, executive body of the EU (qv), responsible for proposing legislation, implementing decisions, upholding EU treaties and managing the day-to-day business of the EU
ECA	Electronic Communications Act, No 36 of 2005, as amended in 2007 & 2014
ECS	Electronic Communications Service, a category of communications service licence, as defined in the ECA (qv)
ECNS	Electronic Communications Network Service, a category of communications infrastructure licence, as defined in the ECA (qv)
End user	The individual or organisation that originates or is the final recipient of information carried over a communications network (ie the consumer)

EPG	Eminent Persons Group, five-person task team appointed at the end of the 1995 Mount Grace Colloquium to advise and oversee the drafting of the 1996 White Paper and Telecommunications Act to ensure policy consistency with outcomes of the Colloquium
ERG	European Regulators Group, established in 2002 by the European Commission as an umbrella body for regulators of electronic communications networks and services
Essential facilities	Critical network facilities that may act as bottlenecks to national or international connectivity and hence act as a barrier to the provision of telecommunication services
EU	European Union, politico-economic union established in 1993, currently with 28-member states located primarily in Europe
***Ex-ante* regulation**	Regulation which involves setting specific rules or restrictions to prevent anti-competitive or otherwise undesirable market activity by operators before it occurs, or to promote effective function of the network (eg interconnection (qv)), or to achieve socially desirable goals (eg UAS (qv))
***Ex-post* regulation**	Regulation which deals with anti-competitive or undesirable market conduct after transgressions occur, by applying sanctions or corrective measures
Exclusivity	Temporary period of monopoly granted, usually to the incumbent licensee, either to entice investors or in return for achieving rollout targets
FABCOS	Foundation for African Business and Consumer Services, a national association of rural and township small businesses
FCC	Federal Communications Commission (United States of America), independent US regulatory agency for interstate communications, created in 1934
FTTH	Fibre-to-the-home, provision of a high-speed, fibre-optic, Internet connection to provide a broadband (qv) service at household level
Functional separation	Requiring an operator (usually a vertically-integrated dominant operator, such as the incumbent) to establish independently operated business divisions (usually by separating wholesale and retail operations) and to apply non-discriminatory terms of sale (eg timescales, terms and conditions, pricing, QoS (qv)) to all undertakings, including those within the parent company
G-7	Grouping of seven major advanced economies (Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States) which meets to discuss primarily economic issues.
Gateway	A network node or switch for providing access to another network (which may or may not include protocol conversion). An international gateway interconnects a national telephone network with one or more other international networks, thus providing cross-border connectivity
GATS	General Agreement on Trade in Services, founding treaty of the WTO, extending the multilateral trading system to the service sector, which entered into force in 1995 following the Uruguay Round negotiations

GATT	General Agreement on Tariffs and Trade, a multilateral agreement regulating international trade with effect from January 1948, in lieu of the failure of negotiating governments to create an International Trade Organization (ITO)
GCIS	Government Communication and Information System, government propaganda agency established in 1998
GDP	Gross domestic product, the market value of all final goods and services produced within a country in a given time period
GEAR	Growth, Employment, and Redistribution, controversial neo-liberal macro-economic policy framework of the South African Government from 1996 to 2000, which included privatisation and the removal of exchange controls
GMPCS	Global mobile personal communications by satellite, non-geostationary satellite connectivity intended to provide global communications coverage to small handheld devices
Green Paper	Official consultation document issued by government for public debate in preparation for major policy or legislative changes, setting out tentative policy proposals or posing questions for discussion and feedback, usually leading to a White Paper (qv)
GSM	Global System for Mobile Communications (originally Groupe Spécial Mobile), dominant global technology for mobile telephony networks
GSMA	GSM Association, global association of mobile operators and related companies
HSPA	A mobile broadband technology, amalgamating two mobile telephony protocols, High Speed Downlink Packet Access (HSDPA) and High-Speed Uplink Packet Access (HSUPA), to extend and improve the performance of existing 3G (qv) mobile telecommunications networks
Household penetration	A measure of access to telecommunications showing the proportion of total households within a defined geographical area reached by the specified service (eg fixed-line telephony, broadband access)
IAP	Internet access provider, an ISP (qv) providing Internet access and services to other ISPs
IBA	Independent Broadcasting Authority, established in 1993 to regulate broadcasting, and later merged with SATRA (qv) to form ICASA (qv)
ICASA	Independent Communications Authority of South Africa, ICT sector regulator in South Africa, established in 2000, via a merger of the Independent Broadcasting Authority (IBA (qv)) and the South African Telecommunications Regulatory Authority (SATRA (qv))
ICC	International Chamber of Commerce, founded in 1919 as an international association to serve world business by promoting trade and investment, open markets for goods and services, and the free flow of capital

ICT	Information and communications technologies, umbrella term, often loosely used, encompassing the integration of telecommunications, computers and audio-visual systems, which together enable users to access, store, transmit, and manipulate information
ICT4D	The uses of Information and Communications Technologies as used for Development, including in the fields of socio-economic development (such as community projects, poverty alleviation, agriculture, healthcare, education) and human rights
IDC	Industrial Development Corporation, government-owned national development finance institution set up in 1940 to promote economic growth and industrial development in South Africa
IDRC	International Development Research Centre (Canada), established in 1970 as a semi-independent body supporting research in developing countries to promote growth and development, and initiator of the Acacia Initiative (qv)
IMF	International Monetary Fund. United Nations international financial institution created at the 1944 Bretton Woods Conference. Aims to promote international monetary co-operation, facilitate international trade, foster sustainable economic growth, and provide loans to members experiencing balance of payments difficulties
Incumbent	Existing operator in a market when it is opened to competition
infoDev	A global multi-donor programme in the World Bank (qv) Group, set up in 1995 with a focus on ICT for development research, which collaborates extensively with the ITU (qv)
Information society	Social order in which the creation, distribution, use, integration and manipulation of information is a significant economic, political, and cultural activity
Infrastructure sharing	Sharing between operators of agreed components of the network, either due to commercial imperatives or because of regulatory requirements, either in the form of Passive Infrastructure Sharing (non-electronic infrastructure - such as base stations, air-conditioning, power supply, ducting etc) or via Active Infrastructure Sharing (electronic infrastructure - such as roaming, the radio access network, backhaul, core transmission etc)
Interconnection	The physical and logical connection of two operator networks, thereby allowing customers of one network to connect with customers of the other, or to access services provided from the other, thereby increasing the benefit of the network to all end users
Internet	Interconnected global communications networks that use the Internet protocol
INTUG	International Telecommunications Users' Group, Brussels-based international association of business users of telecommunications, founded in 1974

IP	Internet protocol, the dominant network layer protocol or set of rules governing the format of data within the TCP/IP protocol suite, used to encode data packets for transmission over the Internet or other network
IPO	Initial public offering, process by which shares in a private or state-owned company are listed on the stock market in order to raise capital, and to transform the company into a public company
ISAD	Information Society and Development, conference held in Midrand, South Africa, 13 – 15 May 1996
ISPA	Internet Service Providers' Association, established in 1996 as an association of entities providing Internet infrastructure and services
ISP	Internet Service Provider, company providing end users access to the Internet and to online services such as e-mail
ITRs	International Telecommunications Regulations, binding international treaty, adopted through the ITU (qv) in 1988, covering the definition of international telecommunication services, cooperation between countries, safety of life and priority of telecommunications and charging and accounting principles
ITU	International Telecommunication Union, formed in 1865 as the International Telegraph Union, became in 1947 a specialised agency of the United Nations responsible for issues concerning information and communications technologies
Knowledge economy	System of production and consumption based on intellectual capital, in which economic growth is dependent on the quantity, quality, and accessibility of the information available, rather than on agricultural or industrial production
LDCs	Least developed countries, those countries (currently 48 in number) that, according to the United Nations, exhibit the lowest indicators of socioeconomic development, covering poverty, human resource weakness and economic vulnerability
Leased line	A point-to-point permanently-connected communication channel or circuit rented out by a network operator to an individual subscriber for their exclusive use, usually for telephony, data or Internet services between geographically distant premises. Interconnection between leased lines and the PSTN is not permitted in many jurisdictions.
Least-cost Routing	(LCR) The process of selecting the path of outbound (usually voice) communications traffic specifically in order to reduce cost. Operators do this as a standard business practice; consumers can also do so where carrier pre-select is in operation. The function is also often automated by a device or software program known as a 'Least Cost Router', often installed by businesses on their PABX (qv).
Least subsidy auction	Competitive tender process whereby bidders compete for a licence or project award based on the level of subsidy requested. The bid with the lowest subsidy requirement is scored the best.

Liberalisation	(1) more generally, the relaxation of previous government restrictions affecting the ICT sector, through privatisation of the incumbent operator, the introduction of competition, and the establishment of a national regulatory authority, sometimes also referred to as deregulation; (2) more specifically, the introduction of competition in the ICT sector through licensing additional service providers
Lifeline Tariff	A pricing structure that involves the provision of a free or subsidised block of services, covering basic needs, and aimed at providing support to low-income households
LRIC	Long Run Incremental Costing, a cost modelling methodology often used to determine the price paid by competitors for services provided by an operator with significant market power
LTE	Long Term Evolution, a telephone and mobile broadband communication standard, offering data speeds on the threshold of 4G (qv)
M2M	Machine to machine communication, direct communication between devices without direct human intervention, ranging from industrial instrumentation to IP communication over the mobile network via the Internet of Things (IoT)
Market efficiency gap	Component of universal access and service model that exhorts policy-makers and regulators to achieve UAS goals by stimulating market forces and removing regulatory blockages
MDDA	Media Development and Diversity Agency, established by Act of Parliament in 2002 to support and fund community media and small commercial media in the interests of the historically disadvantaged and under-served
MDGs	Millennium Development Goals, objectives and targets agreed to by participating countries and the world's leading development institutions at the 2000 Millennium Summit of the United Nations, and set out in the United Nations Millennium Declaration
MERG	Macro-Economic Research Group (South Africa), formed by the ANC in November 1991 as an econometric think tank, but later side-lined
MFN	Most Favoured Nation status, a method of ensuring non-discriminatory treatment amongst members of an international trading entity, such as the WTO, by requiring that the terms of trade of one country do not discriminate against another in favour of a third
MMS	Multimedia Messaging Service, a standard way to send messages that include multimedia content such as images and sound clips to and from mobile phones
MPCC	Multi-Purpose Community Centre, a telecentre offering a broad range of ICT services, with a political motivation to support the participation and upliftment of a disadvantaged group

MTN	Mobile Telephone Networks, second largest mobile telecommunications operator in South Africa, licensed in 1993. Originally owned by pay-tv provider M-Net and BEE (qv) partners, MTN is now a listed multinational mobile telecommunications company, operating in predominantly in African countries.
MTRs	Mobile termination rates, the fees mobile operators charge other operators to terminate calls on their networks, which are a significant input cost in providing the retail service of fixed-to-mobile and mobile-to-mobile calls
MVNO	Mobile virtual network operator. An MVNO sells mobile phone services without owning its own wireless network infrastructure. It secures bulk access to network services at wholesale rates from an existing mobile network operator, and sets its own retail prices under its own branding.
NABVU	National Association of Business Voice Users (South Africa)
NAFCOC	National African Federated Chamber of Commerce, established in 1964 as an umbrella body for 'black' traders and to promote 'black' business interests
NAIL	New African Investments Limited, founded in the early 1990s by prominent Soweto activist Dr Nthatho Motlana as a vehicle for black economic empowerment, originally main BEE (qv) partner in MTN (qv)
Neo-liberalism	Pejorative term for the 20th-century resurgence of 19th-century ideas associated with laissez-faire economic liberalism, sometimes referred to as the 'Washington Consensus', including privatisation (qv), fiscal discipline, deregulation, free trade, reducing the role of government in the economy and society
NeoTel	Second fixed-line telecommunications operator in South Africa, licensed in 2005, now majority owned by Liquid Telecom (Zimbabwe)
NGN	Next-generation Network, a broad term for body of key architectural and technological changes in telecommunications access and core networks to provide packet-switched (usually using the Internet protocol), high-bandwidth, quality-of-service enabled, converged services, natively encompassing voice, data and additional media such as video
Non-discrimination	Condition requiring an operator not to apply less favourable technical and commercial conditions on any competitor than what it would apply to itself, its subsidiaries or its affiliates, in the delivery of services
NITF	National Information Technology Forum, a stakeholder body established to discuss information society issues leading up to the 1996 ISAD Conference
NRF	National Revenue Fund, Treasury account specified in the Constitution, into which all money received by the national government must be paid, unless reasonably otherwise specified by legislation

NTCA	National Telephone Cooperative Association (now styling itself The Rural Broadband Association), a US-based industry association established in 1954, bringing together over 1 000 independent, community-based rural and small-town telecommunications companies, providing advocacy and a range of support services
NTF	National Telecommunications Forum, a stakeholder body established as a negotiating platform in the lead up to the 1996 Telecommunications Act
NTIA	National Telecommunications and Information Administration (US), government agency principally responsible for advising the President on telecommunications and information policy issues
NTPP	National Telecommunications Policy Project, supported by the IDRC (qv) with additional funding from CIDA (qv), established in 1995 as a stakeholder negotiating vehicle under the Minister of Posts and Telecommunications to prepare Green and White papers on telecommunications
NTUG	National Telematics User Group (South Africa), founded in 1978 as an association of business users of telecommunications services
OAU	Organisation of African Unity (1963-2002). Forerunner of the African Union (AU, qv), founded in 1963, *inter alia* to strengthen co-operation amongst African states, to oppose colonialism, and to promote development and solidarity
OECD	Organisation for Economic Co-operation and Development, international economic organisation of 34 countries founded in 1961 to stimulate economic progress and world trade, and to provide a platform to compare policy experiences, to seek answers to common problems, to identify good practices and to co-ordinate the domestic and international policies of its members, who describe themselves as committed to democracy and the market economy
Ofcom	Office of Communications (United Kingdom), established in December 2003 as converged super-regulator for telecomms, broadcasting and postal services
Oftel	Office for Telecommunications (United Kingdom), telecomms regulator from its establishment in 1984 until its absorption into Ofcom (qv) in 2003
OSS	Operational Support Systems. Computer systems used by operators to control and manage their networks, and which support network management functions, including network inventory and configuration, fault management and service provisioning
Packet	Block or grouping of data that is treated as a single unit for transmission within a communications network
PABX	Private automatic branch exchange, automatic telephone switching system within a private enterprise, which provides internal telephone connectivity, and which connects externally to the PSTN (qv)

PATU	Pan-African Telecommunications Union, established in 1977 as a specialised agency of the Organisation of African Unity (OAU, qv) focused on telecommunications, succeeded in 1999 by ATU (qv)
Pay or Play	Mechanism whereby licensees may opt to fulfil their USOs (qv) either through implementation of approved universal access and service projects or via contributions to agreed financial mechanisms such as the USF (qv)
PAYE	Pay as you earn income tax
PIT	Public Information Terminal, a self-service, Internet-connected kiosk, developed jointly by the DoC (qv) and SAPO (qv) in 1998, connected to the Internet, pre-loaded with local government information, and rolled out in Post Offices country-wide
PNC-ISAD	Presidential National Commission on the Information Society and Development, established in 2001 by President Thabo Mbeki to make recommendations on how ICTs (qv) can be developed and used to accelerate South Africa's development programmes
POTWA	Posts and Telecommunications Workers' Association, COSATU-aligned trade union, organising mainly 'Black' workers at SAPT (qv) to oppose racism in the workplace. Founded in Soweto on 1 August 1986, it later merged with the ('Indian') South African Post Telecommunication Employees Association (SAPTEA) and the ('Coloured') Post Office Employees Association (PEASA) to form the Communication Workers' Union (CWU)
Privatisation	Process of transferring ownership or control of a telecommunications or other enterprise, partially or fully, from the public sector (state ownership) to the private sector, either through the sale of an equity stake (asset sale privatisation) or by issuing shares on the stock exchange (share issue privatisation), or both. One of the core principles of neo-liberalism (qv).
PSTN	Public switched telephone network, aggregates the world's circuit-switched telephone networks operated by national, regional, or local telephony (qv) operators, providing infrastructure and services for public telecommunication. Includes telephone lines, fibre optic cables, microwave transmission links, cellular networks, communications satellites, and undersea telephone cables, all interconnected via switching centres
PSTS	Public switched telephone service, telephony service provided over the PSTN (qv)
PTN	Private telecommunications network, a network based on leased lines or other telecommunications facilities, which are used to provide connectivity and services within an organisation or closed user group as a complement or a substitute to the PSTN (qv)
PTT	Postal, telegraph, and telephone entity, typically a state-owned incumbent monopoly service provider
Public Protector	One of the six independent institutions set up under Chapter Nine of South Africa's Constitution to support and defend democracy; empowered to investigate and make rulings in relation to government maladministration, improper conduct by government functionaries, and corruption and other improper acts with respect to public monies

QoS	Quality of service, a measure (mostly quantitative) of the performance of a telecommunications network, particularly as experienced by the users of the network, usually via recording various metrics for the service, such as error and dropped call rates, faults and fault response times, bandwidth, throughput, transmission delay, availability, jitter, etc
Regulator	Regulatory Authority or Regulatory Agency. A public entity established in law by government, with responsibility to exercise autonomous authority and supervision over a designated area of economic or social activity, usually by means of secondary legislation (ie regulation)
Regulatory capture	An instance of politically corrupt institutional failure which can afflict a regulatory authority created to act in the public interest, when instead it advances the narrow sectoral interests of one or more of the specific groups that it is charged with regulating
Regulatory state	Model of governance where the state pursues an economic policy privileging arm's-length regulation and arbitration of market exchanges over direct intervention, usually through the establishment of one or more regulatory agencies (qv)
Resale	The offering to users or customers for profit of ICT services obtained from another ICT service provider
RIA	Regulatory Impact Assessment, a report providing a detailed and systematic appraisal of the potential impacts of a new regulation in order to assess whether the regulation is likely to achieve its desired objectives
Roaming	Arrangement allowing customers of one mobile operator to access mobile services via the network of another when outside to coverage area of their service provider, such as when travelling abroad
SABC	South African Broadcasting Corporation, state-owned, nominally public service broadcaster, established in 1936 as a state broadcaster, latterly subject of much public controversy
SACF	South African Communications Forum, successor to the African Telecommunications Forum, formed in 2001 as a non-profit, membership-based industry association, representing a range of stakeholders in the ICT sector, including the public and private sectors and civil society organisations
SACP	South African Communist Party, founded in 1921 as the Communist Party of South Africa, outlawed in 1950, and later re-established underground as the SACP, in political alliance with the ANC (qv)
SADC	Southern African Development Community, successor to the Southern African Development Coordination Conference (est 1980), established in 1992 as an inter-governmental organisation, currently comprising 15 southern African countries. With headquarters in Gaborone, Botswana, it aims to advance socio-economic development, political and security co-operation and integration amongst its member states.

SANCO	South African National Civics Organisation, launched in 1992 as an ANC-aligned umbrella body for township-based civic organisations that had organised local communities around a range of service delivery issues
SAPO	South African Post Office, established in 1991 through the separation of SAPT (qv) into postal and telecommunications companies
SAPT	South African Posts and Telecommunications, state-owned integrated entity providing telecommunications and postal services until 1991, when it was split into Telkom (telecommunications) and the SA Post Office
SARS	South African Revenue Service, administratively autonomous tax-collection agency of the South African government, charged with collecting revenue and ensuring compliance with tax law
SATCC	Southern Africa Transport and Communications Commission, sub-structure of SADC (qv), now phased out
SATRA	South African Telecommunications Regulatory Authority, established in 1997, and later merged with the IBA (qv) to form ICASA (qv)
Sentech	Established in 1992 as the signal distribution (qv) division of the SABC (qv), later separated as a public company in terms of the 1996 Sentech Act
Signal distribution	Process of conveying radio or television signals from a broadcasting service provider and transmitting them to the end user
SIM	Subscriber identity module, an integrated circuit that securely stores the international mobile subscriber identity (IMSI) and the related key used to identify and authenticate subscribers on mobile telephony devices (such as mobile phones and computers), often counted as a proxy for subscribers
SIU	Special Investigating Unit, a public anti-corruption body established by legislation in 1996, to prevent or recover financial losses to the state caused by acts of corruption, fraud and maladministration
Smart subsidy zone	Component of universal access and service model that identifies people and communities too poor or too remote to be reached by market-based regulatory measures alone, but who are able to sustain access to communications services after initial support (eg free handset, subsidised base station, etc)
Smartphone	A mobile phone, typically having a touchscreen interface, that includes much of the functionality of a number of other digital devices, such as a computer, a camera, a camcorder, a music and movie player, a GPS, a personal digital assistant. It provides Internet access, e-mail and web browsing, and an operating system capable of running downloaded applications.
SME	Small and medium enterprise(s), comprising in South Africa's communications sector: companies with fewer than 200 employees, and an annual turnover of less than R 26 million, and assets of less than R 6 million

SMP	Significant market power, the ability of a firm in a defined market, either individually or jointly with others, to exercise dominance - ie to occupy a position of economic strength affording it the power to behave to an appreciable extent independently of competitors, customers, and ultimately consumers
SMS	Short Message Service, a widely-used mobile telephony service providing text messages of up to 160 characters
Soweto	South Western Townships, *apartheid*-created dormitory township for 'black' South Africans outside Johannesburg, now part of the City of Johannesburg
Stats SA	Statistics South Africa, successor to the Central Statistical Service, a national statistical service established to produce timely, accurate, and official statistics in order to advance economic growth, development, and democracy, via official demographic, economic, and social censuses and surveys
SIC	Standard Industry Classification, a system, established in the US (qv) in 1937, for classifying industrial sectors by means of a hierarchical four-digit code
TBVC states	Transkei, Bophuthatswana, Venda, and Ciskei, four nominally independent (their 'independence' was not officially recognised outside of South Africa) states created under the Bantustan programme of grand *apartheid* (qv), listed in order of date of 'independence'
Telecentre	A public place where people can access computers, the Internet, and other digital technologies that enable them to gather information, create, learn, and communicate with others through the use of digital technologies to bridge the digital divide and to support community, economic, educational, and social development
Teledensity	A measurement of access to telecommunications within a defined geographic area, calculated by dividing the number of subscribers to a specific service (eg fixed-line, mobile) by the corresponding total population, with the result usually expressed as a percentage
Telecommunications	Domestic or international transmission of information by wire, radio waves, optical media or other electromagnetic systems, between or among points of the user's choosing
Telephony	Voice telecommunications, a service providing point-to-point voice communication primarily, in real-time or interactively, through the use of appropriate equipment, usually via a telephone call
Telkom	Incumbent telecommunications operator in South Africa, successor to SAPT (qv), historically providing fixed-line telephony and data services, originally wholly state-owned, now partially privatised
Tripartite Alliance	Ruling party political alliance in South Africa, comprising the ANC (qv), COSATU (qv) and the SACP (qv)

True access gap	Component of universal access and service model that identifies people and communities too poor or too remote to be reached by market-based regulatory measures, and therefore requiring permanently ongoing support to enjoy access to communications services
UAS	Universal Access and Service, currently preferred ITU (qv) terminology, an umbrella term, loosely covering both universal access and universal service
UK	United Kingdom
UN	United Nations
Universal Access	A policy of government to make ICT infrastructure and services available, at affordable prices, to as many people as possible through common points or shared end-user facilities such as libraries, schools, health-centres, community centres, public call offices and pay-phones. This policy also applies to advanced information services, such as the provision of Internet services and broadband access, and applications such as tele-education, tele-medicine and electronic commerce.
Universal Service	A policy of government to make ICT infrastructure and services, including advanced ICT infrastructure and services, available throughout the country at affordable prices so that they are either available or easily accessible to anyone whenever they are needed, regardless of geographical location, with due regard to people with special needs
US	United States of America
USA	Universal Service Agency, state entity set up in 1997 under the 1996 Telecommunications Act to promote and facilitate universal access and service, and to manage the Universal Service Fund. Later renamed the Universal Service and Access Agency of South Africa (USAASA qv) under the 2005 Electronic Communications Act
USAASA	Universal Service and Access Agency of South Africa, successor to the USA (qv) under the 2005 Electronic Communications Act
USAF	Universal Service and Access Fund (South Africa), successor to South Africa's USF (qv) under the 2005 Electronic Communications Act
USAL	Under-serviced area licence / licensee (South Africa), category of licence introduced in 2001 by Amendment to the 1996 Telecommunications Act, requiring successful bidders to provide telecommunications infrastructure and services to areas with low fixed-line teledensity
USAO	Universal Service and Access Obligation (South Africa), term adopted by ICASA (qv) to refer to USOs
USF	Universal Service Fund: (i) a fund into which contributions imposed on operators or derived from other sources are paid for the purpose of providing basic and advanced ICT infrastructure and services to underserved areas, communities or individuals who cannot afford such services on their own; (ii) the fund (South Africa) set up for this purpose under the control of the USA (qv) in terms under the 1996 Telecommunications Act

USO	Universal Service Obligation, mandatory stipulation imposed on operators / licensees, requiring, *inter alia*, network rollout or facilities or service provision to under-serviced areas and communities
VANS	Value-added network services, ICT services provided over public or private networks which, in some way, add value to the basic carriage, usually through the application of computerised intelligence
Vodacom	Largest mobile telecommunications operator in South Africa, licensed in 1993. Originally jointly owned by Telkom (qv) and Vodafone (UK), now majority-owned by Vodafone, Vodacom is a JSE-listed multinational mobile telecommunications company, operating in several African countries.
VoIP	Voice over IP, generic term used to describe the techniques used to carry voice traffic by means of Internet Protocol
VSAT	Very small aperture terminal, a two-way satellite ground station with a dish antenna that is smaller than three metres in diameter
WASP	Wireless Applications Service Provider, a company that provides remote services, typically to handheld devices, such as cell phones, that connect to wireless data networks
White Paper	Official public document issued by government setting out policy positions, usually in preparation for major legislative changes; often preceded by a Green Paper (qv), and sometimes inviting stakeholder comment
WiFi	Short-range wireless local area computer networking technology that allows electronic devices to interconnect
WiMax	Worldwide Interoperability for Microwave Access, a fixed wireless communications standard providing long-range, high-bandwidth wireless connectivity, used to provide broadband access or telecommunications backhaul (qv)
WISP	Wireless Internet Service Provider, a company providing Internet services over a network based on wireless technologies.
World Bank	United Nations international financial institution, created at the 1944 Bretton Woods Conference, which provides loans to developing countries for capital programmes, and which has the reduction of poverty as its official goal, with its decisions guided by a commitment to the promotion of foreign investment and international trade and to the facilitation of capital investment
WSIS	World Summit on the Information Society, two conferences (2003, Geneva & 2005, Tunis) sponsored by the United Nations, focusing on information, communication and the information society, which aimed to bridge the global digital divide by increasing access to the Internet in the developing world, and which has been followed by ongoing stocktaking and other activities
WTO	World Trade Organisation, an intergovernmental organisation to regulate international trade, established in 1995 to succeed the General Agreement on Tariffs and Trade (GATT qv)

1 The Digital Donga

In 1990, when Nelson Mandela walked out of Pollsmoor Prison and stood before the people of South Africa, he faced a country starkly divided by years of racial oppression and economic exploitation. White minority rule had arrogated to itself the spoils of exploitation and plunder. *Apartheid* rule had ensured that 'white' South Africans prospered, with access to the best housing, the most well-resourced schools and hospitals, the best-paying jobs, whilst the country's 'black' majority were systematically excluded and deprived in every facet of life and society. It was a society deeply divided along the sharp lines of racial categorisation in respect of almost every socio-economic indicator: income, education, employment, health, housing.

1.1 1990: Two-tier Telephony

Access to telephony[3] was one amongst many such socio-economic divisions afflicting *apartheid* South Africa. Both academic literature and common parlance use the term 'digital divide' to refer to the division between those who have access to telephony and those who do not. Commonly the 'digital divide' marks differential access to telecommunications and other information and communications technology (ICT) services based pre-eminently on key demographic categories such as income and geographic location, but also extending into gender, linguistic, educational, literacy and disability. In South Africa, however, it was the racial categorisations imposed and fostered by *apartheid* that were the prime predictors and causes of lack of access to telecommunications and other ICTs.

In 1990, access to telephony meant access to fixed-line telephones, provided over copper cables to black bakelite handsets, by a single state-owned entity, South African Posts and Telecommunications (SAPT). Mobile telephony was still in its infancy globally[4], and had yet to arrive in South Africa. Email was still the province of academics and geeks, and the concept of the Internet had only just been born.

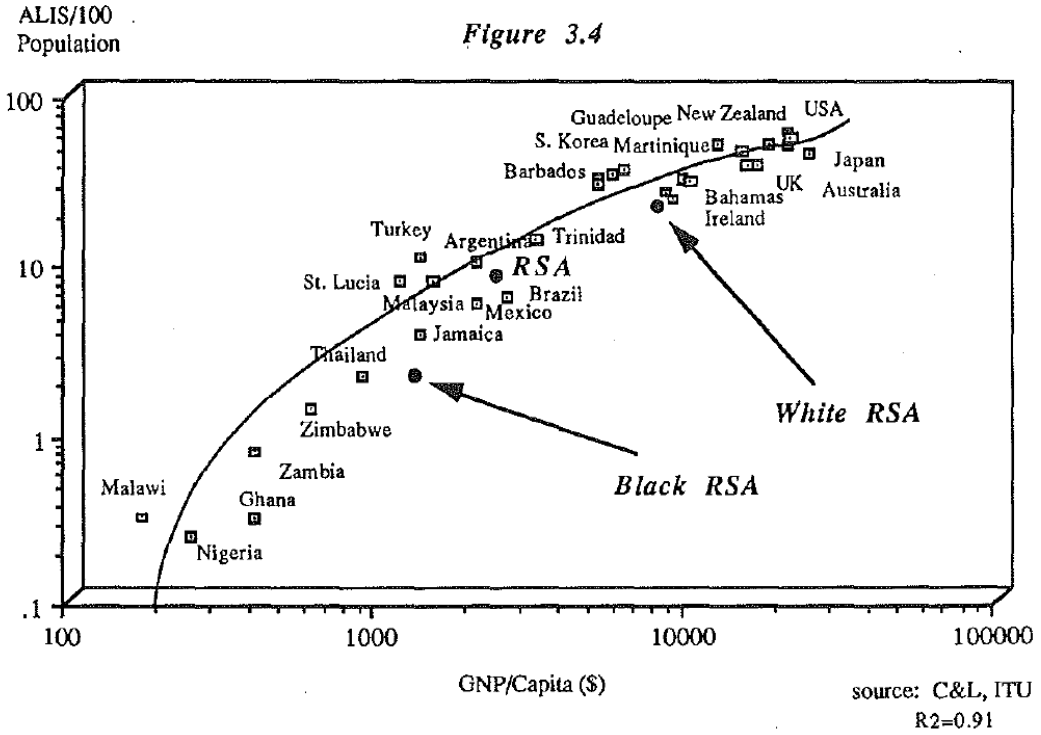
[3] Voice telecommunications services. See the Glossary above for more formal definitions of 'telephony' and other technical terms used in the analysis.

[4] The first commercial automated cellular mobile network had been launched in Japan in 1979.

In 1990 the overwhelming majority of 'white' South Africans had such a telephone in their homes; less than one in a hundred of their 'black' fellow countrymen enjoyed this privilege (ANC, 1994b, p. Section 2.8.1). The first proper national census, conducted a few years later (when there were already two mobile operators in the market) underscores the point. It reports that 88,5% of 'white' South Africans had a "telephone in dwelling/cellular phone"[5] compared to a mere 11,3% of 'black' South Africans (Stats SA, 1996, p. 80). Only 0,8% of 'white' South Africans had "no access to a telephone" compared to 24,4% of the 'black' counterparts. Similarly, access was heavily skewed in favour of the more urbanised economic centres of the country, with 55,2% and 45,3% of Western Cape and Gauteng homes reporting a "telephone in dwelling/cellular phone", while high proportions of homes in provinces containing former bantustans had no access to telephony (45,3% in the Eastern Cape and 30,5% in the then Northern Province).

A 1992 report, commissioned by the outgoing National Party government, makes the point eloquently in an oft-cited diagram (see Figure 1.1 below).

Figure 1.1: Teledensity: 'White' RSA vs 'Black' RSA



Source: (Coopers & Lybrand, 1992, p. 9)

[5] Before the advent of prepaid mobile, cellular telephony was still in its infancy in South Africa at the time, confined largely to the more affluent sectors of the society. Nonetheless, its subscriber base was closing in on 1 million, somewhat under 20% of the total voice telephony market.

It was this stark divide - this yawning chasm between affluent, urban 'whites' with easy access to telephone services and the 'black' majority, economically disadvantaged and consigned to urban ghettoes and rural slums - that confronted the African National Congress as it contemplated what policies and practices to adopt in the lead up to South Africa's first democratic general election in 1994.

Mandela would have been familiar with the dongas that scarred the brown hills where he grew up in Qunu, deep red scars slashed across the landscape, angry signs of deprivation and drought. The deep and lasting scar of a donga is therefore an appropriate metaphor for the particular South African flavour of the profound digital divide inflicted by *apartheid* on the country, a chasm that cut the majority of the country's population off from universal access to telecommunications service, primarily on the basis of racial categorisation.

1.2 Researching Universal Access and Service

The purpose of the research in the chapters that follow seeks to illuminate the road travelled by South Africa in its attempts to ensure universal access, initially to telephony and, latterly, to a broader range of ICTs, over a 20-year period. International good practice was adopted and adapted, then implemented, with varying degrees of policy success and failure.

The research undertaken here seeks to chart that trajectory, and to draw conclusions from that story. It is largely a history of universal access and service in relation to South Africa, but a history illumined through the lens of a carefully constructed conceptual and analytical framework. It will thus produce the first complete study of South Africa's interventions in pursuit of the policy goal of universal access and service.

The rise of universal access and service within the broader context of ICT sector reform will be documented and accounted for. In addition, the research will chart how the various components of what has come to be considered international good practice in respect of universal access and service, coalesced and achieved hegemony.

The research will further examine the factors that led to the adoption of universal access and service as key components of South Africa's ICT sector reform programme, analysing how these factors influenced the adoption and implementation of universal access and service interventions, and assessing how the process impacted on policy outcomes. Factors will include those internal to the South African socio-political context, of both a structural nature and those driven by the various actors, as well as those impacting from external sources.

Further, this research will seek to account for and explain how the policy objective was translated from its initial conception into specific programmatic interventions. This will entail an examination of appropriate theoretical frameworks accounting for policy adoption, implementation and impact in the broader context of regulatory theory. *Inter alia*, regime theory, along with the bodies of theory relating to policy transfer / diffusion and to policy success / failure will be drawn on to conceptualise South Africa's experience of universal access and service policy and regulation.

From these diverse but overlapping strands of theory a conceptual model will be constructed that seeks to account for the trajectory between policy conception and programmatic execution. This conceptual model will then be tested through an analysis of the history of universal access and service as its implementation unfolded in South Africa, so that the model may then further be refined or amended.

The research adopts a specific time-frame, focusing on the 20 years between 1994 and 2014. This is not an arbitrary choice, but one that covers a defined era for South Africa's ICT sector. 1994 marks the election of the first ANC government, which preceded and kick-started the formal process of ICT sector reform.

2014 marks the widely-commemorated anniversary of 20 years of democracy in South Africa. It also marks the fourth re-election of the ANC to power, under the leadership of scandal-ridden President Jacob Zuma, and albeit with a reduced majority. It also marks an attempt by the ANC to unscramble the convergence egg: in a widely condemned move, the Ministry of Communications was dismembered and split into two, with Faith Muthambi as Minister of Communications, and Siyabonga Cwele as Minister of Telecommunications and Postal Services.

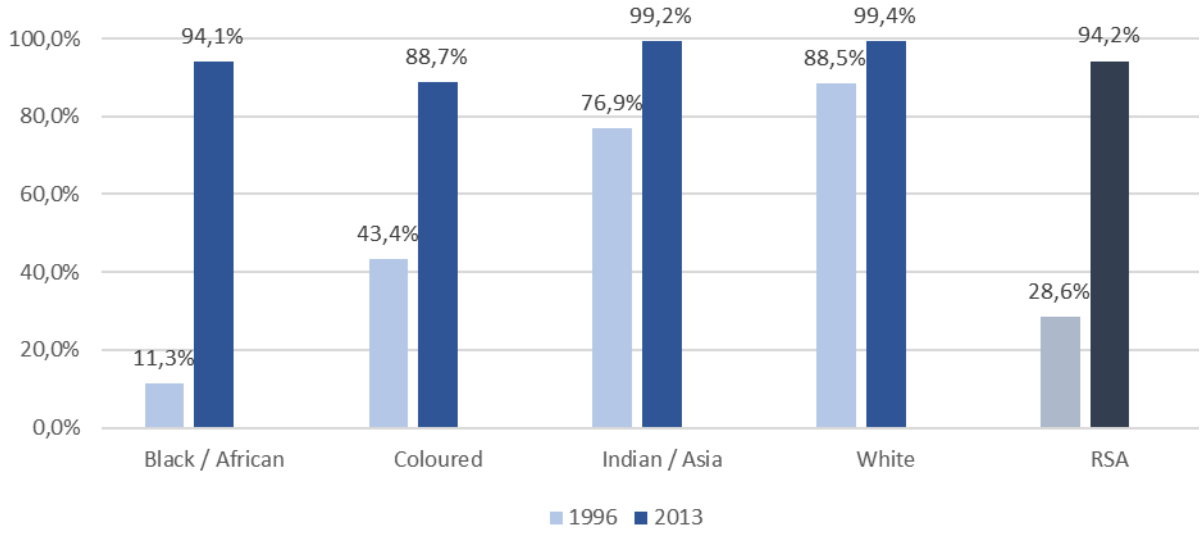
The research will thus provide, on the one hand, the first comprehensive history of South Africa's engagement with universal access and service over a 20-year period. On the other hand, however, it will seek to contribute to a theoretical understanding of how policy is adopted and implemented, of what constitutes policy success and failure, and of the complex conjunction of forces that can cause the policy process to go awry. The lessons from the study will thus seek to contribute to a broader understanding of policy adoption and implementation within a changing political context. Such lessons may then suggest a more comprehensive, better balanced and more nuanced matrix of best practice universal access and service interventions, one perhaps more widely applicable to developing countries.

1.3 ICT Access Today

Today South Africa has many more mobile phones than inhabitants, and the fixed-line customer network is now in terminal decline. With over 88 million 'active' mobile SIM cards[6] in a population of some 56 million, and Telkom's main line subscriber base having shrunk to under 3 million (below what it was in 1993), it is a radically altered telephony landscape. With burgeoning access to the Internet via laptops and smartphones, the rollout of broadband networks and FTTH connectivity has assumed centre stage. It is no longer a simple telephony landscape. Increasingly, the environment is perceived as an integrated ecosystem (Fransman, 2010) driven by a complex and dynamic interaction involving the previously disparate domains of telecommunications, broadcasting, the Internet and computing.

Further, the disparities in access to telephony today are dramatically less starkly racialised, as can be seen from the graph below (Figure 1.2).

Figure 1.2: Households with Telephony: 1996[7] vs 2013[8]



Source: Author, data from (Stats SA, 1996, p. 80; Stats SA, 2015, p. 25)

[6] Active' SIM cards, notoriously, are becoming an increasingly inaccurate measure of users (Sutherland, 2009) for a variety of reasons, including multiple SIM ownership, prepaid SIM arbitrage (using and discarding SIMs to get access to the bundled free data), and the proliferation of data SIMs and M2M SIMs.

[7] Comparable Stats SA data from 1990 is not available.

[8] The categories adopted here, and elsewhere in the report, reflect those inherited from *apartheid*, and still in use to track progress in respect of many metrics. 'Black / African' refers to the country's mainly Bantu-speaking majority, comprising around 80% of the total population. 'Coloured' refers to those of Khoisan / mixed-race descent, comprising some 9% of the population. 'Indian / Asian' refers to those descended from immigrants out of the Indian sub-continent, comprising 2% of the population. 'Whites' comprise the remaining 8%, down from 11% in 1996.

The stark and yawning divide between 'black' and 'white' South Africa from 1996 has narrowed dramatically. While the percentage of 'white' South African households with either a fixed-line or a mobile telephone in their homes has increased to 99,4% (an increase of 12%), access to fixed-line or mobile telephony in 'black' households has soared by some 730% to reach 94,1%. A racialised gap in access still remains, but it has been substantially reduced, as can be seen below. The digital divide today is far more closely linked to issues such as income and geographic location, and it is these axes of the digital divide that Statistics South Africa now focuses on in its reporting.

1.4 'The People Shall Call'

Confronted with the deep digital donga of 1990 that separated 'white' South Africa from 'black' South Africa, that cut the majority of the country's population off from the economic, social and cultural benefits of access to telephony, it is hardly surprising that the African National Congress (ANC) made "providing access to these essential services for all South Africans" the centre plank of its telecommunications policy as it prepared to contest the country's first democratic elections (ANC, 1992, p. 53). As a result, the stated national telecommunications policy intention of the new government sought to ensure the "provision of basic universal service in telecommunications to disadvantaged rural and urban communities" (RSA, 1996b, p. 1). It is a policy commitment attested to, as this research shows, by a series of specifically targeted policy and regulatory interventions over the ensuing 20 years, aimed in various ways at ensuring that those disadvantaged and deprived by *apartheid* secured access to telecommunications services.

The levels of access to telecommunications services have both skyrocketed and become substantially more equitable in the intervening 20 years. It would appear, therefore, on the face of it, that policymakers could claim an easy victory, a clear policy success. But yet commentators - both academic (Hodge, 2004; Gillwald, 2005a; Msimang, 2006; Lewis, 2010) and in the press (Business Day, 2006; Vecchiatto, 2006a; Guest, 2006; Vecchiatto, 2007; Perry, 2010) - have almost universally been sceptical of the effectiveness and impact of those very interventions.

Such widespread negative assessment implies at least some level of fracture between policy intention and policy impact. Possibly the overall policy thrust towards universal access and service was ill-conceived and inappropriate for a developing country such as South Africa. Perhaps it was the concrete implementation of universal access and service policy that was

badly flawed, either due to failures at institutional and human capacity level, or because of policy slippages, or the modalities of policy transfer. It may also be that the dynamics of access were simply overtaken by other developments, such as technological evolution, or the changing nature of the sector, or the incoming tide of the market. More likely, some complex interaction of multiple factors, some internal, others external, underpins what unfolded.

1.5 The Evolution of Universal Service

What, then, was the international policy backdrop for the new ANC government's avowed intention to ensure that the country's 'black' majority secure access to telecommunications?

The call for universal access to telecommunications services became, as will be shown, a commonplace policy and regulatory component within the globally widespread series of changes to market structure, institutional frameworks and ownership arrangements that swept through the broader information and communications technologies (ICT) sector from the mid-1980s onwards.

Together these changes form part of the phenomenon widely referred to as "telecom reform" (Melody, 1997), whose central features comprise:

- Privatisation of the state-owned incumbent providers of telecommunications services;
- The introduction of competition into the telecommunications market;
- The establishment of an independent regulator to oversee the market (Wallsten, 2001, p. 3). [9]

As the ensuing discussion will show, "telecom reform" included a number of policy and regulatory interventions aimed at ensuring widespread access to telecommunications services within the changed market environment. These measures fall under the umbrella of what is variously referred to as 'universal service', 'universal access', 'universality' and 'universal access and service' (the term in common parlance today).

[9] "Advisers typically recommend three components to telecommunication reforms: privatizing the state-owned monopoly provider, introducing competition and creating an independent regulatory agency" (Wallsten, 2001, p. 3).

Universal access and service (UAS) is a complex concept (or a pair of closely related concepts, as will be shown shortly), both conceptually and programmatically. UAS is a concept widely applicable and widely applied - from the developed countries of the North America and Europe, right across the board to the under-developed countries of sub-Saharan Africa - albeit with shifting content, depending on concrete national circumstances and differing levels of development. Furthermore, it is a concept that has been applied over the years to an evolving spectrum of information and communications technologies (ICTs), from fixed-line telephony, through the Internet, to broadcasting and, latterly, broadband. As an issue, it is one in relation to which a wide spectrum of policies and programmes in a range of country jurisdictions have been proposed and implemented - and around which there has raged considerable debate in both academic and expert circles (not only in South Africa, by any means) as to the appropriateness, success and impact of such interventions.

Universal access and service thus has a lengthy pedigree. The concept stretches back at least to the 1907 use of the term "universal service" by AT&T President Theodore Vail (Mueller, 1993, p. 353) and the company's subsequent advertising campaign (see Figure 1.3 right) which was based on a ringing clarion call for "One Policy, One System, Universal Service" (Thierer, 1994)[10].

Figure 1.3: One Policy, One System, Universal Service

CENTURY ADVERTISEMENTS—TELEPHONES

AMERICAN TELEPHONE & TELEGRAPH CO. AND ASSOCIATED COMPANIES — LOCAL LONG DISTANCE TELEPHONE — THE BELL SYSTEM

One Policy One System

Universal Service

THAT the American public requires a telephone service that is universal is becoming plainer every day.

Now, while people are learning that the Bell service has a broad national scope and the flexibility to meet the ever varying needs of telephone users, they know little of how these results have been brought about. The keynote is found in the motto—"One policy, one system, universal service."

Behind this motto may be found the American Telephone and Telegraph Company—the so-called "parent" Bell Company.

* * * *

A unified policy is obtained because the American Telephone and Telegraph Company has for one of its functions that of a holding company, which federates the associated companies and makes available for all what is accomplished by each.

As an important stockholder in the associated Bell companies, it assists them in financing their extensions, and it helps insure a sound and uniform financial policy.

* * * *

A unified system is obtained because the American Telephone and Telegraph Company has for one of its functions the ownership and maintenance of the telephones used by the 4,000,000 subscribers of the associated companies.

In the development of the art, it originates, tests, improves and protects new appliances and secures economies in the purchase of supplies.

It provides a clearing-house of standardization and thus insures economy in the construction of equipment, lines and conduits, as well as in operating methods and legal work—in fact, in all the functions of the associated companies which are held in common.

* * * *

Universal, comprehensive service is obtained because the American Telephone and Telegraph Company has among its other functions the construction and operation of long distance lines, which connect the systems of the associated companies into a unified and harmonious whole.

It establishes a single, instead of a divided, responsibility in inter-state connections, and a uniform system of operating and accounting; and secures a degree of efficiency in both local and long distance service that no association of independent neighboring companies could obtain.

* * * *

Hence it can be seen that the American Telephone and Telegraph Company is the active agency for securing *one policy, one system,* and *universal service*—the three factors which have made the telephone service of the United States superior to that of any other country.

American Telephone & Telegraph Company

Source: (AT&T)

Mueller's self-avowedly "revisionist" (1993, p. 352) history of universal service in the US points out that "universal service" flag flown by Vail had little to do with any altruistic commitment to widespread public service provision, but rather was aimed at bolstering AT&T's position as a monopoly provider of telecommunications services. Mueller does, however, show how the slogan gave rise to the modern welfare-state paradigm of "universal telephone service . . . [focused on] reaching every member of society, no matter how remote or poor. . . . [and hence implying] a legal

[10] Curiously, Mueller misquotes the slogan (1993, p. 357) despite it being widespread in advertisements of the time.

obligation to serve" (1993, p. 353). It is this conceptualisation that has since become central within current telecommunications policy discourse, as market structure and policy paradigms have evolved.

The modern emphasis on universal access and service to some extent arises from and is linked to much of the early literature on the digital divide. For example, the 1985 Maitland Report of the International Telecommunication Union pointed to a "gross and growing imbalance in the distribution of telecommunications throughout the world" (ITU, 1985, p. 3).

It was, however, some years later that the concept of 'universal service' was introduced into law in the United States of America ((USA, 1996; Mueller, 1997a).), by which time it had already been in current usage for some years by the European Commission (EC, 1987; EC, 1996), and had for some time been part of academic debate (Hudson, 1994). It would not be long before it was formalised as part of international practice by the International Telecommunication Union (ITU, 1998). Against this background, it is unsurprising that telecommunications reform in South Africa was accompanied by a strong policy commitment to achieving universal access and service (UAS).

Although 'universal service'[11] was the term in common parlance initially, it would not be long before a conceptual distinction between 'universal service' and 'universal access' began to be made, as the discussion moved to address the situation in developing countries. In 1998 the ITU formally tabled the distinction, defining 'universal service' as "focused upon connection of individual households to the public telephone network" - in contrast to 'universal access' which it described as the "notion . . . that everyone, at home or at work, should be within a reasonable distance of a telephone" (p61). Current usage still retains the distinction between widespread private access at the individual or household level (universal service) versus widespread shared access via public facilities such as payphones (universal access), but adopts the portmanteau term 'universal access and service (UAS)' to cover the broad policy and regulatory field (Blackman & Srivastava, 2011b, pp. 153-154). Universal access and service policy and regulatory interventions, therefore, aim to redress the gap between those who are able to make use of ICT services, and those who, mainly by reason of poverty or geographical remoteness, are not. They thus implicitly form part of a wider range of social upliftment policy interventions, but with a specific focus in the arena of telecommunications.

[11] The notion of 'universal access' is prevalent in a number of fields of public policy, where access to services such as education (Trow, 2000), healthcare (Taylor, 1992), and sanitation (Lee & Floris, 2003), is seen as driven by the social welfare and equity imperatives of sectoral policy.

1.6 South Africa in Transition

This body of international best practice, together with its evolution and its influence upon policy, law and regulation, will be discussed much more fully in subsequent chapters. It was, however, likely to have been one of the factors influencing South Africa's African National Congress (ANC) as it moved to define the telecommunications component of its post-*apartheid* social and economic policy.

But South Africa's engagement with ICT sector reform was also definitively shaped by being swept up in the flurry of policy reform and legislative activity that took place in the immediate aftermath of South Africa's transition to democracy in 1994. The country had emerged from a racially discriminatory history of systemic and systematic denial of access for the majority of the country's population to telecommunications services, *inter alia*. This had led to the enormous disparities in telecommunications access between 'black' and 'white' South Africans alluded to at the outset. The new government accordingly sought to ensure that redressing those inequalities was at the core of its policy and legislation. In the words of Horwitz, "the principle of universal service, enshrined in [South Africa's] telecommunications reform process, embodied a commitment to equalizing social access to information and communication as a democratic norm" (2001, p19). South Africa's engagement with universal access and service was therefore an important component of its multi-pronged endeavour to 'build a better life for all'[12]. This is not to say that the ICT policy thrust was an entirely altruistic and disinterested one: opportunities for rent-seeking and personal enrichment were to abound in the margins of the new sectoral regime, coexisting with more noble objectives[13].

1.7 Universal Service: A Better Life for All

The ANC's early commitment to social upliftment and service delivery as being integral to the democratic transformation is thus aligned to emerging international good practice. The vision of "universal affordable access for all" (ANC, 1994b, p. Section 2.8.4) animated the country's engagement with the ICT sector policy reform process. It was a commitment that served to ensure that universal access and service was placed at the forefront of communications policy

[12] ANC election slogan.

[13] Recent national scandals surrounding, for example, the Zuma residence at Nkandla, the #GuptaLeaks, SASSA-Gate, the Principal Agent Network, and more, give scope sadly to an even more jaundiced and cynical narrative.

and legislation, a vision that has continued to animate subsequent policy and regulatory interventions (Hodge, 2004; Msimang, 2006).

South Africa's adherence to the principle of universal access and service can be traced through the major policy documents that punctuated the process of reforming the ICT sector (RSA, 1993a; ANC, 1994b; RSA, 1995; RSA, 1996b). It culminated in the keystone legislation that was the centrepiece and outcome of that reform process, the 1996 Telecommunications Act[14],.. Here the objective to "promote the universal and affordable provision of telecommunication services" (RSA, 1996b, p. Section 2(a)) is listed as foremost amongst its 17 objects. It was only with the passage of the 2005 Electronic Communications Act (RSA, 2005) - by which time substantial strides had been made towards securing universal access to telecommunications services for all South Africans - that this overarching goal of universal affordable access became somewhat modified and less prominent[15]. It then shaded into a less strongly formulated commitment to "promote the universal provision of electronic communications networks and electronic communications services and connectivity for all", and was shuffled down to the third of 26 objectives (RSA, 2005, p. Section 2(c)). The notion of universal access and service appears in documents as diverse as the broadcasting Triple Enquiry Report (IBA, 1995), the National Information Society and Development Plan (PNC on ISAD, 2007), the Presidential Infrastructure Coordinating Commission (RSA, 2014a), and continues to be alluded to in almost every annual Presidential State of the Nation Address (USAASA, 2014b, pp. 1v1-17ff).

1.8 Universal Access and Service Interventions in South Africa

This policy and legislative backdrop formed the *mise en scéne* for a series of concrete interventions undertaken to increase access to ICT goods and services. On the one hand, South Africa followed global best practice ((ITU, 1998, pp. 91,2; Intven, 2000b) by imposing universal service obligations[16] on licensees (Hodge, 2004; Msimang, 2006, pp. 232-236; Lewis,

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[14] Now repealed and replaced by an updated 2005 Electronic Communications Act (RSA, 2005).

[15] Although the adoption of the ECA was contemporaneous with the replacements of the ANC's harshly neo-liberal GEAR macro-economic policy with the more developmentally-oriented ASGISA, the need to cater for convergence in the sector and to address the demands from business for reform, were likely far more prominent influences.

[16] Mandatory stipulation imposed on operators, requiring, for example, network rollout or service provision to under-serviced areas and communities.

2010, pp. 4-5) and by establishing a universal service fund[17] (Msimang, 2006, pp. 224-230; Lewis, 2010, p. 6). On the other hand, the country's establishment of a dedicated agency[18] to deal with universal access and service issues (Horwitz, 2001, pp240,1), and the subsequent experiment in the awarding of geographically-restricted licences in under-serviced areas[19] (Gillwald, 2002a; Gillwald, 2005a), were both, in different ways, ground-breaking.

1.9 Less than Universal Acclaim

As indicated earlier, many of these interventions are widely regarded in the press as having failed, or at least as having been subject to serious implementation problems. The academic and expert literature, although rather more nuanced, is not a great deal more sanguine.

At best, the analyses that have attempted a macro-level view (Barendse, 2004; Msimang, 2006; Oyedemi, 2009) or that have touched tangentially on UAS policy (Schofield & Sithole, 2006), suggest equivocal outcomes for South Africa's engagement with universal access and service. Msimang's guarded overall assessment of the various interventions as having produced "mixed results" (2006, p. 244) is representative.

Where analysis and commentary has focused on specific aspects of universal access and service policy and regulatory intervention, it has tended to be negative. For example, Lewis (2013) gives an assessment that is negative in respect of each of the major interventions examined. More specifically, Hodge (2004) paints a gloomy picture of the failure of the universal service obligations imposed via licence conditions on Telkom in respect of fixed-line telephony, which he describes as a "roll-out disaster" (2004, p. 221). Hodge has also pointed to institutional problems with the then Universal Service Agency, categorising its track record as one of "agency failure" (2004, p. 221). Calandro and Moyo have suggested that the Universal Service Fund has "not [been] utilised in an effective way" (2010, p. 14). Others (Gillwald, 2005a; van Leijden & Monasso, 2005; Thornton, 2006) have expressed profound scepticism about the likely outcomes of the under-serviced area licensing intervention.

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[17] A fund into which contributions imposed upon operators are paid for the purpose of providing ICT infrastructure and services to underserved areas, communities or individuals who cannot afford such services on their own.

[18] Initially the Universal Service Agency (USA), later the Universal Service and Access Agency of South Africa (USAASA).

[19] The so-called Under-serviced Area Licences (USALs), introduced from 2001, requiring successful bidders to provide telecommunications infrastructure and services to areas with low fixed-line teledensity.

1.10 Universal What?

The dramatic shifts in both technology and markets as the telecommunications landscape has evolved towards an integrated and dynamic ICT ecosystem have already been alluded to. As the landscape shifts, the nature of the digital divide too evolves (Hilbert, 2016). And in consequence so too do the challenges facing policymakers seeking to advance the goals of universal access and service (ITU, 2003b, pp. 32-35).

Whilst the racial dimension of the telephony divide in South Africa has largely disappeared, other dimensions remain. For instance, while Statistics South Africa reports that 96,5% of all households have functional access to telephony, this level of access falls to 90,3% in the largely rural Northern Cape compared to 98,5% in the country's urban heartland of Gauteng (Stats SA, 2017b, p. 49). The discrepancy is far from stark, but it does suggest that an urban vs rural divide continues to persist.

Further, the technological basis of the digital divide in South Africa has shifted away from telephony towards access to the Internet and to broadband. The same report shows that access to the Internet is far from universal. Only 9,5% of South Africans have access to the Internet at home, but, worse, the Internet divide between metropolitan Western Cape, where 27,3% of households have access at home, and rural North West, where only 0,6% of households have such access, is stark (Stats SA, 2017b, p. 51).

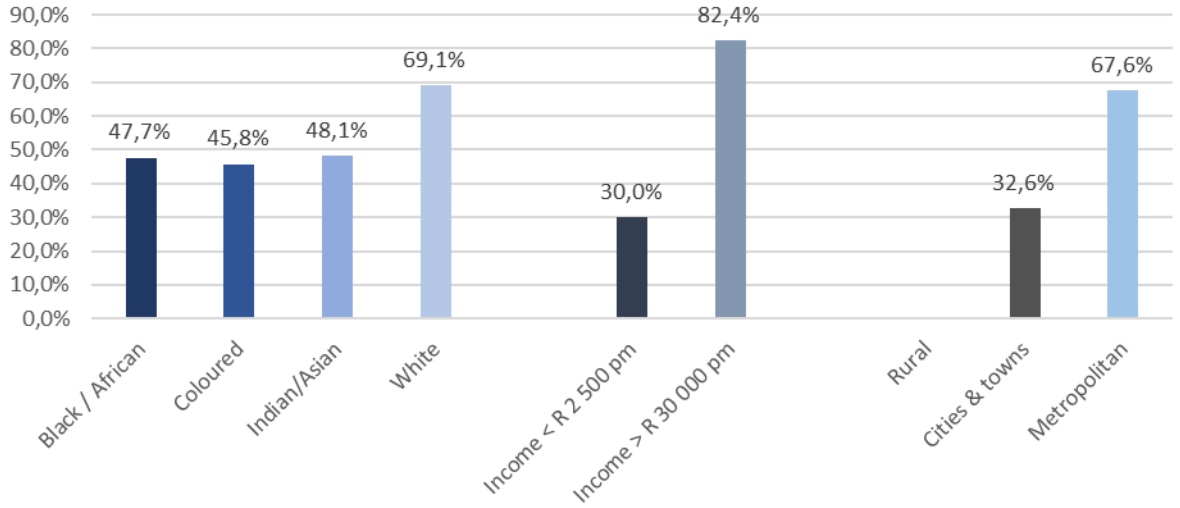
A recent edition of Arthur Goldstuck's influential report on the Internet in South Africa underlines the point (World Wide Worx, 2017, pp. 1-22) (see Figure 1.4 below). Report sponsor Reshaad Shaa describes the Internet divide as a vast and multi-dimensional one "that stretches across almost every imaginable sector of society, from geography and location to income and education" point (World Wide Worx, 2017, p. 7). Whilst income disparities are starkest (the report finds 82,4% of rich South Africans have access[20] to the Internet, compared to 30% of the poorest[21]), geography reflects similar levels of polarisation (Internet penetration is 67,6% in "major metropolitan areas" compared to a mere 32,6% in "smaller cities and

[20] The report adopts a fairly relaxed definition of what constitutes 'access', which it defines as "as having personally accessed the Internet in the last 12 months" (World Wide Worx, 2017, p. 10).

[21] Rich households are those earning more than R 30 000 per month, whilst the poorest earn below R 2 500 per month (World Wide Worx, 2017, p. 4).

towns")[22]. Importantly, given South Africa's history of starkly racialised divisions in levels of telephony access, the racial digital donga remains disturbingly prominent when it comes to Internet access, with 69,1% of 'white' South Africans enjoying Internet access, compared to levels of under 50% for the other three standard racial categorisations.

Figure 1.4: Axes of the Internet Divide (Urban South Africa, 2017)



Source: Author, data from (World Wide Worx, 2017, pp. 1-22).

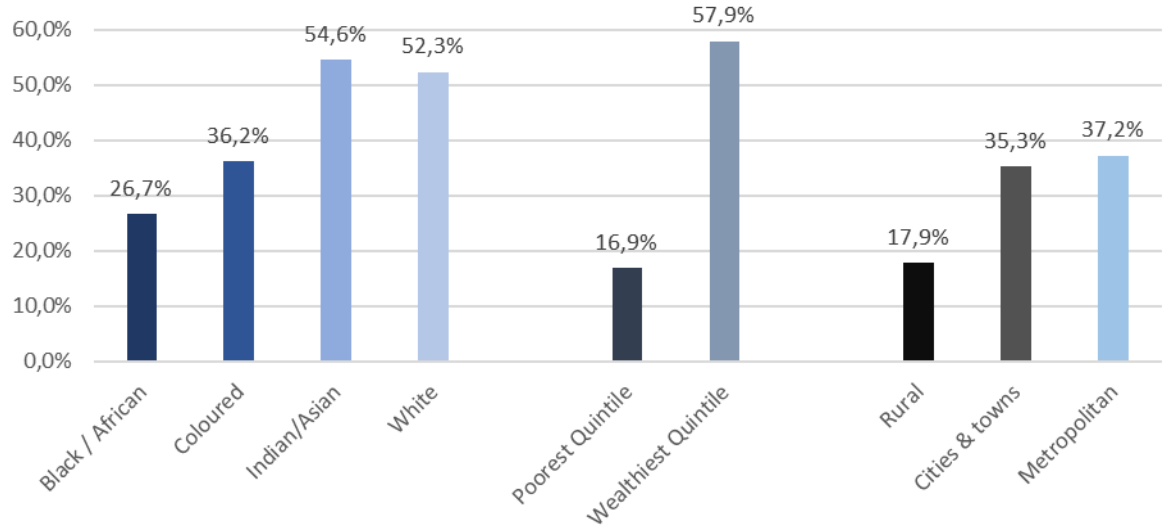
A similar trend is evidenced from an earlier Stats SA analysis, examining household access to the Internet in 2013 (see Figure 1.5 below). The graphs are not directly comparable, of course, given that they reflect data taken several years apart, and because of the differing definitions of access[23]. In addition, Goldstuck's smaller sample excludes rural respondents. However, both show that the income-based Internet divide is far more pronounced than the racially-based one. Regression analysis on the earlier Stats SA data suggests that rich households are 10 times more likely to have Internet access in the home than poorer ones, whereas 'white' households are 5 times more likely to have Internet access at home than their 'black' counterparts (Stats SA, 2015, p. 41). Both sets of data then suggest that race is no

[22] The report itself points out that the urban-rural divide is likely far greater, since its survey does not "quantify the full Internet user base, as it surveys adults, defined as aged 15-plus, living in cities and towns", and does not cover rural areas at all (World Wide Worx, 2017, p. 10). Indeed, earlier work by Stats SA emphasises the lacuna, gives rural South Africans dramatically lower levels of Internet access (26%) than their counterparts in major cities (95,5%) (Stats SA, 2015, p. 32).

[23] Stats SA gives data for access via mobile, as well as at home, but their two categories are not mutually exclusive. Mobile access is used in the graph here, given the degree to which fixed / mobile substitutability affects 'black' South African households. The racial divide in relation to "access at home" is much starker than that reflected above, with only 3,8% of 'black' households reporting such access, compared to 51,3% of 'white' households. Nevertheless, the wealth divide exhibits the greatest disparities for access, whether mobile, or 'at home'.

longer the prime predictor of access to the Internet, even though it clearly remains an extremely powerful determinant. This is so in part because poverty is still largely racially determined[24].

Figure 1.5: Access to the Internet via Mobile (South Africa, 2013)



Source: Author, data from (Stats SA, 2015).

Such a multi-dimensional Internet divide (urban vs rural, rich vs poor, 'white' vs 'black') is likely to be further exacerbated by the recent dramatic proliferation of super-fast fibre-to-the-home Internet access (Sidler, 2016), with FTTH rollout targeting wealthy, formerly-white suburbs in the country's major cities. As a result, concerns about securing universal access to the Internet have been voiced by sources as divergent as Facebook founder Mark Zuckerberg (Vermeulen, 2016) and international NGO, the Alliance for Affordable Internet (Mzekandaba, 2016a).

The technology may have changed, and the axes of deprivation may have shifted to some extent, but the policy challenge of securing universal access and service to ICTs remains.

1.11 Universal Access and Service: Still a Research Issue

Taken together, the picture that thus emerges is one of a substantial disjuncture between policy intention and implementation outcomes. The ANC government responded to the 'digital

[24] The rise of an affluent 'black' middle class is likely responsible for the relative decline of the *apartheid* dimensions of the digital donga. However, poverty remains largely 'black': some 93% of "poor" South Africans are 'black' (Stats SA, 2017a, p. 57) whereas they comprise some 80% of the total population.

donga' separating 'white' and 'black' South Africans over access to telecommunications services by adopting universal access and service as the centrepiece of its telecommunications policy. Further, it aligned itself with much that was considered international good practice at the time: it imposed universal service obligations on licensees; it established a universal service fund. In addition, it extended accepted good practice by licensing a number of rural operators and by establishing an institution dedicated to advancing the cause of universal access and service. These early efforts were widely lauded (ITU, 1998).

And yet there has been, as noted above, a persistent string of criticism and critique of many of the same initiatives and interventions. At the same time, it appears as if the 'digital donga' of 1990 has largely dissipated, certainly so when it comes to access to telephony. The extent to which this has occurred in consequence of the various targeted interventions, rather than as a result of market forces and trends, then appears to be highly debatable.

At the same time, new fissures of the 'digital donga' continue to emerge, as broadband assumes centre stage in policy, and the fibre to the home market explodes. With South Africa poised to undertake major policy shifts (DTPS, 2016) and embark on key ICT programmes (DoC, 2013; DTPS, 2017a) as, understanding the chain between policy intention and implementation outcomes, is both essential and urgent.

Questions clearly arise as to the extent of the historical policy disjunctures, the factors accounting for them, and the implications of this for ongoing universal access and service policy and regulation.

1.12 Relevance of the Research

This is a research project that has relevance, both specifically in terms of universal access and service policy, and in terms of policy theory more broadly.

Although the ICT landscape, both in South Africa and globally, has changed substantially since the mid-1990s, universal access and service continues to remain a central preoccupation of both academics (Xavier, 2008; Eliassen & From, 2009; Batura, 2016; Hudson, 2017) and policy-makers (Maddens, 2009; EU, 2010; Lewis & Maddens, 2011; DTPS, 2017b) in many parts of the world.

It is also true that scepticism around the effectiveness of universal access and service interventions is neither recent, nor limited to South Africa. The work of Mueller, for example,

which seeks to expose the concept of 'universal service' in the USA as an "ideology" (1993, p. 352; 1997b), with all the pejorative overtones of the term, has at its roots a profound scepticism as to the value of such interventions. Others have critiqued specific interventions, such as the establishment and operation of a universal service fund (Hazlett, 2006; Berg, Jiang, & Lin, 2011).

Much of the current global ICT policy-making centre of gravity has now moved firmly to focus on issues pertaining to broadband and its deployment, both globally (ITU/UNESCO, 2011; Kim, Kelly, & Raja, 2010) and in South Africa (DoC, 2013). Thus, a clear understanding of the contingent factors affecting the adoption of international best practice, derived from earlier generations of telecommunications, and of the challenges of ensuring effective implementation, may offer a greater degree of policy success when it comes to intervening to ensure universal access and service to broadband.

In addition, the research undertaken here offers a potential contribution to a significant area of academic discourse, the theory of policy and regulation for universal access and service in the developing country context. As such, it may hold important practical implications for developing countries like South Africa as they grapple with the 21st century goal of universal, affordable access within a converged and evolving ICT ecosystem.

1.13 Universal Access and Service: A Research Outline

The research undertaken in the following chapters proceeds as follows:

Chapter 1: The Digital Donga

This chapter has provided the background and context within which the research takes place, and introduced some of the key issues and broader questions that will be examined in more detail in the chapters that follow.

Chapter 2: Universal Access and Service: Literature and Theory

This chapter gives an overview of the key academic literature dealing with universal access and service. It also examines the literature that underpins the analytical framework for the remainder of the study, namely: regime theory; policy transfer and diffusion; and policy success and failure.

Chapter 3: Research Question

This chapter formulates an overall research question, based on the situation outlined in the first chapter, and informed by the literature review in the second chapter. The qualitative methodology used in the study, principally document analysis and semi-structured interviews, is also motivated and explained.

Chapter 4: Universal Access and Service: The Rise of International Good Practice

The rise of universal access and service as principles and norms in the international telecommunications regime, is the focus of this chapter, along with the development and adoption of the key programmatic interventions that have come to form the canon of international good practice.

Chapter 5: Universal Access and Service in South Africa's Telecommunications Policy

The focus of this chapter is how South Africa adopted and adapted the various components of international good practice for universal access and service, and translated this policy approach into legislative practice as the basis for structured practical intervention.

Chapter 6: Universal Service Obligations

This chapter examines how the first of the key features of international good practice - the imposition of rollout and access obligations upon licensees - was implemented. The relative degree of success and failure of this intervention is also analysed.

Chapter 7: The Universal Service Fund

The second feature of international good practice - the establishment of a universal service fund - is the focus of this chapter. The chapter charts how this was implemented and assesses how successful this intervention was.

Chapter 8: Under-serviced Area Licences

This chapter looks at a third area of South Africa's programme of interventions aimed at achieving universal access and service, namely the awarding of rural licences to small operators, and discusses how successful or otherwise this intervention was.

Chapter 9: The Universal Service (and Access) Agency (of SA)

In this chapter, the establishment of a dedicated quasi-regulatory body tasked with overseeing universal access and service is the focus. The structure and performance of the Agency is described, analysed and evaluated.

Chapter 10: From policy conception to policy implementation to policy outcomes

The degree of overall success and failure of South Africa's entire universal access and service programme is the focus of attention in this chapter. Success and failure are examined through the lenses of policy as process, policy as programme, policy as politics.

This chapter also offers reflections on the value and applicability of the conceptual framework used for the analysis of South Africa's universal access and service policy and practice. It also makes suggestions for areas of further investigation.

2 Universal Access and Service: Literature and Theory

The literature on universal access and service is both wide and varied. Given the research problem under investigation, and the purpose of the research as stated above, it is important to examine the relevant academic discourse.

This chapter will, accordingly, adopt two principal thrusts. It will proceed from an examination of a selection of the extensive literature dealing with the concepts of universal access and service and their practical implementation as concrete policy interventions, towards an examination of some theoretical approaches and analytical frameworks that may be able to shed light on the development, adoption and implementation of such policies in a developing country such as South Africa.

Firstly, the academic and expert literature relating to universal access and service is examined, starting with international best practice. This section of the chapter will also examine in more detail the literature relating to aspects of universal access and service policy and regulation, including the imposition of universal service obligations, the establishment of universal service funds, appropriate institutional arrangements, and the adoption of rural licensing approaches.

It is worth noting at the outset that this literature is less theoretical in nature, and more often concerned with praxis, with the historical explication of events and trends, and with the analysis of policies, their implementation and their consequences. Much of the academic literature within the field, then, is historiographic in nature, charting and analysing policy and practice from a variety of perspectives (Hills, 1989; Dordick, 1990; Mueller, 1997b; Horwitz, 2001). There is also a considerable overlap between academic and practitioner in the field. In some cases, scholars have been approached by policy-makers on the basis of their academic research: see, for example, Nicholas Garnham (Garnham, 1989; OECD, 1991, pp. 21-87). In other cases, work that originally appeared in policy documents later resurfaced as an academic journal publication: see, for example, the work of Xavier (OECD, 1997; Xavier, 1997) and Milne (ITU, 1998, pp. 65-69; Milne, 1998). This suggests an unusual level of overlap and interplay between academics and practitioners, with reports and policies often drafted by the same community of academic experts who will later analyse and comment on them.

The second thrust of the literature review will be an examination of the academic discourse pertinent to understanding and accounting for the transition between policy conception and policy implementation. This will include literature on regime theory and epistemic

communities, theories of policy transfer and policy diffusion, and the emerging literature on policy evaluation.

Finally, drawing from the examination of this literature, a conceptual framework is developed. This conceptual framework is adopted in the research study as a lens through which the adoption and implementation of universal access and service policy in South Africa can be viewed, analysed and assessed.

2.1 Universal Access and Service: In Search of Good Practice

Telecommunications policy relies extensively on what may be termed 'international best practice', described in various monographs (Melody, 1997; Blackman & Srivastava, 2011a) or formulated via key reports (ITU, 2003a; ITU, 2004; SADC, 2011) or sets of guidelines adopted by policy structures (SADC, 2011).

Despite the fact that definitions of what constitutes international best practice are often somewhat imprecise - Bardach, for example, offers rather vague advice to "track down some of these past [policy] solutions and see if you can extrapolate them to the situation you are studying[25]" (2000, p. 10) - the notion remains widely used in both academic and expert literature. Overman & Boyd's earlier widely-cited definition attempts a rather more methodologically precise characterisation of best practice as the "selective observation of a set of exemplars across different contexts in order to derive more generalizable principles and theories" (1994, p. 69).

As can be seen from the definition of Overman & Boyd cited above, best practice research carries with it a degree of methodological challenge. There is a level of subjectivity and circularity in the identification and analysis of a 'selective' set of 'exemplars', which they, as well as subsequent commentators ((Borins, 2001; Bretschneider, Marc-Aurele, & Wu, 2005; Veselý, 2011) have attempted to come to grips with. These questions will be revisited later in the chapter.

It is, however, important at this point to note the normative assumptions, aspirational pressures and subtle coercion towards defined sets of practices that both underpin the very

[25] Bardach in fact eschews the term 'best practice' in his intensive subsequent discussion of best practice research in the same monograph, preferring instead the notions of 'good practice' or 'smart practice'. The research presented here veers towards 'international good practice', a term somewhat less avowedly normative.

term 'best practice' itself (which perhaps accounts for Bardach's somewhat leery approach to the term) and its deployment in policy writing. This is one of the features picked out by Jennings when he notes that

> *best practices carry a tripartite function:*
>
> *1) identifying successful initiatives addressing important issues,*
>
> *2) learning what works and does not work in different contexts, and*
>
> *3) inspirational guidelines for decision making" (2007, p. 74)*.

It is with these initial caveats in mind, that international practice in relation to universal access and service can now be considered.

2.1.1 'One Policy, One System, Universal Service'

As indicated earlier, the concept of 'universal service' has a lengthy pedigree, the evolution and import of which has enjoyed the attention of a number of academic commentators (Dordick, 1990; Hills, 1989; Mueller, 1993; Thierer, 1994; Mueller, 1997b; Verhoest, 2000; Hills, 2007).

There is general agreement that Theodore Vail, who had been appointed to the helm of AT&T in 1907, be credited with introducing the term 'universal service' and with initiating AT&T's subsequent advertising campaign calling for "One Policy, One System, Universal Service" (Dordick, 1990, p. 230; Mueller, 1993, p. 353; Thierer, 1994, p. 4). There is, however, considerable disagreement as to the extent to which Vail's term was intended to imply the kind of public interest orientation and public service endeavour to overcome the digital divide that the term carries today.

On the one hand, Mueller argues that the commercial imperatives of the privately-owned AT&T lay behind the call, and that it was intended to consolidate a single, unified national telephone infrastructure in the US with AT&T at its helm. He shows how telephone penetration in the US had soared in the years preceding the coining of the term "universal service". He further argues that this expansion was driven by the pressures of what he terms "access competition" (Mueller, 1993, p. 358), the drive to achieve market dominance by signing up as many customers as possible. He shows how, with many areas in the US served by competing, non-interconnected telephone companies (the phenomenon of "dual service"), there were powerful pressures to "get as many subscribers onto the system as quickly and as

cheaply as possible" (Mueller, 1993, p. 361). This could be achieved by rolling out service to unserved areas, by keeping prices low, and by interconnecting only via third-party "independent" exchanges that were not competitors.

As a result, competitive pressures drove rollout and promoted a "universal telephone infrastructure by placing a premium on a network's scope (Mueller, 1993, p. 362). Mueller goes on to demonstrate a shift in corporate strategy at AT&T that sought to pressurise the independent companies to interconnect with AT&T under its centralised, monopoly control in order to form a single, interconnected, unified telephone network. Vail's call for "universal service", Mueller therefore argues, marks a break from the tradition of "dual service". The emphasis in the drive for "One Policy, One System, Universal Service" thus effectively fell on the second phrase, and actually meant "universal interconnection" rather than being a campaign for widespread household telephone penetration (Mueller, 1993, p. 365).

Mueller's argument is persuasive, but is far from the whole picture. Dordick, for example, argues that the rapid diffusion of the telephone in the USA was linked to AT&T's corporate strategy of sub-licensing in order to build to a business and residential customer base as rapidly as possible — as opposed to the emphasis on core network development that had been the strategy of its predecessor, the telegraph (1990). And such a change in emphasis, Dordick suggests, was partly prompted by Alexander Graham Bell's dream, as quoted by Dordick: "a telephone in every house would be considered indispensable" (1990, p. 229). A similar point is made by one of Mueller's reviewers, who quotes in turn Bell's own comment on AT&T's "universal service" strategy: "I dreamed of wires extending all over the country and of people in one part of America talking to people in another part of America. It was the dream of a dreamer, but Mr Vail has made it come true" (Miller, 1997).

It is more plausible, therefore, to see the call for 'universal service' as rather more than a simple cloak for corporate greed. It is perhaps better understood as a dual concept. As such, it reflects a more complex interplay between the social vision of telephony as a public interest utility, widely available to all at home and in the office, benefitting both social interaction and commercial activity, and the appropriation of the concept by AT&T under the 'universal service' slogan in pursuit of that company's goal of market dominance.

The public interest notion of universal service was to remain intertwined within the policy programme in the United States. When Congress passed legislation in 1934 to establish a federal body to oversee and regulate telecommunications, the Federal Communications Commission, the preamble to the Act thus enshrined the desire to "make available, so far as

possible, to all the people of the United States a rapid, efficient, Nation-wide, and world-wide wire and radio communication service with adequate facilities at reasonable charges" (US, 1934). Subsequent amendments to the Act over the following 30-odd years were further to strengthen this commitment, introducing numerous specific "universal service" provisions. "Universal service" was to be further strengthened by several specific provisions in the United States 1996 Telecommunications Act (US, 1996, p. Section 254)[26], which replaced the 1934 Act.

The US's 1996 Telecommunications Act was itself the outcome of a series of profound changes that began to reshape the telecommunications market in the 1980s, which will be discussed in detail in Chapter 4 below. These were marked in the US by 1982 court-ordered breakup of AT&T, and in the UK by the introduction of competition to British Telecom (BT) and its subsequent privatisation. Hitherto, telecommunications markets had been largely monopolistic, either dominated by privately-owned *de facto* monopolies like AT&T, or with services provided by state-owned monopolies like BT. The subsequent series of profound market structure reforms together comprise the then-incipient global trend referred to in Melody's seminal work as "telecom reform" (1997)[27]. Although the mix and sequencing differed from market to market, 'telecom reform' has three main components, as noted in Chapter One, viz:

- Ownership - partial or full privatisation of the state-owned incumbent provider of telecommunications services (eg British Telecom or Telkom), either through the sale of an equity stake or by issuing shares, or both;
- Market structure - the introduction of competition into the telecommunications market, through the licensing of additional operators (eg Vodacom and MTN) in one or more market segments;
- Regulation - the establishment of an independent regulatory authority to oversee the market in the public interest[28].

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[26] The Act formalised the concept of universal service and led to creation of a Universal Service Fund, and the provision of e-rate discounts to assist schools and libraries in the US to obtain affordable access to telecommunications and the Internet.

[27] The pressures and drivers of this fundamental shift in the global marketplace for telecommunications, along with the institutional realignment it engendered will be more fully explored in Chapter 4 below.

[28] The slightly simplified categorisation presented here, derives from the regular series of ITU reports from 1999 under the rubric, 'Trends in Telecommunication Reform' (cf (ITU, 2001, pp. 1-17)). Melody's own categories are rather more complex, but entirely compatible with those presented here, viz: "Institutional restructuring";

'Telecomm reform' was accompanied by a resurgence of debate over universal service, its status and role, and how it should be achieved under a changed market structure (Hills, 1989; Dordick, 1990; Noam, 1994; Blackman, 1995; Verhoest, 2000). The positioning of a renewed emphasis on universal access and service in the context of ICT sector reform is either made explicitly (Melody, 1999; ITU, 2003a; Maddens, 2009) or via interrogation of linkages between components of ICT sector reform and the rollout and uptake of ICT infrastructure and services (Wallsten, 2002; Fink, Mattoo, & Rathindran, 2003; Li & Xu, 2004).

2.1.2 From the Digital Divide to Universal Service

On the one hand, the debate emphasises the moral and ethical grounding for the objective of ensuring universal access to telecommunications services in the public interest (Blackman, 1995; Sawhney, 1994; Lievrouw, 2000; Preston & Flynn, 2000). Blackman, for example, refers to "universal service - a telephone in every home – [as] one of the great and worthy pillars of telecommunications policy" (1995, p171). On the other, it exposes the private, mostly profit-seeking agendas of many of the stakeholders (Sawhney, 1994; Hills, 2007).

Universal service as a moral, social justice imperative has linkages to another strand of analysis, one centred around the phenomenon known as the 'digital divide' (Bridges.org, 2001b). Concerns about disparities in access to telephony began to surface at around the time of the telecommunications reforms in the US and the UK alluded to above. In 1982 the ITU established a global Independent Commission for World Wide Telecommunications Development to "recommend ways in which the expansion of telecommunications across the world could be stimulated" (ITU, 1985, p. 2). Its landmark eponymous[29] 'Maitland Report' drew attention to the world-wide "telecommunications gap". It pointed out that 75% of the world's 600 million telephone lines were concentrated in a mere 9 countries, and "concluded unanimously that the gross and growing imbalance in the distribution of telecommunications throughout the world was not tolerable. . . . [either] in the name of common humanity [or] on the grounds of common interest" (ITU, 1985, p. 3). While this presaged the first recorded

"Commercial independence of the PTO"; "Unbundling telecom market sectors"; "Network facilities competition"; "Independent regulation" (1999, pp. 12-17). The author prefers the categorisation of the ITU as clearer and more discrete.

[29] The 17 member Commission was appointed in 1982 and comprised members - mostly civil servants - from a wide range of ITU member states, ranging from Gabon to Japan. It was chaired by Sir Donald Maitland, a career diplomat and civil servant from the UK.

use of the term 'digital divide[30]' by more than 10 years, the concern is the same: how to address gaps in access to telephony (and, later, other ICT services) around the world. The report's recommendations went on to call for a variety of interventions designed to achieve the "overriding objective . . . of "[bringing] all mankind within easy reach of a telephone by the early part of the next century" (ITU, 1985, p. 4).

A subsequent series of reports by the US's National Telecommunications and Information Administration explicitly linked its documentation of disparities in access to ICTs to universal service policies designed to overcome those disparities (NTIA, 1995; NTIA, 1999). Similar linkages are found elsewhere in the literature, both at the level of household and individual access ((Albery, 1995; Schement, 1995; Riordan, 2001), and in the context of the gap between developed and developing countries (Rodriguez & Wilson, 2000). One strand of the literature on the digital divide is thus concerned with the identification and elaboration of a variety of remedial interventions to address the digital divide (Hargittai, 2003; Alampay, 2006; Fuchs & Horak, 2008), amongst which interventions specifically targeting universal access and service - exploring the "role of ICTs in narrowing the digital divide, and [outlining] policies, regulatory measures, and targeted investments" (Navas-Sabater, Dymond, & Juntunen, 2002) - feature with varying degrees of prominence. The elaboration and analysis of the concepts of universal access and universal service, together with policy and regulatory interventions designed to achieve their objectives, thus takes place in the context of the manifold academic discourse on the nature of the 'digital divide'[31].

2.1.3 Defining 'Universal Service' and 'Universal Access'

Definitions of universal service are imprecise and shifting. Milne, for example, points out "how widely the meaning of 'universal service', and how it is pursued, vary [sic]" (1998, p. 776). Similarly, Xavier notes that "universal access and universal service are not fixed concepts and there is no single 'standard' definition" of the terms (2006, p. 4). This is not to suggest that there are definitional disagreements, or that the terminology is so vague as to undermine meaningfulness. Commentary is sometimes imprecise, but 'universal service' now refers to

---

[30] The first recorded use of the term 'digital divide' can be traced to a 1996 speech by then US Vice President, Al Gore (Gore, 1996).

[31] There is an entire field of scholarship devoted to the 'digital divide', its nature and extent, its dimensions and causes, its implications and consequences (DiMaggio, Hargittai, Celeste, & Shafer, 2004), but whilst the 'digital divide' is the well-spring for universal access and service policies and regulatory interventions, it is the latter which constitutes the focus and scope of this research.

ubiquitous private access to ICT services, whilst 'universal access' implies a focus on shared access via public facilities. The specific ICT services covered (whether the emphasis lies on telephony or broadband, for example) may vary according to the historical timing and the analytical focus. Likewise, the consideration of private access as measured at individual or household level varies according to the analytical frame.

There, therefore, remains a key conceptual distinction between the concepts of 'universal access' and 'universal service', with the former referring to the provision of a defined set ICT services to all individuals or households within a country, and the latter to the provision of such services primarily via means of shared or public availability (ITU, 1998, p. 61ff; Intven, 2000b, pp. 6-1; Benjamin, 2001, p. 68). Without anticipating the later discussion on the evolution of the terms, suffice it to cite a recent definition:

> *The concepts of universal service (US) and universal access (UA) are distinct. US refers to service at the individual or household level, e.g., typically a telephone in each home. UA refers to a publicly shared level of service, e.g., through public payphones or Internet telecenters.* (Blackman & Srivastava, 2011b, p. 153)

It is important to note that this suggests a degree of hierarchical linkage between the concepts. 'Access' implies the ability to use, without necessarily involving ownership. 'Service', on the other hand, implies an exclusive right of access. Thus, an individual who has ICT 'service', also has, by definition, 'access' to that service, since it is available, accessible and affordable to them. By contrast, however, an individual who only has 'access' to an ICT service, does not enjoy 'service'.

Further, it is interesting to note that, while there is considerable agreement on the private nature of 'service' and the shared nature of 'access', as set out above, little interrogation has been undertaken in relation to what constitutes the ubiquity implied by the term 'universal'. Many commentators rather loosely allude to 100%. For example, Milne sets 100% "business" and "household take-up" as the upper bound on her influential five-stage universal policy development model (1998, p. 776). But, clearly, there will always be individuals and households that remain unserved, either by choice or through circumstance. An early analysis aimed at "estimating whether a natural level of non-penetration [of telephone services] exists" and hence at determining "what level of penetration constitutes universal service" (Albery, 1995, p. 365) was unable to reach a firm conclusion. The ITU itself benchmarks 90% penetration as marking households that are "universally served" (1998, pp. 63-64). Universal

access and universal service may therefore be considered to have been achieved at levels somewhat below the threshold of 100%.

The concepts of universal service and universal access are closely related, often used together to denote a broad area of policy and regulatory practice and analysis. Some commentators (Clement & Shade, 2000; Clarke & Wallsten, 2002) use the term "universality" to denote the broad area of approach this covered. Following recent usage within the ITU of the phrase "universal access and service" (Maddens, 2009; Blackman & Srivastava, 2011b), this research report adopts the same terminology, abbreviated as 'UAS'.

Finally, in this section, it is important to mention the debate about which telecommunications services should fall within the ambit of universal access and service policy. As has previously been suggested, most of the early literature dealing with UAS proceeded from the assumption that it was access to fixed-line telephony that was under consideration (Dordick, 1990; Milne, 1990; Mueller, 1993; Noam, 1994; Blackman, 1995; Mueller, 1997b). With changes to the telecommunications technologies and services landscape, however, the debate soon began to shift to a discussion as to which services exactly should be included under the umbrella of UAS (Sawhney, 1994; Hills, 1989) and a debate over UAS in relation to specific services such as mobile (Burkart, 2007; Goggin, 2008) and the Internet (Cremer, 2000; Lievrouw, 2000). More recently, the debate has tilted firmly and emphatically towards achieving UAS in respect of high-bandwidth broadband (Xavier, 2008; Alleman, Rappoport, & Banerjee, 2010; Dymond, 2010; Kim, Kelly, & Raja, 2010; Levin, 2010; Rosston & Wallsten, 2011; Prasad, 2013; Nucciarelli, Sadowski, & Ruhle, 2014).

2.1.4 Availability, Affordability, Accessibility

Access to ICT is widely seen as depending upon ensuring the availability, affordability and accessibility services (ITU, 1998, p. 63; Xavier & Ypsilanti, 2007; Blackman & Srivastava, 2011b, p. 155; Msimang, 2012, p. 83). These principles have recently been summarised as follows:

- ***Availability****: the level of service is the same for all users in their place of work or residence, at all times and without geographical discrimination;*
- ***Affordability:*** *for all users, the price of the service should not be a factor that limits service access;*

- ***Accessibility:*** *all telephone subscribers should be treated in a non-discriminatory manner with respect to the price, service and quality of the service, in all places, without distinction of race, sex, religion, etc. (ITU, 2013, p. 1)*

The formulation is not markedly different from their original 1998 incarnation, where the emphasis was more on the goals of universal access policy. Then, availability implied the need to ensure "nationwide coverage of telephone service", while affordability implied ensuring services were "priced so that most users can afford it" (ITU, 1998, p. 63)[32]. Whilst these three analytical pillars surface like a mantra in so much of the writing around UAS, there is little depth to their analysis in either the academic or expert literature, and they do not feature prominently in the justifications for policy and regulatory interventions in support of UAS. Many of the latter are concerned specifically with addressing the availability of service, with due consideration given to ensuring the accessibility and affordability of services. Price regulation to ensure affordability has become a key area of regulatory intervention in its own right (Milne, 2000; Genakos & Valletti, 2015), usually under the umbrella of 'consumer protection', without any specific universal access and service justification. Accessibility has become an area of focus for researchers concerned with disability (Goggin & Newell, 2000; Jaeger, 2006) and gender (Huyer & Sikoska, 2003; Olatokun, 2008) issues. That said, however, availability, affordability and accessibility are clearly key questions impacting the ability of policy-makers and regulators to achieve universal access and service.

2.1.5 Modelling Universal Access and Service

A number of researchers have attempted to devise models to assist in the understanding of universal access and service, and with the aim of assisting policy-makers and regulators to define and measure intervention strategies.

An early and widely-cited[33] model (Milne, 1998) arose out of an ITU report, where it was specifically floated as an easier roadmap for governments faced with the "difficult task" and "conflicting policy choices" posed by pursuing availability, accessibility and affordability "simultaneously" (ITU, 1998, pp. 65-68). The model identifies five stages "representing different stages of [fixed-line] telecommunications network development", ranging from

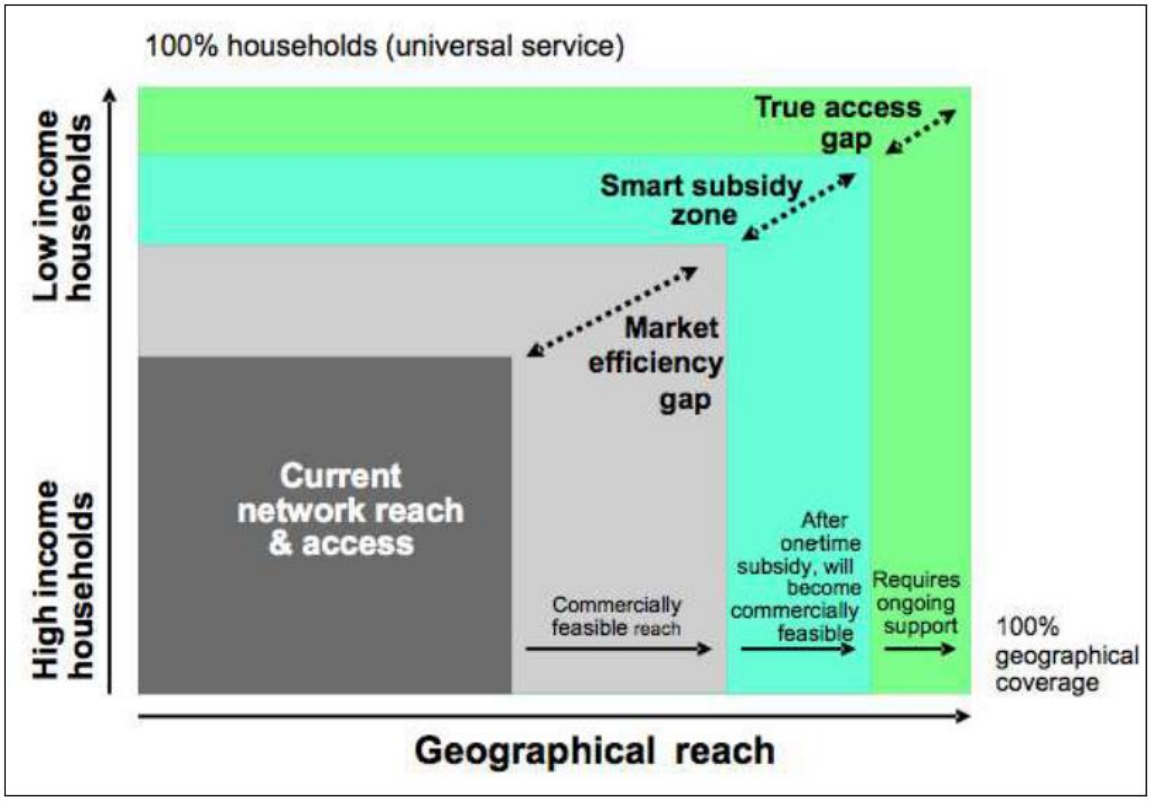
[32] The 2013 wording under accessibility is identical to the 1998 formulation.

[33] Google Scholar lists 67 citations as of September 2017.

"network establishment", through "mass market take-up", up to "service to individuals". Each is demarcated according to differing levels of business and household uptake, and linked to appropriate and corresponding "universal service goals" and "typical public policy measures". Albeit largely limited to "obligations", "price rebalancing" and "targeted subsidies" by way of specific interventions, the model is nonetheless useful in important respects. It helps policy-makers to position universal access and service within an evolving market dynamic. Further, it grounds regulatory interventions within the specific realities of the concrete conditions within the national environment.

Also widely cited[34] is the access gap model of Navas-Sabater, Dymond and Juntunen (2002). Its parentage is rather less than clear, and will be discussed in more detail Chapter Four. The version shown below (Figure 2.1) is drawn from a recent ITU report.

Figure 2.1: The Access Gap Model



Source: (Blackman & Srivastava, 2011b, p. 157)

The model is based upon two of the primary axes of the digital divide, location (urban vs rural) and income (rich vs poor), with wealthy, urban households enjoying ICT service whilst

[34] Google Scholar lists 135 citations for the report in which the model first appeared as of September 2017.

poor, rural households largely denied access to such services. As such, the framework corresponds to the notions of availability and affordability discussed above.

The value of such a framework for policy-makers and regulators is that it assists in the conceptualisation and targeting of how to intervene in order to achieve universal access and service. Potential ICT users who make up the "market efficiency gap", although currently unserved, are nonetheless "commercially feasible", and can be served if policy-making and regulation are structured so as to optimise the functioning of the market (for example, through price or interconnection regulation). Possible consumers in the "smart subsidy zone" will require one or other intervention in order to be able to enter the market (such as the provision of a free or subsidised handset, or the subsidised construction of a base station[35]). The "true access" gap comprises those households and individuals too remote or too poor to afford any form of access, for whom "ongoing support" (for example, through the provision of free or subsidised minutes via lifeline tariffing) is necessary if they are to enjoy some form of access.

The model is thus clearly a practice-oriented tool rather than a theory-driven analytical framework.

Having looked at some of the key concepts in relation to UAS international best practice, it is important to turn our attention to the literature relating to some of the key specific interventions. Before proceeding, it is worth briefly summarising some of the key precepts within that international best practice. These include:

- Imposing universal service infrastructure rollout and service provision obligations upon telecommunications licensees;
- Addressing the market efficiency gap by strengthening ongoing reform in the sector, particularly through appropriate regulatory measures to promote competition;
- Establishing universal service funds to augment market interventions by addressing the access gap in order to bridge the digital divide;
- Utilising least subsidy auctions as the optimum means of deploying the resources within such universal service funds;
- Rolling out multi-purpose community telecentres as a universal access and service deployment model;

[35] For example, the regulator in Zimbabwe has recently issued a tender for the construction of 250 base stations in unserved rural areas (Karombo, 2017).

- Deploying wireless technologies to enable small-scale rural entrepreneurs to provide localised telecommunications services to consumers. (ITU, 2003b)[36]

A more detailed analysis of the evolution of that international good practice will follow in Chapter Four.

2.2 Intervening for Universal Access and Service

Two principal areas for universal access and service intervention feature prominently in the academic literature, viz universal service obligations (USOs) and universal service funds (USFs). However, much of the literature focuses on the implementation of these two intervention models in practice, and is often closely elided with the expert literature on the subject. Since the latter will be dealt with in far greater detail in Chapter Four, only a very short, introductory analysis is presented below.

2.2.1 Universal Service Obligations

Universal service obligations were originally conceived as a mandate to serve all potential customers regardless of geographic location: "a requirement to provide basic telephone service to all who request it at a uniform price even though there may be significant differences in the costs of supply" (OECD 1995 p5).

The formal imposition of that mandate in the shape of Universal or Mandatory Service Obligations (USOs) specified for licensees, has long been considered core to the arsenal of regulators seeking to extend the reach of telecomms access in their countries (Intven, 2000b, pp. 6-19; infoDev, 2009, p. 37; Maddens, 2009, p. 6). USOs may take many forms, ranging from obligatory network rollout targets or coverage requirements to the mandatory provision of specified services such as free emergency calls.

The literature on this specific UAS intervention is sometimes muddied by terminological slippage. For example, in the US, the universal service fund is used to finance the implementation of the universal service obligation set for licensees, which requires them to provide services to schools, libraries and rural health care facilities, along with support for service to high cost areas and low income subscribers (Marashlian, Hankins, & McReynolds, 2011, pp. 349-350). As a result, discussion of the universal service fund in the US is often

[36] Most of these have been restated more recently by Blackman and Srivastava (2011b).

conflated with discussion of universal service obligations[37]. Even Burkart's discussion of extending universal service obligations to encompass mobile and Internet services in Mexico makes the same conflation, and includes "subsidies for firms" and "direct payments to end-users" (2007, p. 175).

However, for the purposes of analysis, it is important to distinguish between USOs - the "imposition of universal service obligations on certain or all market players" - and the specific "the creation of Universal Service Funds" (whether or not these are used for the actual "financing of universal service obligations") (Maddens, 2009, p. 3). This is an approach also adopted by key commentators on universal access and service in South Africa - cf (Hodge, 2004; Msimang, 2006).

2.2.2 Universal Service Fund

Current international best practice on USFs and their future is somewhat divided (Hudson, 2010), as two recent global studies show. After examining 64 USFs around the world, of which a quarter were found to be "inactive", the GSMA concluded that "based on their general performance to date, USFs do not appear to be the most appropriate mechanism to achieve universal service and further social and economic development" (GSMA, 2013). On the other hand, the ITU's recent examination of 69 USFs worldwide also found similar problems of low or non-existent levels of activity, but went on to make a number of strategic recommendations for USFs, including the need to ensure that they are enabled to "respond to rapidly changing and evolving priorities", that they need to be placed the control of an "independent unit to manage the USFs in a transparent, autonomous and competitive manner" and that they need to be utilised to "address broadband access"[38].

However, despite evidence of problems in the deployment and utilisation of such funds (Lewis, Establishing a Local Content Fund: The Experience of Funding Universal Access and Service, 2015), they are viewed as a "vital tool to achieve Universal Broadband" (Townsend, 2015, p. 18), they continue to be punted today (Prasad, 2013; Williams, 2016).

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[37] A similar terminological slippage surrounds the term 'liberalisation', usually used to refer to liberalising the market through introducing competition, but used by some to refer to the entire telecommunications reform process.

[38] ITU (2013) `Universal Service Fund and Digital Inclusion for all Study', International Telecommunication Union, Geneva available online at http://www.itu.int/en/ITU-D/Conferences/GSR/Documents/ITU%20USF%20Final%20Report.pdf.

2.3 Regime Theory

The cluster of ideas and concepts outlined above forms a more or less coherent body of knowledge, perhaps not universally shared by all involved, but certainly with a sufficiently common basis as to form a common platform for discussion or disputation. Much of the conversation takes place in association with a common cluster of institutions, such as the OECD, the ITU and the WTO. This suggests that the analysis undertaken here may benefit from consideration of universal access and service as part of an 'international regime' (or regimes) centred around some of the key institutions involved and based on an 'epistemic community' of the central issues and ideas.

Examining universal access and service from the perspective of the discourse around regime theory offers an interesting analytical lens for an understanding of the role of multi-lateral institutions such as the ITU and the WTO in relation to universal access and service, of the rise and influence of what may be termed international best practice in respect of related policy and regulatory interventions.

Krasner's seminal defence of the value of the regime theory perspective has defined 'regimes' as "sets of implicit or explicit principles, norms, rules, and decision-making procedures around which actors' expectations converge in a given area of international relations" (1982, p. 186).

Krasner, therefore, sees international 'regimes' as a "pervasive and significant phenomenon in the international system" (1982, p. 194). Such regimes form the "intervening variables", crystallised out of the "patterned behavior" adopted by actors in pursuit goals or outcomes. As such, they play a normative role in mediating and shaping the (usually economic) "self interest" and "political power" dynamics of nation states and firms in order to "achieve desired outcomes" (1982).

Implicit in Krasner's approach to regimes is their locus within a single institutional structure or across a lattice of institutional arrangements. Their mode of operation is rooted in a set of largely implicit 'norms' and 'principles', and played out through more formal 'rules' and 'decision-making procedures'.

Krasner goes on to conclude:

> *Interest, power, diffuse norms, customs, and knowledge may all play a role in regime formation. These causal factors may be manifest through the behavior*

of individuals, particular bureaucracies, and international organizations, as well as states. (1982, p. 205))

Critics argue that focusing on the regime as an entity leads to a "static" and "state-centric" approach to international relations, one that obscures the underlying motivations and objectives of the actors and the economic and political power dynamics at play (Strange, 1982, p. 479ff). Nevertheless, for the purposes of understanding and analysing the rise of international best practice in respect of universal access and service, and of charting how this has played itself out through entities such as the ITU and the WTO, the regime perspective has useful insights to offer.

An important early review of the literature associated with regime theory by Haggard and Simmons (1987) distinguishes four strands of approach to the analysis of regimes. In their conceptualisation, "structural" approaches are able to show the role of political power in international regimes as players struggle for "hegemony" in order to realise their agendas and objectives. They further show how "game-theoretic approaches" are able to provide insights into the stability and modes of co-operation with regimes. A third strand of "functional theory" emphasises the rule-making aspects of regimes and their ability to lower transaction costs in addressing specific issues. Finally, "cognitive" theories emphasise the role of shared values and assumptions, of "ideology" if you will, in shaping the formation and functioning of regimes. The four broad approaches distinguished by Haggard and Simmons are not necessarily mutually exclusive, with each illuminating differing aspects of regime formation and operationalisation, and each (with the exception of game-theory) finding an anchor in Krasner's definition. Indeed, all four may be necessary for a full analysis and understanding of any specific regime.

However, it is the 'cognitive' approach that perhaps offers the most fruitful set of insights into the rise of international best practice in respect of universal access and service. Indeed, Krasner points to the role of "knowledge" in creating a shared "basis for cooperation" in respect of public policy (1982, p. 203) as one of the key factors underpinning regime formation.

A number of adherents of regime theory have developed this type of approach considerably further through the conceptualisation and elaboration of what they term 'epistemic communities' and the role of such communities within regime formation and elaboration.

The classic formulation of what constitutes an epistemic community comes from Haas. It comprises a "network of professionals with recognized expertise and competence in a particular domain and an authoritative claim to policy-relevant knowledge within that domain or issue-area" (Haas, 1992, p. 3). Epistemic communities, for Haas, constitute an "important determinant of international policy coordination" (1992, p. 3) within an international context of growing uncertainty and technical complexity that is more and more permeated by administrative, bureaucratic and regulatory bodies[39] where the influence of technical and policy advisers increasingly holds sway.

Haas' characterisation of the key features of an epistemic community has much in common with the principles, norms, rules and decision-making procedures described by Krasner (1982, p. 186) as the core characteristics of regimes themselves. According to Haas, epistemic communities - as distinct from other groupings, such as interest groups, social movements, disciplines, professions, legislators, bureaucratic agencies and coalitions - possess:

> *(1) a shared set of normative and principled beliefs . . .*
>
> *(2) shared causal beliefs . . .* [regarding the] *linkages between possible policy actions and desired outcomes . . .*
>
> *(3) shared notions of validity . . . criteria for weighing and validating knowledge in the domain of their expertise . . .*
>
> (4) *a common policy enterprise . . . a set of common practices. (Haas, 1992, p. 3)*

Such an approach allows the analysis to focus on the "process through which consensus is reached within a given domain of expertise and through which the consensual knowledge is diffused to and carried forward by other actors" (Haas, 1992, p. 23). It is therefore well suited to an examination of the interplay between regime formation and the development or the struggle for hegemony of a body of knowledge that may be characterised as international best practice.

Lest such an approach be seen as a purely deterministic one with a privileged role for policy experts, Haas elsewhere describes the "political insinuation" of epistemic communities because political hegemons "tend to call on an epistemic community whose ideas 'implicitly

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[39] Haas's formulation predates, but has much in common with Majone's notion of the 'regulatory state' (Majone, 1994).

align' with their own preexisting political agenda and will help them further" (Adler & Haas, 1992, p. 374 & 381). More recently, Cross reaffirms the degree to which "policymakers will likely increasingly rely on the expertise of these networks to devise transnational solutions to global problems" (2013, p. 160). Together, this suggests a rather more complex interplay between a range of epistemic communities and political elites.

The formulations of regime theory thus provide an analytical framework to account for the establishment of organisations like the WTO and the ITU, to illuminate the negotiations that led to the adoption of the Agreement on Basic Telecommunications (WTO, 1995) and the Regulatory Reference Paper (WTO, 1996b), and to trace the influence of these processes and agreements, and the international best practices that they spawned, on the behaviour of individual countries like South Africa as they moved to implement telecomms reforms.

Indeed, an example of the effectiveness of this approach can be seen in the analysis by Cowhey (1990) of the shifting international telecommunications regime, as market reform took hold and the balance of power shifted from monopoly provision to competition. He is able to show the role of a coalition of countries and firms, led by the USA, the UK and Japan, in developing a changed paradigm of the telecommunications market, and its impact on GATT and the ITU - essentially tracking a change in regime[40]. It is an analysis that is particularly powerful and prescient in hindsight (cf Cowhey & Kilimenko).

More recently, and writing with more of an emphasis on the 'cognitive' components of regime theory, Cogburn (2004) traces a complex landscape of institutions and their conferences and meetings, and shows the emergence of two contending "epistemic communities", a pro-development one centred around the ITU and a pro-business one centred around the WTO. Subsequent developments suggest a less clear-cut outcome, but Cogburn's analysis is useful in showing the complex interplay of norms and values, and hence the subtle, but persuasive role of conceptions of 'international good practice'.

The literature of regime theory is therefore useful in understanding the roles and interactions of the various stakeholders in the international and domestic telecommunications space, in articulating the interplay and dynamics within the constellation of international and domestic policy and regulatory bodies, and in showing how 'international best practice' comes to be conceptualised and hegemonised.

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[40] A more functionalist analysis focusing primarily on the ITU, but showing a similar overall trajectory of regime change can be found in (Zacher, 1996, pp. 152-180).

2.4 Theories of Policy Transfer and Diffusion

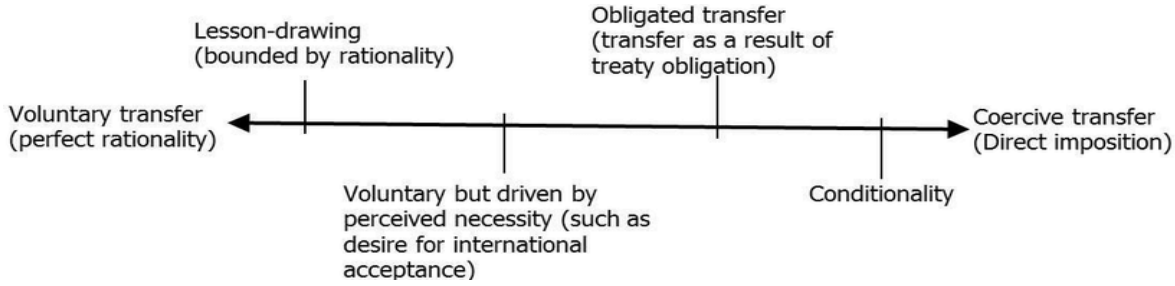
It is, however, a different strand of theory that illuminates the translation from 'international best practice' to domestic implementation at a national level, namely the discourse around policy transfer and policy diffusion.

This is a strand of analysis that focuses, in the oft-quoted words of Dolowitz and Marsh, on the "process by which knowledge about policies, administrative arrangements, institutions and ideas in one political system (past or present) is used in the development of policies, administrative arrangements, institutions and ideas in another political system" (2000, p. 5).

Whether or not the degree of conceptual dichotomy between 'policy transfer' and 'policy diffusion' within the discourse is as pronounced as some scholars (Marsh & Sharman, Policy diffusion and policy transfer, 2009) suggest, it seems likely that a useful analytical approach should draw on the insights of both approaches (Chulajata & Turner, 2009; Marsh & Sharman, 2009).

One axis of analysis needs to examine the level of coercion involved in the adoption of policy from one jurisdiction to another, the extent to which the policy regime is a dictatorial one, imposing unidirectional adoption of policy, or a more democratic one, encouraging adaption to local needs and conditions. The policy transfer continuum of Dolowitz and Marsh suggests a useful categorisation, from imposed, direct "coercive transfer" of policies at the one extreme to fully thought-through "lesson-drawing" at the other (2000, p13). What seems to distinguish the extremes of the axis of their continuum (Figure 2.2 below) is principally the degree of involvement and freedom experienced by local actors in the policy recipient jurisdiction, and, to a lesser extent, the degree of policy modification undertaken during transfer.

Figure 2.2: From Coercive to Voluntary Transfer



Source: (Dolowitz & Marsh, 2000, p. 13)

Policies imposed on countries by way of accession to international agreements via bodies like the ITU through direct "copying" would be at the coercive end of the continuum. Policies based on the authority of international best practice by means of "emulation" have rather more involvement from local actors and are likely to be somewhat modified. At the other end of the spectrum are local policies developed by means of "lesson-drawing", involving varying degrees of rational interaction and analytical involvement and adaptation by local actors " (Dolowitz & Marsh, 2000, p. 9).

Dolowitz and Marsh go on to propose a more nuanced conceptual framework drawn from their continuum. It is a framework that is more complex and seeks to examine policy transfer and diffusion in terms of several dimensions: the motivations driving policy transfer; the actors involved; the content of the transfer; the "degrees" or extent of transfer; the "constraints" affecting transfer " (2000, p. 9ff). As such it offers useful insights into the kind of "process-tracing" (Marsh & Sharman, Policy diffusion and policy transfer, 2009) approach appropriate to analysis of the transfer and diffusion specific policies (such as universal access and service) in specific contexts (such as South Africa).

The level of involvement of local actors, and the degree to which policies are adapted, and the processes governing these, have led other commentators to interrogate the concepts of policy learning and policy adaptation (Dobbin, Simmons, & Garrett, 2007; Elkins & Simmons, 2005; Meseguer, 2005; Meseguer & Gilardi, 2009).

According to Meseguer, what distinguishes policy transfer or diffusion at the coercive end of the spectrum, which she refers to as "emulation" is that it is "driven by motivations other than problem solving" such as external imposition, imitation of peer countries or pressures of competition, and hence "does not entail reflection on causal paths leading from policies to outcomes" (2005, p. 73).

Of more interest to Meseguer, and of more value, therefore, in grasping the development of a cluster of policies based on varying strands of international best practice, is the process by which policy paradigms are engaged with, modified and applied - by which social learning occurs. Policy development via social learning derives from an engagement with a defined problem, is underpinned by a level of intention to seek an optimal solution, and is undertaken through some degree of analysis of solution alternatives. In her words:

> *First, learning is purposive: a problem is set and a solution is sought. Second, a solution is chosen on the basis of observed experience and a better*

understanding of which policies may lead to particular outcomes. (Meseguer, 2005, p. 73)

It is the degree of analysis of solution alternatives that distinguishes differing forms of social learning. On the one hand, the process may be one of "bounded learning" (Meseguer, 2005; Weyland, 2007) in which policy-makers view options through the blinkers of their own preconceptions, ideological biases and existing policy frameworks: "rather than scanning all information, governments look at *relevant* information. . . . [so that] particular pieces of information become more *representative* than others" (Meseguer, 2005, pp. 72,3).

On the other hand, the process may be more one of "rational learning" (Meseguer, 2005) in which policy-makers "scan all available information regardless of its origin and interpret all of it in exactly the same manner, drawing the same conclusions about the relative merits of different policies and marginalizing prior beliefs about policies in the light of mounting evidence, positive or negative" (Meseguer, 2005, p. 72).

This dichotomy is one that that has its roots in earlier policy transfer frameworks (Dolowitz & Marsh, 1996; Dolowitz & Marsh, 2000). It is also one that has a normative component with the implication that more rational approaches are likely to ensure more positive outcomes (Meseguer, 2005; Howlett, 2009). In practice it is far more likely again to form a continuum, with concrete examples of policy-making falling somewhere between the two extremes. But it does offer a useful analytical tool for engaging with the detailed mechanisms of the process of transferring, adopting and adapting policies such as those related to universal access and service, particularly where domestic actors are active participants (see, for example, (Chulajata & Turner, 2009)).

It is perhaps true to say that the examination of the literature set out above has tended to emphasise the role, motivations and engagement of local actors in the policy transfer process - in other words, to privilege an agency-centred approach. But it is also true to say that these local actors engage with the policy transfer process within a series of structural constraints, both those imposed by external international best practice regimes and those set by domestic institutional and contextual factors. The process of policy adoption and implementation is thus likely to be complex and dialectical, one that is

interactive and iterative. Structures provide the context within which agents act and they constrain or facilitate the agents' actions. However, agents

interpret those structures and, in acting, change them. (Marsh & Sharman, 2009, p. 275))

As such, this is similar to the approach adopted by Chulajata and Turner in their analysis of telecommunications privatisation in Thailand. It is an applied approach that takes into account both structural and agency causations:

> *Policy is transferred by actors in policy networks, and their interactions will vary between jurisdictions, leading to different policy characteristics, but their interactions are located in specific and changing contexts and events that will influence the possibilities and choices open to the policy actors. (Chulajata & Turner, 2009, p. 37)*

The literature of policy transfer and policy diffusion thus offers a powerful analytical lens to understand how developing countries like South Africa adopt, adapt and implement universal access and service policies under the influence of bodies such as the WTO and ITU.

2.5 Policy Evaluation

The literature of policy transfer is, as several scholars have suggested, closely, but often only implicitly, bound to assessments of policy success and policy failure (Dolowitz & Marsh, 2000; Marsh & Sharman, 2009). It is highly unlikely, for example, that acknowledged policy failures will diffuse or be transferred. And any involvement of local actors through policy learning in the adoption and implementation process is likely to involve assessments of success and failure, with differing degrees of subjectivity and objectivity.

Thus, one of the concerns of Dolowitz and Marsh is with the manner in which policy transfer can contribute to policy failure. They suggest that policies fail in the adopting country for several reasons: either because the original policy is poorly understood and thus adoption is "uninformed", or because the transfer is partial or "incomplete", or because the policy is "inappropriate" to the context of the recipient country " (2000, p. 17). This is similar to the suggestion by Meseguer that policy learning which is excessively "bounded" may be linked to "suboptimal outcomes" (Meseguer, 2005, p. 76). There may of course be other reasons for failed policy transfer (for example, the motivations and hidden agendas of local actors (Chulajata & Turner, 2009)).

Likewise, Marsh and Sharman point to the need for a "generally accepted framework for judging policy success" (2009, p. 283) in order to assess policy impacts and outcomes. It is thus important to develop a metric for policy success and failure. Similarly, analysis of why policies come to fail in the countries of their adoption is likely to assist in ensuring future success in policy transfer.

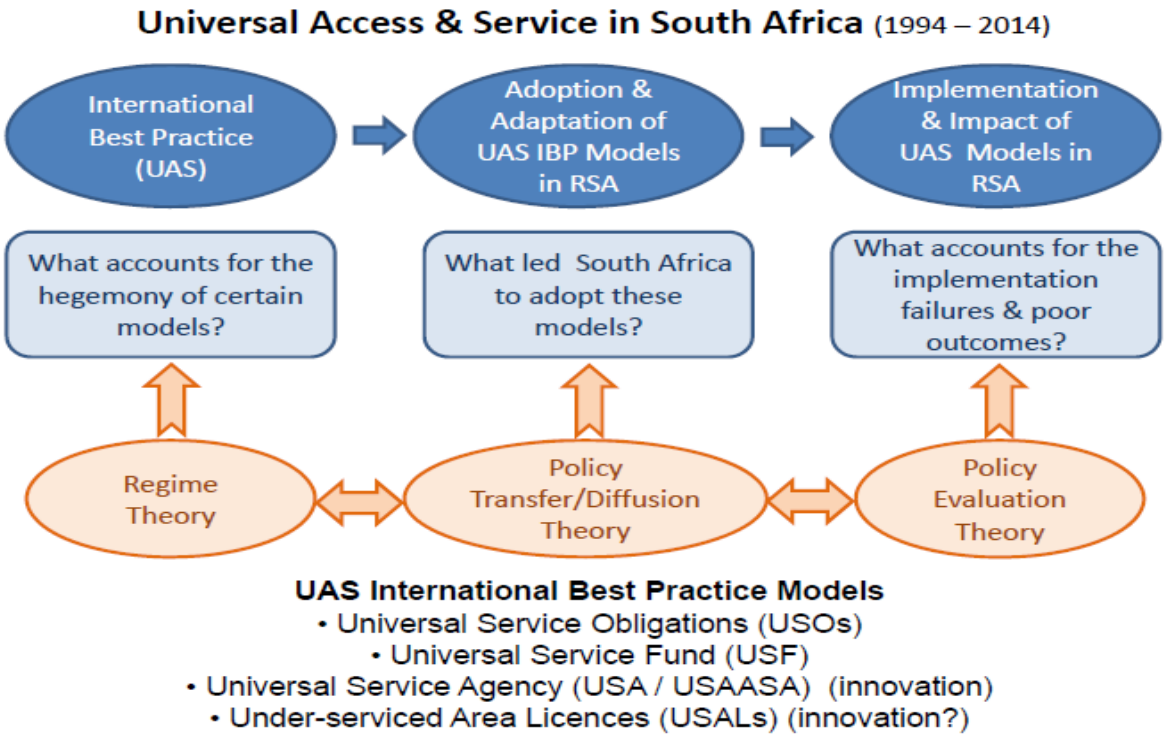
Marsh has gone on, in conjunction with McConnell, to propose just such a "framework… within which practitioners and academics can approach the question of whether a particular policy was/is successful" (Marsh & McConnell, 2010, p. 565). Pointing to the fact that much of the current academic literature is taken up with context-specific evaluation studies, and drawing from the more recent models and frameworks of Boyne (2003) and Bovens, 't Hart and their collaborators (Bovens & 't Hart, 1996; Bovens, 't Hart, & Peters, 2001), Marsh and McConnell seek to develop a heuristic framework for the assessment of success and failure in policy development and implementation (2010). To the programmatic (in which success / failure is "established in relation to three criteria - effectiveness, efficiency and resilience" (Marsh & McConnell, 2010, p. 568) and political (in which success / failure is established in relation to manner in which "policies and policy makers become represented and evaluated in the political arena" (Bovens, 't Hart, & Peters, 2001, p. 20) dimensions of policy evaluation, they add a 'process' dimension. The latter they describe as assessment relating to the "stages of policy-making in which issues emerge and are framed, options are explored, interests are consulted and decisions made", including through the passage of legislation (Marsh & McConnell, 2010, p. 572).

Despite disagreement from Bovens, who feels that the 'process' dimension is "analytically not on the same level" (2010, p. 584) as the programmatic and political dimensions, McConnell has undertaken further development of the framework outlined above into a fully-fledged evaluation framework that examines each of the three key dimensions (process, programme, politics) and evaluates success along a Likert-style spectrum ranging from success, through "resilient success", "conflicted success", "precarious success", right down to failure, employing a granulated series of sub-criteria for each dimension (2010). The resultant tool goes well beyond a simple heuristic tool towards becoming a fully-fledged, comprehensive policy evaluation framework, one that holds considerable value in assisting a thorough assessment of the entire process of adopting, adapting and implementing a policy cluster such as that involved in universal access and service.

2.6 Conceptual Framework

The examination and analysis of the various explanatory theories above suggest a possible conceptual framework (see Figure 2.3 below) through which to chronicle, analyse and account for the adoption and implementation of universal access and service policy and regulatory interventions in South Africa over the period 1994 – 2004, and by means of which an assessment of the cluster of interventions may be undertaken.

Figure 2.3: Forces Driving Reform of the Telecommunications Sector



Regime theory, as previously indicated, appears to account for the hegemony of key international institutions such as the WTO and the ITU in respect of ICT sector reform and its associated policy and regulation. It further suggests the rise of an epistemic community centred on notions of international best practice in respect of universal access and service policy and regulation.

The theories of policy transfer and policy diffusion seem to offer a useful explanatory lens through which to chart the influence of this international best practice epistemic community on developing countries in the process of implementing ICT sector reform, and of formulating and implementing, in the specific case of South Africa, universal access and service policy and regulation. This body may help to understand how and to what extent international best

practice impacted on and influenced local actors, and the types and degrees of policy learning that took place as policies were adopted, adapted and implemented.

The evolving policy success / failure theoretical framework provides critical assistance in understanding the relative degrees of success and failure of each of the universal access and service policy components from international best practice as adapted and implemented in the context of South Africa. This framework also serves to test the accuracy of popular and expert assessments of the degree to which the various universal access and service interventions succeeded or failed, and points towards the long term impacts of this cluster of policy interventions.

In turn, an assessment of policy success and failure helps to inform an understanding of the modes and degrees of policy transfer and diffusion, and of the role of local learning and the impact of key stakeholders in the implementation of international best practice.

The conceptual framework outlined above (Figure 2.3) therefore offers a valuable analytical tool to chart the ways in which South Africa was influenced (or not) by international best practice in relation to universal access and service, the manner in which local actors were influenced, and the degrees to which this took place, and the impact of this on the resultant success or failure of universal access and service interventions in South Africa. Analysing and assessing the adoption, adaptation and implementation of universal access and service policy and regulation in South Africa offers, in turn, a useful test for the validity of the conceptual model outlined here, and may assist in its rejection, confirmation or further refinement.

3 Research Question

As has been shown, South Africa adopted universal access and service as a central pillar within its programme of ICT sector reform. Further, many analysts and commentators have viewed the adoption and implementation of this cluster of policy interventions in a negative light. The literature review undertaken above has, in the first instance, looked at the literature describing and discussing the key components of universal access and service international best practice. It has further looked at theoretical perspectives that seek to account for the hegemony of certain polices and policy components, that seek to trace the paths whereby such policies diffuse and are transferred to other jurisdictions, and that assist in assessing the relative success or failure of their implementation.

Accordingly, in the context of universal access and service in South Africa, the following overall research question may be posed:

> ***What were the major factors, both internal and external, that underpinned the adoption of universal access and service as a key component of telecommunications reform policy in post-1994 South Africa, and how did their complex interplay influence and shape the consequent policy implementation, and affect its outcomes?***

3.1 Sub-questions

The following sub-questions emerge from the overall research question and assist in providing greater depth and clarity to its various components:

1. ***What factors led to the emergence of certain universal access and service strategies as international best practice?***

2. ***What factors shaped South Africa's adoption of universal access and service at the forefront of its telecommunications policy?***

3. ***What factors underpinned South Africa's choice of the specific set of universal access and service interventions that were implemented?***

4. ***What were the outcomes and impacts of the implementation of South Africa's chosen set of universal access and service interventions?***

5. ***What factors account for any slippages between policy conception and policy implementation in respect of universal access and service in South Africa?***

6. ***To what extent does the conceptual model proposed here provide an effective analytical tool to understand and evaluate the implementation of international best practice policies, such as those dealing with universal access and service?***

3.2 Methodology

An assessment of South Africa's universal access and service policy and regulatory interventions over the last 15 years, one which seeks to explain the development and implementation of policy and regulatory choices, and to account for successes and failures, falls within the qualitative research paradigm. As such, it aligns with Creswell's generic definition of qualitative research as an "inquiry process of understanding a social or human problem based on building a complex, holistic picture, formed with words, reporting detailed views of informants, and conducted in a natural setting" (1994, pp. 1-2).

Rather than seeking to test a specific hypothesis involving quantitative variables in a mathematical relationship, the research proposed here is exploratory in nature, concerned with events, the motivations underpinning them, and the meanings ascribed to them by the participants and observers, and with the extent to which the broad conceptual framework derived from the literature review has explanatory rather than predictive power. It is an attempt, therefore, on the one hand, to "understand people's perceptions, perspectives, and understandings of a particular situation" (Leedy & Ormrod, 2005, p. 139), and, on the other, to examine the validity of the conceptual framework developed through the literature review above.

More specifically the research proposed here has several features in common with those of the academic case study. In the oft-cited words of Schramm, "the central tendency among all types of case study, is that it tries to illuminate a decision or a set of decisions: why they were taken, how they were implemented, and with what result" (Schramm, 1971, p. 6).

In his seminal book on case study research, Yin has pointed to the case study, within the range of possible research strategies, as a preferred approach under particular circumstances. One of these is the nature of the research question. He suggests that the case study approach

is appropriate to address explanatory questions in relation to complex social phenomena, where the research seeks to answer a "'how' or 'why' question . . . about a contemporary set of events, over which the investigator has little or no control" (Yin, 1994, p. 9). Similarly, Schramm, despite being somewhat dismissive of the case study as "science", characterises the approach as "deliberately and centrally designed to illuminate a decision, a policy, and a practice" (1971, p. 6).

Secondly, Yin suggests that the scope of the research and its unit of analysis favours the adoption of a case study approach, which scope he defines as an "empirical enquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and its context are not clearly evident" (Yin, 1994, p. 13). A case study approach is thus well suited to the examination of a sequence of complex, unfolding and highly contextualised social events, where there are no clear independent and dependant variables.

Finally, according to Yin, it is the evidentiary basis of the research and the nature of the data under examination, which may indicate a case study approach. It is, he argues, an approach appropriate for a "technically distinctive situation in which there will be many more variables of interest than data points, and as one result relies on multiple sources of evidence, with data needing to converge in a triangulating fashion (Yin, 1994, pp. 13,4). It is, thus, both the degree of complexity of the research problem in relation to the available data and the wide range of potential types and sources of evidence that argues for the adoption of a case study approach.

Flyvbjerg's significant defence of the case study approach offers a slightly different but not contradictory characterisation based on four key criteria. A case study, he suggests, is distinguished by: the choice of an "individual unit of study" with clear "boundaries"; the level of analytical "detail, richness, completeness, and variance - that is, depth"; the way in which the unit of study "evolves in time, often as a string of concrete and interrelated events", and the focus on contextual factors influencing the phenomenon under study (Flyvbjerg, 2011, p. 301). While Yin's scope, nature of the data, and type of research question can be traced in Flyvjberg's definition, it is the addition of a concern with the evolution of the phenomenon under study over time rather than as part of a cause and effect relationship that is a potentially useful addition to the features of the case study approach.

The research proposed here meets all four of the criteria identified above. At the explanatory heart of the research lie what are in essence a series of 'how' and 'why' questions (all be they

framed in relation to the 'factors' underpinning developments) that seek to account for the manner in which a specific set of universal access and service interventions came to be viewed as international good practice before being adopted, adapted and implemented in South Africa, and thence to explain the reasons as to why the outcomes unfolded as they did. The scope and focus of the research lie in the complex series of historical events relating to the adoption, implementation and subsequent impact of the cluster of policy and regulatory interventions concerning universal access and service in the concrete context of a specific jurisdiction, the South African social and political context. Thirdly, the sources of data are multiple, complex and possibly fragmentary, ranging from official documents such as legislation and published reports, through unofficial documentation such as memoranda and correspondence, to the memories, perceptions and interpretations of participants, stakeholders and commentators. Finally, universal access and service is a policy implementation phenomenon with a history that has unfolded over time in South Africa, as a series of complex, interlinked events. Indeed, it continues to evolve.

The case study approach has, as has been pointed out by Riege (2003), been viewed with scepticism in some quarters, particularly those with a positivist perspective. It has been criticised as lacking the rigour, validity and reliability of more quantitative approaches (issues also addressed by Yin (1994, pp. 10 & 34-9). Working from within a realist paradigm, Riege goes on to suggest that a sufficiently rigorous case study methodology can parallel the validity and reliability of positivism. He argues that scientific rigour can be achieved by ensuring that case study research has "confirmability" ("whether the interpretation of data is drawn in a logical and unprejudiced manner" – analogous to 'construct validity'), "credibility" (whether the findings are "internally coherent" and the "concepts systematically related" – corresponding to 'internal validity'), "transferability" (whether the research achieves "analytical generalisation" – equivalent to 'external validity') and "dependability" (whether the research demonstrates "stability and consistency in the process of enquiry – analogous to 'reliability') (Riege, 2003, p. 81). Together with the practical research guidelines he proposes, the argument puts forward the view that the case study approach is eminently capable of passing scientific muster, provided it is approached in an objective, consistent and systematic manner. A similar, if less systematic argument underlies Anderson's statement that the case study, properly applied, "incorporates a chain of evidence, a tight and interconnected path of recording evidence so that the reader who was not present to observe the case can follow the analysis and come to the stated conclusion" (Anderson, 1993, p. 169).

A related criticism of the case study approach, drawn from the 'reliability' issue in particular, is that it lacks the generalisability of more quantitative, positivist paradigms. In his defence of the case study approach as a scientifically valid methodology, Flyvbjerg critiques the assumption that "one cannot generalize on the basis of an individual case [and therefore that] the case study cannot contribute to scientific development" (2011, p. 304), arguing for the value of in-depth scrutiny of phenomena for the accumulation of knowledge and the role of case study in the falsification of theoretical propositions. Yin too has defended the generalisability of the case study, arguing that it is an approach suited to "analytic generalization", in other words that it seeks to "expand and generalize theories", rather than to derive "statistical generalization" (1994, p. 10).

The case study research proposed here, as has been suggested previously, seeks Yin's 'analytic generalisability', in examining whether the analytical framework derived via the literature review provides a suitably rich and textured framework to illuminate a concrete and specific case of policy adoption, implementation and consequent success or failure. Its unit of analysis is a defined set of universal access and service interventions, namely those undertaken in South Africa, within a specified time frame, between 1994 and 2009. The analytical approach proposed will seek to describe in depth and detail how those interventions unfolded over the 15-year period, to evaluate and explain the causes, consequences and impact of those interventions, and the role of contextual factors, both external and internal.

In summary, the methodology proposed for the research is that of a qualitative case study, a holistic and in-depth examination of a complex and inter-connected series of events that unfolded over a defined time-frame, where the "proximity to reality…and the learning process it generates for the researcher will . . . constitute a prerequisite for advanced understanding" (Flyvbjerg, 2006, p. 236).

3.3 Research Design

As a case study of South Africa's universal access and service policy and practice, the research proposed here will rely on Yin's "multiple sources of evidence" (Yin, 1994, p. 13), principally documents and archival records, and interviews with actors and observers.

Neuman (2000, p220), says that "qualitative researchers opt for non-probability sampling because the respondents are not chosen for being found to be representative of a larger group, but because they are found to be most relevant to the research topic".

Zikmund (2003, p382) "says a non-probability judgment method selects only individuals with the appropriate knowledge and character required for the study".

> *We know that interviewers and interviewees co-construct the interview, and that the replies to questions are produced for that particular occasion and circumstance. Interviewees will select their words with care, and will moderate what they have to say to the particular circumstances. If we put to one side the epistemological question of whether or not there is any ultimate 'reality' to be communicated, the interviewee may have incomplete knowledge and faulty memory. They will always have subjective perceptions that will be related to their own past experiences and current conditions. At best, interviewees will only give what they are prepared to reveal about their subjective perceptions of events and opinions. These perceptions and opinions will change over time, and according to circumstance. They may be at some considerable distance from any 'reality' as others might see it.* (Walford, 2007, p. 147)

3.3.1 Document Analysis

A key source of data will be document analysis. The starting point here will be primary official documentation relating to universal access and service in South Africa that is in the public domain. Details of Universal Service Obligations, for example, are set out in the licences of the respective operators, which, while not readily publicly available, are nonetheless public documents. Annual reports of the major operators, along with those for the sector regulator, ICASA, and the Universal Service and Access Agency of South Africa (USAASA) are also publicly available, and contain details of rollout and universal access and service provisions, projects and interventions. Likewise, the key documents of the WTO, the ITU, and the OECD are freely available, as are many semi-official documents, such as consultants' reports prepared for ICASA and USAASA.

These will be supplemented by whatever primary non-public official documents, such as internal reports, correspondence, memos and the like, can be obtained during the research process. Finally, third-party academic analysis, expert commentary and reportage in the public press will be drawn on.

3.3.2 Semi-structured Interviews

The second key source of data will be a series of semi-structured interviews with key actors, primarily face-to-face, but via telephone, Skype or e-mail, where this is not possible. The interviewees will identified and selected on a purposive sampling basis, based on their role either as direct participants or key stakeholders in the formulation and implementation of universal access and service policy and regulatory interventions in South Africa (such as former ministers, former Directors General, current and former senior staff at Department of Communications, ICASA, USAASA, and the various licensees), or as commentators and analysts on the process (such as academics, other researchers, and journalists). As indicated, the sampling process will initially be purposive, but a snowball approach will also be used, in terms of which interviewees will be asked to identify and suggest further potentially useful interviewees, in order partially to offset problems of selection bias. It is expected that some interviewees will be the subject of more than one semi-structured interview during the course of the research, and that subsequent e-mail correspondence will supplement many of the interviews. Where possible interviews will be recorded, and notes taken, subject to agreement with the respective interviewees. All interview data will be stored in a secure electronic repository.

The semi-structured interview protocol will be constructed on the basis of the research sub-questions and overall research question. A semi-structured interview approach will be adopted because this allows for ad hoc departure from scripted interview questions to follow up, probe further and pursue new lines of enquiry based on interviewee responses. As Yin has noted in his seminal work on case study research:

> *The interviews will appear to be guided conversations rather than structured queries. In other words, although you will be pursuing a consistent line of inquiry your actual stream of questions in a case study interview is likely to be fluid rather than rigid.* (Yin, 1994, p. 89)

Questions will thus seek commentary, explanation and analysis of: the role of international best practice in the conceptualisation of universal access and service policy; the influence of bodies such as the WTO and the ITU & WTO in the creation of epistemic regimes around universal access and service; the relative degrees of coercion versus bounded or rational learning in the process of policy adoption, adaptation and implementation; an assessment of the levels of success or failure of universal access and service policy and of the overall impact of this policy intervention.

It is recognised that there may problems of access in respect of certain high-profile interviewees or those in demanding positions. It is further recognised that the effects of memory lapse and self-justification or positional bias may distort the quality of the data in a number of the interviews. This latter bias will, however, to some extent be corrected by triangulation both against other interviewees and through documentary analysis.

3.4 Limitations of the Research

The methodology adopted here does impose certain limitations on the results of the research. As with any historiographic case study, it is dependent upon the memories of its key informants. The fact that many of the events are some 20 years in the past means that the recall of interviewees may be less than perfectly accurate. In addition, post hoc reinterpretation of events, coloured by subsequent developments or influenced by self-justification, may also affect the validity of comment and interpretation.

Further, the large numbers of primary documents missing from the public domain - due the evanescent nature of the Internet and to poor institutional record-keeping and lack of proper archiving - affects the completeness and quality of the primary evidence, and may impact on analysis of the events. There is, of course, a very extensive record of secondary documentation, particularly in the shape to press reporting by South Africa's highly active ICT trade press.

Triangulation between interview data, primary documentation and secondary commentary can assist to address these limitations, but is not fully and completely reliable when one or more of its three legs is either weak or missing.

In addition, the researcher himself, primarily in his capacity as Head of IT with the Congress of South African Trade Unions between 1994 and 2001 but later as an academic[41], was an active participant in many of the events described and analysed here, a member of the very epistemic community under consideration. Although the study is written from a critically analytical perspective, and seeks to ensure triangulation of evidence, this 'participant

[41] The researcher was not part of the National Telecommunications Forum (NTF), but was active on the later National Information Technology Forum (NITF), where he was one of the lead authors of the SA Position Paper to the 1996 Information Society and Development Conference. He also led the COSATU delegation to the 2001 Telecommunications Policy Colloquium. More recently he was an active member of the 2012 ICT Policy Review Panel.

observer' status may nonetheless influence the interpretation of the events, or introduce selection bias in the choice of key informants for interviews or email correspondence.

A more subtle form of analytical bias derives from the analytical framework developed and applied here. As with any such investigative framework, the conceptual categories applied act to filter and organise the research data, and to funnel and guide the consequent interpretation. Braman, for example, has warned researchers that any choice of "model may restrict the analyst's vision to only those phenomena and processes that are describable by the model", noting that this, of course, is "endemic to the use of any heuristic" (Braman, 2004, p. 28). The researcher may, to an extent, be able to offset this by being on the alert to research data that runs counter to the chosen heuristic, and which may undermine the consistency of the model. This points towards a circularity in the choice of analytical tools, and implies the inability to use the data under scrutiny to validate the chosen heuristic.

3.5 Applying the Methodology

The research set out in the chapters that follow was initially guided by the series of qualitative semi-structured interviews set out in Appendix D below. A list of key informants was developed, and each was approached to secure an interview, preferably face-to-face, but via Skype where this was not possible. Interviews were audio-recorded and typed up, with the record of the interview sent to the person interviewed for comment and correction in each case, and an informed consent form secured in return. Not all key informants were traceable, and some interviews were not able to be secured, but 21 full-length qualitative interviews were completed and documented.

Interaction with a further 22 key informants (see Appendix D) took place by means of email (this being in addition to further email correspondence with many of the formal interviewees).

Key primary documentation (both documents in the public domain and those outside the public domain) was sourced on an ongoing basis via a number of channels. These included visits to ICASA, USAASA, the National Archives. The researcher was also able to secure access to the Klugman Archive, held by the South African History Archive project. Sadly, Robert Horwitz had thrown away a box of primary documents used in his research a few weeks before being contacted by the researcher. Other documents were shared - leaked, in a few cases - by key informants. All such documentation has now been digitised, and is available

electronically on request. The paucity of the primary documentary record has already been commented on in this section.

Online search tools such as Google proved themselves invaluable in the search for secondary documentation, principally in the form to articles in the ICT trade press. A set of non-digitised press clippings sourced from SALDRU proved themselves invaluable in covering the years before so much was available online.

From an explication and discussion of the methodology adopted, let us now turn to the actual events themselves, beginning with the advent of ICT sector reform and the development of international good practice in respect of universal access and service.

4 Universal Access and Service: The Rise of International Good Practice

The global telecommunications market in the last quarter of the twentieth century found itself in the grip of a number of profound changes that were to have a lasting impact on the face and complexion of policy and regulation, changes which continue to shape its features today.

The opening gambit in the phenomenon that is now known as 'telecom reform' (Melody, 1997) came from the Thatcher government in the United Kingdom (OECD, 2002, p. 7ff). The 1981 British Telecommunications Act introduced competition into what had hitherto been a state-owned monopoly market by splitting British Telecom (BT) off from the Post Office as a separate albeit still state-owned public corporation, and by providing for the licensing of a competitor. This led to the entry into the market the following year of Cable & Wireless (via its subsidiary Mercury) and paved the way for the July 1982 announcement in the House of Commons that the government intended to privatise BT, by floating 51% of the company on the London Stock Exchange. In what was the world's largest share issue privatisation at the time, nearly GBP 4 billion was realised when BT were listed on London Stock Exchange[42]. The listing had been preceded by a new Telecommunications Act, which provided its legal framework, establishing Oftel (Office for Telecommunications, now Ofcom, Office for Communications) as the sector regulator and imposing universal service obligations on BT.

These developments effectively put in place in the United Kingdom what are still today considered to be the three core features of ICT sector reform: privatisation of the incumbent operator, the introduction of competition into the market, and the creation of an independent sector regulator (cf (ITU, 2014).

At more or less the same time, on the opposite side of the Atlantic, the US telecommunications market was in the throes of equally fundamental changes. In early 1982, faced with an antitrust lawsuit from the United States Justice Department, AT&T acceded to a consent decree ordering its vertical divestiture. As the price of maintaining the integrity of its long-distance fixed telephony operation (a market in which it enjoyed a de facto monopoly), AT&T conceded to break up its local fixed-line operations (in which it held an 80% near monopoly) into 7 regional operators providing local service. It had taken nearly ten years to settle the

[42] Further waves of share issue privatisation in 1991 and 1993, culminated in the UK Government relinquishing its golden share in 1997, leaving BT now fully in private hands.

litigation, originally filed in 1974, in which the United States Justice Department alleged anti-competitive cross subsidisation of AT&T's telephony services from its equipment manufacturing subsidiary, Western Electric[43], and sought its court-ordered divestiture.

Although the US market had long been in private, all be they monopolistic, hands, and had long been the subject of regulation at a national level under the FCC (Federal Communications Commission) as well as at the level of individual states' regulatory commissions, the 1982 consent decree ushered profound competitive changes into the market that continue to be felt today.

What can be seen on both sides of the Atlantic in this period is a series of changes which are driven partly by economic forces and partly by technology pressures. The forces at play are both multifaceted and dynamic (cf (Beardsley, von Morgenstern, Enriquez, & Kipping, 2002)) and have been the subject of much international scholarship, perhaps pre-eminently through the seminal work of Manuel Castells (Castells, 1999b).

Although neo-liberalism may itself perhaps be considered to possess features of an international regime (Jessop, 2002; Harvey, 2005; Dean, 2014) - perhaps more specifically so when it comes to the economic policy prescriptions that Williamson saw as comprising the 'Washington Consensus' (Williamson, 1990) - our concern here is the crystallising of what may be described as 'international good practice' as regards ICT sector reform more broadly, in relation to universal access and service more specifically, and its subsequent rise, influence and hegemony. Our earlier consideration of 'international good practice' linked this to regime formation and the development of a set of "implicit or explicit principles, norms, rules, and decision-making procedures around which actors' expectations converge" (Krasner, 1982, p. 186). As previously shown, regime formation is closely linked to a political contestation for hegemony amongst individuals, organisational entities and state actors.

It is therefore essential, before delineating and defining the core features of universal access and service international best practice as they came to coalesce, to examine the political milieu within which these features began to emerge and become codified. It is also important to recognise that the political dynamics and drivers are far from static. Whilst the degree of fluidity is far more pronounced and the outcome far less certain during the period of formation of an international good practice regime, the principles, norms, rules and decision-making

[43] Western Electric was much later voluntarily spun off as Lucent Technologies by AT&T in 1996. In 2006 it merged with its French rival, Alcatel, to form Alcatel-Lucent.

procedures will continue to evolve as the dynamic relationship between the role players continues to play itself out.

What, then, was the international political context within which universal access and service best practice came to be defined and codified?

4.1 Contestation and Hegemony: the ITU and the WTO

The role of the International Telecommunication Union (ITU) and the ITU's relationship to the General Agreement on Tariffs and Trade (GATT) and its successor, the World Trade Organisation (WTO), have been examined from the perspective of regime theory by a number of analysts (Aronson & Cowhey, 1988; Cowhey, 1990; Woodrow, 1991; Drake, 1994; Zacher, 1996; Levi-Faur, 1998; Zacher, 2002). From the point of view of universal access and service policy and practice, it is perhaps less important for us to deliberate on the dynamics of the political forces at play than to analyse their product. Nevertheless, a scrutiny of the contestation for the soul of the ITU, and, later, that of the GATT, provides an important basis for an understanding of the ascendency of a particular set of approaches to ICT sector reform.

Cowhey was one of the first to apply regime theory to the upheavals that were beginning to reshape the international telecommunications environment. Writing before the advent of the WTO and its Agreement on Basic Telecommunications, as well as before the 1992 restructuring of the ITU, he sketched out a number of features that were to be picked up by subsequent commentators. These included: the role of politics, and, for him, the primacy of domestic politics in shaping and driving international political accommodations; the importance of 'epistemic communities' in conceptualising and formulating changes in regime dynamics.

4.1.1 A Cosy Cartel

In this view the *ancien* telecommunications regime centred on the ITU (Drake, 1994) was essentially based on an economic market model widely characterised as a "cartel" (Cowhey, 1990; Zacher, 1996) - an association of commercial enterprises, co-operating in order to restrict competition in the market or to maintain artificially inflated prices. Based on the normative presumption of telecommunications provision as "a "natural monopoly" [whose] ideal was a single universal network… having a single entity in charge of production and distribution" (1990, p. 183), the ITU had since 1865 brought together first telegraph and later

telecommunications companies, mostly state-owned national monopolies. The fundamental basis - its "central normative guideline" (Zacher, 2002, p. 194) - for this collaboration was the need to ensure functioning international interconnection of their networks in order to provide cross-border services. Initially in the 19th century these were telegraph services, increasingly important for business and trade at the time (Zacher, 2002, p. 191). With the advent of telecommunications similar norms and rules were adopted. Much of the work of the ITU, therefore, came to be focused on interconnection of networks and on the agreement of the necessary technical standards upon which this relies, along with the high-level co-ordination and management of the global spectrum commons, and, later the allocation of geo-stationary satellite orbits (Zacher, 2002, pp. 191-197).

As with any other cartel, the ITU provided a platform for the disparate national telecommunications operators to negotiate the arrangements that would allow them to act together for their mutual benefit through agreements on market arrangements, market shares and pricing. In the words of Zacher, they adopted the "traditional cartel norm [which] prescribed that all state telecommunications administrations should co-operate in determining market shares, setting rates, and dividing revenues" (Zacher, 1996, p. 161). It was not a co-operation without its trade-offs, as agreements reached had often substantial financial impact, but it was an accommodation with considerable mutual benefit. Largely this was achieved through setting international pricing rates well above cost in order to cross-subsidise the pricing on domestic services, either to facilitate the provision of universal service or, in the case of many developing countries, to provide income to the fiscus via the state-owned monopoly operator. In order to protect this arrangement, the cartel adopted rules preventing unwanted competition and protecting state monopolies (Zacher, 1996, pp. 164-6). Together this cosy status quo ensured that the structures and processes and content of the ITU were organised to the benefit of the state-owned incumbent monopoly providers of services.

4.1.2 Pressures for Change

What then were the pressures that began to put a wobble in the wheel of this comfortable applecart? Predictably, given the complex nature of the cartel, they are likely to have been multi-faceted and shifting. Although commentators differ in emphasis and inter-relationship, most would include technological developments, commercial imperatives and global power dynamics as the main drivers pressurising for change.

The technological changes that manifested themselves within the information revolution are clearly key. It is not to engage in technological determinism to suggest that the changes described below would either not have taken place or would have proceeded altogether more slowly and perhaps unfolded differently. They were certainly a key enabler of much that followed.

These changes in the information technology and electronics environment starting in the 1970s and clustered predominantly in the US (cf (Castells, 1999b, pp. 28-76)) had substantial impacts on both industrial development and business models. Central to the ability of business to deploy and benefit from this information technology revolution were the telecommunications networks and the new services thus enabled. The impact of the increasing integration of information technologies and telecommunications has variously been articulated as the "death of distance" (Cairncross, 1997) and the "compression of time and space" (Harvey, 1990), or as creating a "space of flows" (Castells, 1999b). The central role of telecommunications can be seen in Castells' summary of the concept:

> *As I understand it, "space of flows" means that the material arrangements allow for simultaneity of social practices without territorial contiguity… First, it is made up of a technological infrastructure of information systems, telecommunications, and transportation lines… Thus, financial markets, high-technology manufacturing, business services, entertainment, media news, drug traffic, science and technology, fashion design, art, sports, or religion… all operate on the logic of the space of flows…* (Castells, 1999a, p. 295)

In all of these conceptions information technology and telecommunications are closely linked the notion of globalisation, for which the new information and communications technologies are both a driver and a product. The changes wrought by the new ICTs can in turn be seen as a *sine qua non* for the other drivers for change in the international telecommunications regulatory environment.

Additionally, the pressures for change were fundamentally economic, based on the imperative of a variety of business firms seeking market reforms to either to reduce input costs or to exploit the business opportunities a restructured market would open up. Cowhey suggests a number of commercial entities were pressing for reform. These included powerful large users of telecommunications services such as international banks, the emerging computer companies and a range of "service and equipment producers" (Cowhey, 1990, pp. 187,8). Zacher offers a similar perspective, tracing pressure from telecommunications firms on the

US government to permit competition and to permit firms to acquire leased lines, ultimately leading to the unbundling of AT&T referred to above (2002, pp. 199-200). Zacher goes on to argue that "price, efficiency, and quality of service were becoming increasingly more important to large corporations in information-intensive industries, the most notable being the banking sector" (2002, p. 200). Some commentators have identified several business and commercial user associations, such as the International Telecommunications Users' Group (INTUG) and the International Chamber of Commerce (ICC), as playing a significant role in pushing for liberalisation of leased lines and value added services (Drahos & Joseph, 1995, p. 624; Levi-Faur, 1998, p. 21; Drake, 2000). Commercial pressures and the prospects of new business opportunities, enabled and facilitated by the technological changes alluded to above, seem therefore to have been a second source of pressure for change.

On the other hand, Hills, whilst allowing for the changes wrought by technological innovations and the role of business in attempting to seize and exploit the opportunities thus opened up, posits a model that is a fundamentally political and which has quasi-imperialist hegemonic efforts by the United States at its core. In her view, the changes to the international telecommunications regime are about the exercise of power. She describes her central thesis as one in which "the United States as the world's dominant economic and military power attempted to restructure the international market of telecommunications to expand its direct and indirect control over the domestic markets of other governments [whilst] at the same time, it protected its domestic market from foreign penetration" (Hills, 2007, p. 2). It is a model that is perhaps a touch too one-dimensional, with insufficient space for the complex and unpredictable dynamics of the interplay between technology, the economy and political hegemony, and for the mediating role of epistemic communities (see discussion below). It also conceives a relatively minor supporting role for the UK and Japan.

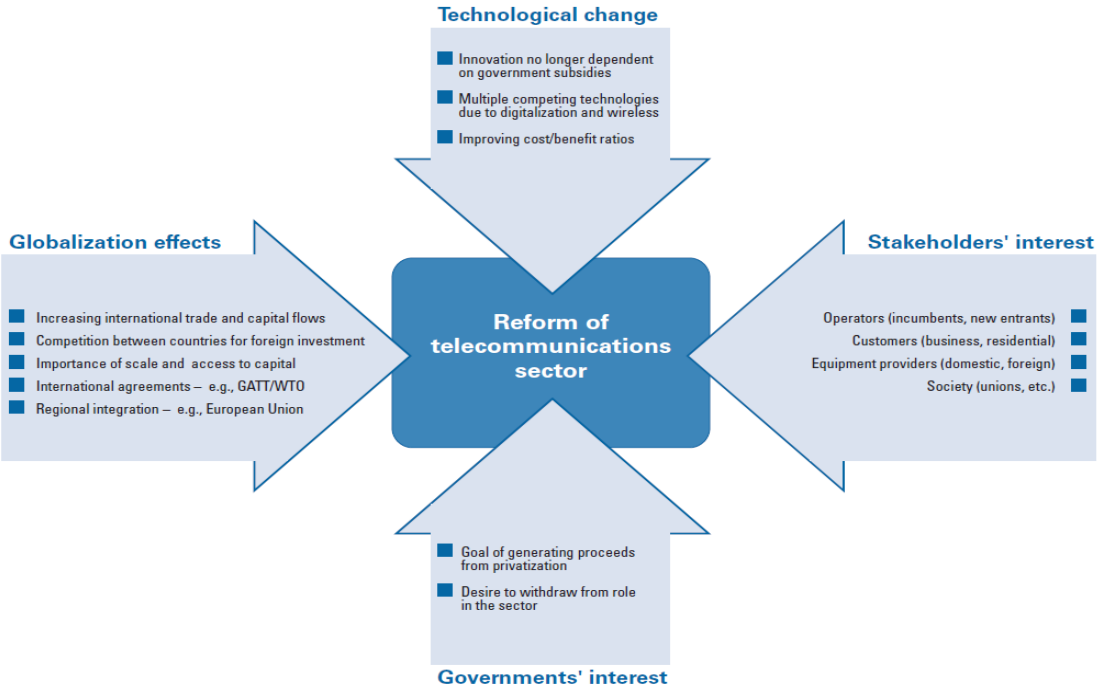
By contrast Cowhey's conception of the role of international hegemony is relatively subtle. He suggests that what was needed for the technological and business pressures to "spill over to international change… [is] a market coalition with sufficient global influence" (1990, p. 173) - in this case the US, the UK and Japan. Both Zacher and Hills too note the importance of a coalition between business interests and governmental agendas, suggesting that support from the US and other governments for the business lobby in favour of greater ICT sector

liberalisation was an important factor behind shifts in the regime (Hills, 1994; Zacher, 2002, pp. 191-206)[44].

There were clearly also counter pressures. A number of commentators have suggested that the US in particular sought liberalisation abroad while engaging in protectionism of the domestic telecommunications industry (Zacher, 1996, p. 160), and, *par excellence*, (Hills, 2007, p. 2). And, certainly, protection of national incumbent monopolies and the desire to retain sovereignty in domestic telecommunications sectoral policy is what underlay the bitter opposition to the US agenda from the EU and from most developing countries (Zacher, 1996, p. 171).

At the risk of bowdlerising the various pressures at play, it is worth reproducing the diagram (Figure 4.1 below) of Beardsley, von Morgenstern, Enriquez and Kipping (2002, p. 120).

Figure 4.1: Forces Driving Reform of the Telecommunications Sector



[44] It is worth noting that the ITU has, from its inception, been based on an intergovernmental public-private partnership. Since 1989 participation has been extended beyond recognised private operating agencies and scientific and industrial organisations to now include a broad range of sector and associate members. Its membership currently comprises 193 Member States and over 700 sector and associate members, including public and private companies, regulators and academic institutions. The WTO, by contrast, operates entirely on an intergovernmental level.

Whilst one can fault its relative over-simplification of what was in reality a complex interplay, at various levels and in various ways, of the forces driving change in the international arrangements governing the sector, it does provide a visual summary of one view of the pressures driving regime change.

4.1.3 Issues on the Agenda

Cowhey (1990, pp. 177-180) identifies three issues that came under challenge as the pressures for change to the international telecommunications regime began to mount. The first of these was the norm that telecommunications was a service "jointly provided" by bilateral agreement between interconnecting countries, and which was the basis for the international accounting rate system[45]. Elsewhere Aronson and Cowhey argue that the historical arrangement was essentially anti-competitive, based as it was on "legally sanctioned administered prices, equal splits of international revenues, and rules that forbid competition for international traffic" (1988, p. 47). Practices that undermined this artificially-maintained pricing structure, such as resale of capacity, callback, and bypass or least cost routing were effectively outlawed. It is for this reason that much of the initial pressure, as documented by a number of commentators, came from multinational corporations seeking to reduce the costs of the leased lines needed to underpin their international business operations and the data traffic needed to sustain them (Drake, 1994, pp. 153-165) (Zacher, 1996, pp. 165, 168-9) (Zacher, 2002, pp. 199-200) (Hills, 2007, pp. 8-9). This entailed demands for price reductions, interconnection and the resale of spare capacity.

The second area for Cowhey (1990, pp. 177-180) was the onerous and slow process of standardisation of telecommunications equipment, which supported monopoly provision of such equipment, allowing cross-subsidisation and restricting competitive supply. The final area was that of global spectrum management and the allocation of satellite orbital slots.

At bottom, however, the issue was about opening up telecommunications markets, both domestic and international, to competition and international investment (cf (Zacher, 2002, pp. 200-201)). The transformation of a tightly controlled telecommunications market presided over by a state-owned monopoly into a more competitive environment contained within itself a tripartite logic. The introduction of competition implies a key role for private sector

[45] A bilateral administered pricing arrangement between internationally interconnecting telecommunications operators, which sets a fixed price (the settlement rate) loosely related to cost of terminating the call (ITU, 1998a).

investment and opens up opportunities for national operators to seek profitable investments abroad. Private sector investment implies the need to privatise the state-owned incumbent, which also provides opportunities for national operators to secure lucrative investments in foreign countries. Competition and privatisation in turn imply the need for regulatory structures to optimise market functioning, enforce interconnection, and ensure that public interest objectives are met - something Hills suggests had also been promoted strongly by the World Bank and the IMF (2007, pp. 149-174)[46]. Much of the academic analysis of the issues at stake therefore deals with the three issues in combination (Cowhey, 1990; Zacher, 2002; Hills, 2007; Cowhey & Aronson, 2009).

4.1.4 Sites of struggle: The ITU

The struggle unfolded on several fronts.

Domestic reform provided both an exemplar and a source of international pressure. As Cowhey notes, the three pioneering ICT sector reform countries (the US, the UK and Japan) possessed "formidable" power to "drive the world market", partly because they accounted for "almost 60 percent of the world telecommunications market" but also because of their role as centres of global finance and manufacturing (1990, pp. 191,2).

This in turn put pressure on the then European Economic Community to change its rules, leading to the adoption in 1987 of a Green Paper as an explicit response to the pressures of technological developments and the demands of business, along with the "measures taken in the United States and Japan" (EC, 1987, pp. 1-2). The Green Paper set the stage for the liberalisation of 'value-added' but not 'basic' (ie telephony) telecommunications services (EC, 1987). It also made the case for a "separation of the regulatory and operational functions" (EC, 1987, p. 94), something that was later to become one of the key principles of the WTO Regulatory Reference Paper. Following this, in 1990 two key directives were passed, dealing respectively with the establishment of an internal market for telecommunications services (Open Network Provision Framework Directive (EC, 1990b)) and the liberalisation of telecommunications services other than voice telephony (Services Directive (EC, 1990a))[47].

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[46] Hills stresses throughout the degree of co-operation and "cross-conditionality" between the two entities.

[47] The process of reshaping the telecommunications regime in the European Union has been fully and extensively documented in Natalicchi (2001).

The pressures for reform also played themselves out within the ITU, and largely ran their course during the tenures of Secretary-General Richard Butler (1983-1989) and his successor Peka Tarjanne (1989-199). Both Andile Ngcaba (interview, 28 January 2015) and Bill Melody (personal communication, 20 April 2015) speak admiringly of the role of the former in particular in recognising the need for change and in steering it through. Melody describes Butler as a "good engineer who understood the implications of digital technology and ICT convergence for the telecom industry" (personal communication, 20 April 2015).

In 1987 Butler set up a group of experts[48] to write a report on the implications of the changes in the sector for the ITU and to make recommendations on the way forward[49]. Bill Melody, then a Visiting Fellow at Oxford University, was charged with preparing the report on behalf of the group, which was chaired by Poul Hansen, "a respected and well-known Danish representative at the ITU meetings" and included US-based academic and consultant Dale Hatfield (Bill Melody, personal communication, 20 April 2015)[50]. Hills suggests the report was very influential, with a far "wider impact than on the structure of the ITU", lending legitimacy to the arguments in favour of liberalisation, privatisation and regulation within the developing world (Hills, 2007, pp. 122-123). She also discerns the growing influence of the World Bank within the ITU in the report's emphasis on the "primacy" of "regulatory mechanisms at national level" (Hills, 2007, p. 122)[51]. More broadly, she suggests the report marked a move on the part of the ITU from being a "'"technical" organization" to a far greater degree of policy and developmental involvement (Hills, 2007, pp. 122-123). It was a report, therefore, that had important influences, both in terms of structure and of content, on the reform of the ITU.

Hills' assessment is borne out in an examination of the report. It indeed grounds itself, as per its mandate, in the ongoing reform of the sector, the "current state of debates on the structure, management and ownership of telecommunication entities" (ITU, 1989, p. v). The

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[48] Formally: Advisory Group on Telecommunications Policy of the Secretary General of the International Telecommunication Union.

[49] The report was entitled 'The Changing Telecommunication Environment: Policy Considerations for the Members of the ITU' (ITU, 1989).

[50] The full Advisory Group comprised: Poul Hansen, former telecomms academic Rita Cruise O'Brien, US-based consultant Lynne Gallagher, Dale Hatfield, Bill Melody, ITU staffer Terrefe Ras-Work, MD of India's fixed-line incumbent Mahendra Shukla, independent consultant and Panaftel Co-ordinator Gabriel Tedros and World Bank Telecomms Adviser Bjorn Wellenius. Its composition does reflect the influence of both the FCC and the World Bank, as noted by Hills (2007, pp. 122-123).

[51] Hills does not mention privatisation in relation to this influence, although it was perhaps an even more fundamental World Bank mantra, one which she dwells on at length elsewhere (2007, pp. 148-174).

language used to describe these changes is surprisingly oblique by today's standards, suggesting the degree to which ICT sector reform - which is referred to as "telecommunication policy adjustments based on market-led approaches, placing limitations on the scope of the traditional telecommunication monopoly and permitting a certain amount of competition" (ITU, 1989, p. 4) - remained the subject of contestation. The report places special emphasis on the issues and challenges facing developing countries. Although it recognises that "appropriate policies and institutional structures for progress in telecommunication development are not likely to be the same as those for industrialized countries", it notes "human resource development" as a key constraint and emphasises the "unique and positive role that ITU could play in respect of the special problems of telecommunication expansion in developing countries" (ITU, 1989, p. 28). The report thus sought to place the ITU as a key bearer and interpreter of the gospel of ICT sector reform in the developing world.

The report's emphasis on the key functions of the ITU as being

> *a) Standardization matters: related to equipment and system operation and interconnectibility.*
>
> *b) Regulatory matters: frequency allocation, satellite orbital positions, telecommunication operations etc.*
>
> *c) Development and extension of networks and services.* (ITU, 1989, p. 30).

also paved the way for its reorganisation a few years later into the current divisions dealing with radio communication (ITU-R), standardisation (ITU-T) and development (ITU-D), the latter being the major 1992 innovation.

Hills has a rather less genteel take on the unfolding changes, pointing to a number of strong-arm tactics on the part of the US, aimed at imposing its agenda on the ITU. Apart from direct political pressure on other delegations, partly through its ability to field large well-resourced delegations, she points to the exercise of financial muscle as a principal funder of the ITU, along with some rather more nefarious tactics such as "late submission of papers", *ex parte* meetings and "agenda manipulation" (2007, p. 115).

Cowhey (1990, p. 193) identifies two major ITU conferences in the late 1980s that changed the shape of the organisation. It was through key ITU gatherings such as these that the US and other mostly developed countries supporting its agenda (the UK, Japan, several EU member states, with the unlikely additions of the USSR and Brazil) sought to carry through

the ICT sector reforms they required. Other important conferences followed in subsequent years.

The first of the key 1980s meetings was the ITU's 1988 World Administrative Telegraph and Telephone Conference, held in Melbourne, Australia, provided key impetus to changing the shape and face of the ITU, to altering the rules of the regime. This conference in turn had its roots in the 1982 Nairobi Plenipotentiary Conference, at which a consensus was reached on the need to establish a "broad international regulatory framework for all existing and foreseen new telecommunication services" (ITU, 1982). The resultant Melbourne conference replaced the separate Telegraph Regulations and the Telephone Regulations with an integrated set of International Telecommunication Regulations (ITRs). The ITRs have remained in force as the fundamental treaty of the ITU, albeit subject to recent, highly contested[52] revision at the 2012 World Conference on International Telecommunications, held in Dubai (Hill, 2013).

The 1988 ITRs are widely regarded as both influenced by and paving the way towards the increasingly strong trend towards "privatization, liberalization and the growth of the Internet and mobile networks" (Hill, 2013, p. 313). They were also the subject of bitter contestation between those developed countries seeking to institutionalise telecommunications liberalisation, spearheaded by the US, and the countries of the Third World seeking to forestall competition, led by India and Brazil (Langdale, 1989), with the outcome representing a compromise between the two groupings (Hill, 2014, p. 9).

In the following year the ITU's Plenipotentiary Conference (Nice, 1989) moved to make further changes. The report by Hansen's Advisory Group on the implications of the rapidly changing telecommunications sector for the ITU was one of the key inputs to the conference. Bill Melody comments that he was "extremely impressed with the leadership shown by [Richard] Butler and the effective way he used our report… [which] started the ITU reform process… [although] it still took ITU a long time to catch up with rapidly changing events" (personal communication, 21 April 2015).

The Nice Plenipotentiary Conference agreed to adopt a permanent Constitution, setting out its core principles, with the remaining provisions retained in the Convention, subject to revision at succeeding Plenipotentiary Conferences. It also agreed to establish a

[52] Only 89 of the 145 delegations signed the revised ITRs. A number of developed countries, led very vocally by the US, refused to accede. Others needed further consultation and analysis.

Telecommunication Development Bureau (BDT), with an elected Director, to provide technical assistance to developing countries[53]. Both the Constitution and the Convention were adopted at the Conference, subject to ratification (ITU, 1990). The conference also laid the groundwork for an

> *in-depth review of the structure and functioning of the Union, in order to study and recommend, as necessary, measures to ensure greater cost-effectiveness… with a view to ensuring that the Union responds effectively to the demands placed on it by the changing nature of the telecommunications environment* (ITU, 1990, p. Resolution 55).

The review was undertaken by a High Level Committee, again under the chairpersonship of Poul Hansen, appointed to review the structure and functioning of the ITU. Their report (ITU, 1991) was considered at the 1992 Additional Plenipotentiary Conference held in Geneva, and was the basis of the resolution[54] which pushed through a substantial restructuring of the ITU, which was finalised at an Additional Plenipotentiary Conference held in Geneva.

Prior to 1992 the three key ITU bodies had been the International Consultative Committee for Telephones and Telegraph (CCITT), the International Consultative Committee for Radio (CCIR[55]), and the International Frequency Registration Board. The CCITT, which had "acted as a virtual telephone cartel for the PTTs" (Cowhey, 1990, p. 176), was in particular problematic for those advocating the liberalisation of telecommunications markets. The Geneva Additional Plenipotentiary Conference resulted in the restructuring of the ITU into three sectoral arms, viz: Radiocommunication (ITU-R), responsible primarily for the management of international radio-frequency spectrum and the allocation of satellite orbits; Standardisation (ITU-T)[56], responsible for global telecommunications standards, excluding radio; Development (ITU-D), responsible for spreading equitable, sustainable and affordable access to ICTs. This restructuring was welcomed by the US as enabling the ITU to be "more

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[53] This had previously been recommended by the earlier, equally influential Maitland Report (ITU, 1985a), discussed at the ITU's inaugural 1985 the World Telecommunication Development Conference, in Arusha, Tanzania (27-30 May), and endorsed in the 1985 Arusha Declaration on World Telecommunications Development (ITU, 1985).

[54] Resolution 1: Provisional Application of Certain Parts of the Constitution and the Convention of the International Telecommunication Union (Geneva, 1992) (ITU, 1992).

[55] Acronym based on its French title "Comité consultatif international téléphonique et télégraphique".

[56] ITU-T is essentially the successor to CCITT.

effective in responding to the changes taking place in telecommunications" and "more responsive to the needs of the Unites States Government and private sector" (Clinton, 1996).

Over the next few years the ITU held a series of important colloquiums under the umbrella of 'The Changing Role of Government in an Era of Telecom Deregulation'[57] at its headquarters in Geneva:

- 1993 - 17-19 February, focusing on "the exchange of insights and experiences about alternative approaches to telecom regulation" (ITU, 1993, p. 5);
- 1994 - 9-11 November, which dealt with Global Mobile Personal Communications Systems (ITU, 1994b);
- 1994 - 1-3 December, which "considered how regulators can promote universal service and facilitate the application of innovations in telecommunications" (ITU, 1994c, p. 2);
- 1995 - April 19-21, focusing on the regulatory issues pertaining to interconnection;
- 1995 - 6 -8 December, which dealt with the regulatory implications of GATS and the WTO (ITU, 1995);
- 1996 - 11-13 December, looking at the regulatory implications of convergence (ITU, 1996b);
- 1997 - 3-5 December, which sought to address "the present crisis in the international… accounting rate system" (ITU, 1997);
- 1998 - 14-16 December, which dealt with electronic commerce.

Of interest in the list of colloquiums is the way in which the issues identified in the preceding discussion surface: interconnection, the accounting rate regime, trade in services. The normative power of recommendations emerging from the ITU has been noted by Cowhey, who quotes the assessment of Secretary General Butler that they were "almost universally followed" (1990, p. 181). Zhao similarly traces the normative influence of the work of the ITU on national regulators (2002).

[57] Interestingly, Andile Ngcaba, represented South Africa at four at least of the first five of these colloquiums (no list of participants is available for the fourth colloquium), initially in his role as head of the CDITP, finally as Director General of Communications.

However, if Hills (2007) is to be believed, the US was far less successful at imposing its full agenda on the ITU than it had hoped. Unable to break the countervailing power of the increasing numbers of developing delegations, it had to settle for less than the full deregulation of international telecommunications that it had sought58. The outcome was more of a compromise reflecting the balance of forces within the ITU, none of whom were willing to pay the price of the destruction of the entire telecommunications regime in order to enforce their positions. Developing countries were thus able to retain the principle of "state sovereignty" over domestic telecommunications markets, although the liberalisation of the telecommunications market was now firmly on the agenda (Hills, 2007, p. 115).

Together the discussion suggests that the ITU was both responding to the various pressures discussed earlier, and exercising a normative influence on its member states to do likewise. It is to a discussion of trade in services, including telecommunications, and to agreements with considerably more binding influence, that the analysis now turns.

4.1.5 Sites of struggle: The WTO

Those pressing for ICT sector reform also moved in parallel, turning their attention to the opportunities for achieving telecommunications liberalisation agenda through the platforms offered via the Uruguay Round of multilateral trade negotiations that had commenced in 1986 within the framework of the General Agreement on Tariffs and Trade (GATT). The mandate of these talks was to include new areas within the GATT framework, including trade in services - which might include telecommunications services. An agreement was finally signed in Marrakesh, Morocco on 15 April 1994 by ministers from most of the 123 participating governments at a meeting. It was this agreement which established, with effect from 1 January 1995, the World Trade Organisation (WTO) and the General Agreement on Trade in Services (GATS).

The GATS agreement included an Annex on Telecommunications (WTO, 1995), but this covered only "value-added or specialized telecommunications" (Singh, 2002b, p. 253) because

[58] The US appears stubbornly to have adhered throughout to regulatory proposals that would in effect have forced developing countries to liberalise their telecommunications markets. Compromise formulations - agreed in the face of possible collapse of the conference, and with the US alone voting against them - allowed for national sovereignty, and thus accommodated liberalised environments "subject to national regulation"… "but did not prevent monopoly networks where governments [so] preferred" (Hills, 2007, pp. 110-113).

of the inability of the negotiating countries to reach agreement on basic telecommunications[59] (ie voice telephony) (Hills, 2007, pp. 194-195).

Under the WTO, a Negotiating Group on Basic Telecommunications[60] was constituted to carry forward the unfinished attempt to reach agreement. It was to require a difficult balancing of "progressively higher level of liberalization in services on a mutually advantageous basis with appropriate flexibility for individual developing country members" (WTO, 1997b). Progress was slow, with some discussion on a range of sector reform issues, but with limited numbers of countries tabling commitments to liberalise.

By April 1996 the group was only able to reach agreement on a nonetheless landmark Regulatory Reference Paper (WTO, 1996b) – see Figure 4.2 right - and to table the Fourth Protocol (WTO, 1996a) giving member states until 30 November 1997 to make commitments concerning basic telecommunications. By February 1997 the Group was finally able to report that 55 schedules of commitments had been submitted, including the US, the EC (a common offer from all 15 member states), Australia, Brazil, India, Japan, with South Africa one of the 6 African countries to do so (WTO, 1997b)[61]. The strongest offers, though, had come from OECD members (Aronson & Cowhey, 1988, p. 163).us

Figure 4.2: WTO Regulatory Reference Paper: Section Headings

1. Competitive safeguards
2. Interconnection
3. Universal service
4. Public availability of licensing criteria
5. Independent regulators
6. Allocation and use of scarce resources

(WTO, 1996b)

Some commentators disagree on the import of this process. Drake and Noam, for example, have diametrically opposed views, with the latter suggesting that it was merely reflective of "policy changes [that] were taking place anyway" (1997, p. 800). However, although the ICT sector was but one of the many areas of trade in services within the broad scope of the WTO,

[59] Interestingly, as Hills points out, at the time this was a term used in the US but "nowhere defined at an international level" (Hills, 2007, p. 198).

[60] Succeeded by the Group on Basic Telecommunications following the 30 April 1996 withdrawal of the US from the negotiations.

[61] Currently 99 of the WTO's 157 members have made commitments in respect of basic telecommunications.

the nature of the final agreement had far greater binding power. Countries are required to table specific commitments in 12 categories of trade in services[62] upon accession.

Drake, on the other hand, hails the resultant "incorporation of regulatory principles into a trade policy framework . . . [as] a remarkable achievement" (Drake & Noam, 1997, p. 806). Drake goes on to accord this cluster of agreements an important role in "promoting conceptual progress and convergence" and in "redefining . . . domestic regulatory systems to achieve conformity with international standards and notions of best practice" (Drake & Noam, 1997, p. 808). Likewise, Cowhey and Klimenko categorise the WTO Agreement on Basic Telecommunications Services as a "major achievement" that goes to the "heart of sound regulation in the market" (2000, p. 274). Given our earlier discussion of the role of the ITU, there is probably a degree of validity to both perspectives.

The Regulatory Reference Paper was to play an important role, both as a key milestone in codifying ICT sector reform, and because of its subsequent normative role in setting forth the rules of the new regime (Drake & Noam, 1997; Fredebeul-Krein & Freytag, 1997; Cowhey & Klimenko, 2000; Cowhey & Aronson, 2009, p. 164)[63]. Hills shows the relatively cosmopolitan origins of the Regulatory Reference Paper, which was instigated by the FCC, drew on both the EC's Open Network Directive and the 1996 US Telecommunications Act, and had final wording primarily at the hand of Japan (Hills, 2007, pp. 198-204).

A number of commentators have examined the increased levels of engagement with the process between the Uruguay Round and the advent of the WTO by those countries pushing for most strongly for telecommunications reform (Hills, 1994; Drake & Noam, 1997; Singh, 2002b; Hills, 2007, pp. 175-216; Cowhey & Aronson, 2009)(MacLean, 2011). It is not clear whether this shift of focus was driven by the need to engage in all available forums as part of a multi-faceted approach, or formed part of a deliberate and more cynical strategy of "forum-shopping" (Hills, 2007, p. 21), in which the choice of negotiating platform shifts according to the likelihood of achieving the desired outcome. Cowhey to some extent concurs with the latter view, albeit without seeing the sinister hand of the US behind every negotiating twist and turn, suggesting that those countries resisting reform preferred to work through the ITU, whilst those seeking a greater degree of reform sought to exploit GATT (1990, p. 198). Nevertheless, whatever the forum, the pressures for reform were powerful. The issues were

[62] Telecommunications forms one of 5 sub-categories within 'Communications Services', one of the twelve.

[63] It has currently been acceded to by 82 of the WTO's 157 members.

pervasive, and the countries pressing most strongly for reform were members of both the ITU and the GATT.

Hence it is not surprising that Cowhey saw the effect as one in which the "reformers… [were] pushing a new mix of institutional participation… [and] an expansion of international review of national policy" in order to "bring communications and information services under [the] purview" (1990, pp. 174, 194) of GATT. Cowhey goes on to suggest that application of GATT principles would serve to institute the norm of market access for telecommunications companies, opening up domestic markets to foreign investment, providing for international oversight in respect of network standards, pricing, consumer protection and regulation.

The negotiations clearly brought powerful vested interests to the fore, with access to foreign markets and the protection of the domestic telecommunications sector at stake. To say that the negotiations were robust is to understate the tactics of the parties with so much at stake. Behind it all, Hills sees the dominating and Machiavellian hand of US power and US companies, from lobbying pressures, through *ex parte* manoeuvres to direct threats and brinkmanship (Hills, 2007, pp. 175-216). Melody, on the other hand, sees little untoward in this approach, suggesting it merely reflects the "way the game is played by all the players" (personal communication, 23 April 2015). Hills, in any event, describes the US approach as yielding "only limited success" (Hills, 2007, p. 19). This is in part due to a recognition that withdrawal from the WTO telecommunications regime was too high a price to pay, even if the outcomes were to a degree sub-optimal to US interests.

On the other hand, the very nature of the negotiations precluded straightforward outcomes that favoured only a limited number of participants. Singh suggests that the multiplicity of negotiating parties, which included a number of developing countries, together with the wide range of issues on the table - what he refers to as "multi-actor plurality and multi-issue plurality" (2002b, p. 242) - mitigates against one-sided outcomes. He goes on to show that developing countries were not above using the same kinds of tactics that Hill ascribes to the US - agenda setting, introducing linkages between issues, offering or accepting trade-offs, forming coalitions, adopting "technocratic and legalistic strategies" (2002b, p. 245).

It is also important to note that the very nature of the settlement being negotiated allowed countries to accede to the agreement, while at the same time being able to control through their commitments the degree to which and the pace at which it applied to their telecommunications sectors - what Singh refers to as the "bottom-up" nature of the GATS framework (2002b, p. 253). Acceding to GATS thus allowed countries to table an offer of

'commitments' in which they could specify areas in which they were either not bound by its provisions or intended to phase in their adherence to the provisions[64]. Accession was probably further facilitated by a recognition on the part of developing countries of the need for global integration and liberalisation of their telecommunications sectors, largely under the same sets of pressures identified above, principally technological change and business imperatives (Singh, 2002b, pp. 245-248).

The outcome of the GATS / WTO negotiations was thus in effect the formation of a new regime governing telecommunications. It was, however, not a regime either independent of or antagonistic to that of the ITU, as indicated by the involvement of the ITU in the negotiations (Singh, 2002b, p. 255). One may in fact point to a quarter of institutions (the ITU, the WTO, the World Bank, the IMF) as the component elements of a loosely integrated ICT sector regime, with a converging and relatively consistent set of principles, norms, values, rules and procedures aligned with 'Washington consensus' thinking.

The principles of the new WTO telecommunications regime included reciprocity and non-discrimination in respect of trade in telecommunications services through the Most-Favoured Nation (MFN) principle, the opening up of domestic markets to external firms and foreign investment through the principles of equal market access and equal national treatment, all supported by the principle of transparency - cf (Drahos & Joseph, 1995, p. 622; Singh, 2002b, p. 253). This ensured a predictable and structured process of liberalisation, governed by the commitments offers of the signatory states. And it was further buttressed by the normative role of the Regulatory Reference Paper. Together this constituted what Drahos and Joseph characterise as the "emerging supranational regulatory regime" (Drahos & Joseph, 1995), an internationally negotiated regime framework with strong normative characteristics.

One is tempted to question whether it is the WTO or the ITU that is the dominant node in the global nexus of ICT sector reform that emerged. Woodrow points out that the 'big bang' outcome posited by Cowhey (1990, p. 25ff) would have seen the WTO / GATS / GATT emerge as the dominant regime, and argues that the outcome is far closer to Cowhey's 'little bang' in which the ITU continues to play a "significant role" (1991, p. 325ff). This accords with Hills' assessment that the US was only able to achieve "limited success" in either forum (2007, p.

[64] South Africa, for example, made a complex set of commitments, including, amongst others: the preservation of Telkom's monopoly until 2003, and of the Vodacom / MTN duopoly until 1998, followed by the introduction of an additional licensee in each sub-sector; the gradual liberalisation of resale from 2000; a foreign investment cap of 30% (WTO, 2003, pp. 12-14). Almost all of these have since fallen away.

19). What seems to have emerged, therefore, is a telecommunications regime that is diffuse in nature, centred primarily around two institutions - the WTO and the ITU - each with its own set of rules and procedures, but with considerable alignment and overlap in relation to principles and norms, an overall epistemic framework embracing and advocating privatisation, liberalisation and regulation.

One is perhaps tempted to include the World Bank / IMF nexus as a third locus within the regime, as Hills does (2007, pp. 149-174), at one point dismissively referring to the ITU as the "training arm" of the World Bank. Certainly, the World Bank has long advocated privatisation as a norm and was likely responsible, as shown above, for the emphasis on regulation entering the norms espoused by the ITU. Further there existed a fairly extensive collaboration between the ITU and the World Bank, which included the joint 1991 hosting, with the Commonwealth Telecommunications Organisation, of a seminar involving over 40 countries to "examine the experience of implementing reforms in the telecommunications sector" (Wellenius & Stern, 1994, p. ix). Collaboration between the ITU and the World Bank via *info*Dev remains ongoing, and has seen the publication of a number of ICT policy and regulatory handbooks (Intven, 2000a; Blackman & Srivastava, 2011a) and the development of an online ICT Regulatory Toolkit[65]. However, much of the intervention of the World Bank and IMF has been largely on a bilateral rather than a multilateral basis, and, Hills aside, its role has received little scholarly attention, with most of the normative best practice pressure seen to be coming from either the ITU or the WTO or both.

These shifts in the broad global telecommunications regime - driven by technological change and the needs of business, mediated through the structural changes and substantive policy shift negotiated at the ITU and through the GATT / GATS / WTO telecommunications process - are likely to have had a powerful influence upon developing countries like South Africa as they grappled with the pressures and challenges of ICT sector reform. It was also through these changes that the notions of universal access and service first rose to prominence within international good practice. But before turning to a discussion of that universal access and service practice, it is necessary to say a word about epistemic communities.

[65] Housed online at http://www.ictregulationtoolkit.org/en/home.

4.2 The Influence of Epistemic Communities

As the sections that follow show, the creation of a normative discourse is central to the development of 'international good practice' in respect of both ICT sector reform and more specifically universal access and service policy and practice. The preceding examination of the changing face of the international telecommunications regime centred around the ITU and the WTO above, showed that cognitive frameworks and epistemic communities likewise played an important role, something that has been identified in the work of a number of scholars (Cowhey, 1990; Woodrow, 1991; Drahos & Joseph, 1995; Cogburn, 2004; Singh, 2008).

As noted previously, Haas's classic definition of epistemic communities points to a "network of professionals with recognized expertise and competence in a particular domain and an authoritative claim to policy-relevant knowledge within that domain or issue-area" (Haas, 1992, p. 3). Given the importance of principles and norms within global regimes (Krasner, 1982, p. 186), it is to be expected that the coherent articulation and elaboration of the cognitive frameworks which underpin and give expression to those principles and norms would be a central feature of regime formation or regime change, particularly in complex, dynamic environments such as the rapidly evolving ICT sector. Writing in a more general context, Krasner points to the role of what he refers to as the "consensual knowledge" created by epistemic communities in crafting a "basis for cooperation", noting that:

> *In a highly complex world, where goals are often ill-defined and many links are possible, consensual knowledge can greatly facilitate agreement on the development of an international regime. Such knowledge can light a clear path in a landscape that would otherwise be murky and undifferentiated. (Krasner, 1982, pp. 203-204)*

Thus, it follows that policy regimes are likely to develop a close relationship with professional epistemic communities aligned to the principles and norms that they seek to institutionalise. Both thus share the phraseology of a common discourse, framing the issues and debates in overlapping terms. This makes for a loosely consensual hegemony of perspective, rather than the hard imposition of a sharply predetermined outlook; and gives broad rather than tight shape to the outcomes.

Cowhey (1990) was one of the first to articulate the importance of epistemic communities to the changing face of the global telecommunications regime. He suggests a dialectical

relationship between political forces striving for hegemony and epistemic communities engaged in analytical enquiry and academic discourse. On the one hand, "political coalitions implicitly align with cognitive frameworks" in order to legitimate their framing of problems and their defining of solutions. On the other, epistemic communities retain a degree of autonomy, with "substantial latitude among members of the [epistemic] community about the precise right answer [despite] strong common aversions" (Cowhey, 1990, pp. 172,3). This implies a complex interplay of mutual influence and legitimation.

Thus, on the one hand political actors depend to a degree on epistemic communities and their cognitive frameworks to support and advance their agendas. This is because of the important role that that argument and persuasion play in achieving hegemony for specific issue agendas (Singh, 2002b, p. 245). In this view, policy hegemony depends, at least in part, on a coherent and well-articulated vision of principles and norms that can be argued as supporting and giving weight to specific rules, negotiating positions and consequent decisions. For example, General Secretary Butler deployed what was in effect an epistemic community in the formulation of the key report (ITU, 1991) that launched the ITU reform movement. Epistemic communities thus have an important role in the formulation of the cognitive frameworks underpinning regimes, in ensuring their conceptual coherence and clarity of articulation, and in promoting their popularisation. As Drahos and Joseph put it:

> *complexity… produces a demand for information by policy makers, a demand which epistemic communities can provide by virtue of their networked specialist knowledge. Epistemic communities purport to provide policy makers with cognitive maps of the phenomenon that confronts them. At the same time as they depict a cognitive reality, epistemic communities push a normative agenda (Drahos & Joseph, 1995, p. 628)*

One can perhaps overstate the case. Focusing on global ICT policy decision-making, and the respective fora of the ITU and the WTO, Cogburn gives epistemic communities - which he characterises as "elite policy networks" - a primary role, arguing that "elites are the real actors in international policy negotiations, not the institutions they represent" (2004, pp. 159-160). This leads him to accord a pre-eminent role to conferences - to which he accords a "hierarchy" based on the degree of their "influence on the… components of an emerging regime" (2004, p. 162) - in shaping the characteristics and content of the global ICT policy regime. It also leads him to a rather gloomy - in contrast to the more sanguine assessment

of Singh (2002b), and, to a lesser degree, Hills (2007) - verdict on the ability of developing countries to influence the nature of the regime, in which their

> *lack of influence stems from the inability of developing countries and the international development community to influence the episteme, or fundamental knowledge, upon which the regime is built and to master the multiple processes of global regime formation (Cogburn, 2004, p. 159)*

On the other hand, such epistemic communities benefit from the political support they receive. But, more than that, they become influential in their own right. Woodrow suggests this influence operates at two levels, that of the 'cognitive framework', which he describes as the underlying

> *perspective on major issues from [an] intellectual understanding of that realm of activity, how the regime has worked in the past and at present, its strengths and weaknesses as well as the opportunities and threats which it faces (Woodrow, 1991, p. 323)*

The adoption of such a cognitive framework by political actors in turn influences how such actors frame problems and define solutions. Further, the political agendas of the actors in turn influence the content and direction of the self-same epistemic communities.

Whilst the notion of an epistemic community suggests an intellectual enterprise that is at least in part academic, it is also possible to view the coalition of political actors as an epistemic community in its own right. In the analysis presented in this report interacting constellations of actors can be discerned at both the political and the academic level.

Although power and political manoeuvring, the building of alliances and the forging of compromises, remained key elements in the establishment of the new ITU and WTO regimes, achieving hegemony was also about the battle of ideas. The outcomes on the one hand reflected the balance of forces at play, but on the other revealed a struggle for supremacy of ideas.

It is, therefore, important to consider next the role of ideas and their evolution over the last twenty or more years. Although the background set out above covers the broad ICT sector regime, and the institutions that constitute the overall diverse regime which governs it (the ITU, the WTO, the World Bank and more), the analysis needs to be more narrowly limited to the question of universal access and service. Within the broader sweep of the evolving global

ICT regime, the relevant questions are: why universal access and service came to be one of its key issues, how the problem of universal came to be framed, and what solutions, strategies and interventions were posited to address the challenge of universal access and service. In short, it bis necessary to chart the development of what may be considered to constitute international good practice in relation to universal access and service.

4.3 Codifying International Good Practice

The question of universal service began to enter the epistemic discourse in response to concerns and objections raised by operators and countries that introducing competition and opening their markets to foreign investment would prevent them from meeting the socially desirable objective of providing telecommunications services to all - universal service. As Horwitz notes, "talk of a universal service 'obligation' surfaced in European countries only when the PTTs came under liberalization pressure" (2001, p. 182). One of the key justifications for retaining a state-owned monopoly provider thus became its ability to deliver universal service through cross subsidies and support from the state. Hence one of the main objections raised by incumbents and states faced with liberalisation was that acceding to the liberalising pressures would undermine their ability to sustain the implicit public policy objective of delivering universal service (OECD, 1991, pp. 28-29; Bauer, 1999; Melody, 1999, pp. 23-24; Gasmi, Laffont, & Sharkey, 2000). Tim Kelly, who had been working in the Science, Technology and Industry Directorate at the OECD at the time[66], states that the OECD found that "the representatives of certain countries, like France and Italy, and even Germany at the time, were using universal service and the French version of it (the public service view) as an argument against moving towards competition", and goes on to label universal service as "the fig-leaf of the monopolist" (interview 27 October 2014).

Faced with these objections, and drawing on the expertise of a range of academics (eg Martin Cave, Dale Hatfield, Bill Melody, Patrick Xavier) and ICT policy experts (eg Tim Kelly, Björn Wellenius), a number of reports were commissioned by the likes of the ITU, the OECD, the EC and the World Bank. This nascent epistemic community and its enterprise also spilled over into a number of academic journal articles[67], books and reports. An examination of the

[66] Tim Kelly is now Lead ICT Policy Specialist with the World Bank's ICT sector department and infoDev.

[67] *Telecommunications Policy*, established in 1976, is the key journal here, embracing academics, policy-makers and regulators amongst its audience, and focused on issues pertaining to ICT sector reform, and to the role of ICT in the economy and society.

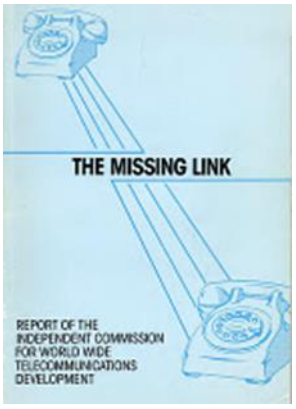
various documents provides a useful insight into the growing body of views, insights and research, the principles and norms, that gradually began to cohere as a canon of international good practice in relation to universal access and service. It is therefore to a discussion of these documents that our analysis now turns.

4.3.1 The Missing Link: the Maitland Report

Commissioned by the 1982 Nairobi Plenipotentiary meeting of the ITU with the objective "to recommend ways in which the expansion of telecommunications across the world could be stimulated" (ITU, 1985, p. 1), Maitland's 'Missing Link' report provides an important baseline for the consideration of universal access and service.

Widely regarded and highly influential, it played, as noted previously, an important role in stimulating the move towards the reform of the ITU through its recommendation for the establishment of a dedicated structure to focus on the telecommunications development needs of developing countries. Its approach and focus, however, are more what might be regarded as developmental: as previously noted, it was one of the earliest documents to focus on the phenomenon that was later to become characterised as the 'digital divide'.

Figure 4.3: Maitland Report: Cover



Source: ITU

Given this provenance, it is perhaps surprising that the document makes no mention of 'universal service' at all. However, this is more a function of the fact that at the time of its writing 'universal service' had yet to feature as a cognitive category within the epistemic discourse. In fact, a reading of the report reveals that it is imbued with many of the concerns that were later to surface within the body of knowledge.

Its starting point is an understanding of the important role that telecommunications plays as an enabler of economic growth, a vehicle to support social development, and a source of cultural enrichment, recognising:

> *the vital role telecommunications play not only in such obvious fields as emergency, health and other social services, administration and commerce, but also in stimulating economic growth and enhancing the quality of life (ITU, 1985, p. 65)*

And its description of the global disparity in access to telecommunications reflects its central concern with addressing the telecommunications access gap and ensuring the widespread provision of telecommunications services. On the one hand, "advanced industrialised societies have virtually comprehensive services" (ITU, 1985, p. 65). By contrast:

> *In most developing countries the telephone service is still far from universal and the more sophisticated forms of telecommunications are almost unknown, except, in some of the larger towns and business centres. In many countries there are great tracts of territory with no telecommunications at all. (ITU, 1985, p. 14)*

Treading a cautious path in relation to telecommunications liberalisation, the Maitland report calls for joint efforts to address the imbalance, recommending:

- greater priority be given to telecommunications by developing countries, along with increased investment in the sector;
- the adoption of improved technologies, and the more effective use of technologies through greater attention to training;
- the provision of increased funding and financial support for telecommunications (ITU, 1985, pp. 65-69).
- The report also, as noted previously, recommends the creation of a "Centre for Telecommunications Development" within the ITU to facilitate the necessary assistance for developing countries (ITU, 1985, p. 67).

Thus, although an important landmark in relation to a shifting focus towards developing countries and their lack of access to telecommunications service, the report provides no detailed recommendations as to how increased penetration might be effected at national level. It makes no attempt to define or specify international good practice in respect of implementation.

4.3.2 European Commission: Green Paper

As previously noted, the 1987 EC Green Paper opened the way for the liberalisation of value-added telecommunications services, but is important in the unfolding universal and access narrative for its defence of the monopoly provision of basic, voice telephony, which it defended in the name of 'universal service'. Although it does not use the term explicitly or consistently, it does provide the first definition of services "offered on a universal basis" as those:

i) provided with general geographical coverage;

ii) provided on demand to all users on reasonably the same terms regardless of the users' location within the service provider's territory or franchise area and the cost of connection to the network. (EC, 1987, p. 66)

In terms of current good practice thinking in respect of universal access and service, the Green Paper's proposals are very rudimentary, dealing *inter alia* with:

- *cross-subsidisation… [for, inter alia] certain public service goals, such as universal service;*
- *a complex trade-off [in respect of cost-oriented tariffs] between commercial considerations and universal service goals;*
- *specification of a number of end-to-end services to be provided with universal availability. (EC, 1987, pp. 77, 79, 118)*

The 1987 EC Green Paper, therefore, makes little contribution towards the development of international good practice in respect of universal access and service. It does, however, establish the key question against which those arguing for the introduction of competition were going to have to contend. It explicitly tables the public service goal of achieving universal service as a central defence against the introduction of full-blown competition. Indeed, the very concrete measures referred to above are not readily sustainable in a fully competitive environment. There were the arguments and issues against which the proponents of much greater liberalisation were going to have to mount a case.

4.3.3 OECD: Universal Service in Telecommunications

The earliest serious international attention to universal service in relation to ICT sector policy and regulation appears to emanate from the OECD (1991), in a two part report commissioned by its Committee for Information, Computer and Communications Policy (ICCP), which examined two of the issues which had been flagged as problematic for the liberalisation of the telecommunications sector in the 1987 EC Green Paper. These were the questions of universal service and the application of cost-based pricing and rate rebalancing to telecommunications tariffs.

Then comprising 25 members, of which 19 were in Europe, with the US and Japan also members, the OECD was a useful platform for carrying the debate of telecommunications

liberalisation forward. Drahos and Joseph accord the OECD a role of some influence within the emerging 'supranational telecommunications regulatory regime' of the time, describing it as an

> *important player in terms of providing an intellectual framework and analysis for the various relationships between the market access model of telecommunications and trade in services, the information economy, computing and communication… [one with] considerable power to set agendas and create influential models. (Drahos & Joseph, 1995, p. 626)*

Then OECD staffer Tim Kelly suggests that there was an explicit OECD agenda to tackle the objections to liberalisation of the sector:

> *what we tried to do in our work at the OECD was to point out that it was perfectly possible to have universal service and a competitive market structure, and that in many ways competition was the best way to achieve that. We didn't have much evidence at the time because so few countries had adopted competition. But we were able to draw on the cases of countries like Sweden and Japan* (interview, 27 October 2014)

The 1991 OECD report is also of interest because of its concrete move to draw on the expertise of the academic epistemic community already researching and writing in this area. The two main sections of the report[68] were written by prominent English academics, respectively by Prof Nicholas Garnham[69] and Dr Robin Mansell[70].

The report also reflects one of the common characteristics of international good practice literature: country benchmarking through an examination of the situation and practice in a number of jurisdictions[71] and its attempt to distil through that examination common or

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[68] There was an appendix contained a study of universal service in Japan, written by Yasu Taniwaki of the Japanese Ministry of Posts and Telecommunications.

[69] Then based at the Centre for Communication and Information Studies, Polytechnic of Central London, UK. Garnham's study seems to have been conducted in about 1988, and formed the basis for an academic paper comprising a cross-country comparative study of universal service practices (Garnham, 1989) whose publication predates the OECD report.

[70] Then at the Centre for Information and Communication Technologies, Science Policy Research Unit, University of Sussex, UK.

[71] The report covers: Belgium, France, Germany, Ireland, Italy, The Netherlands, Portugal, Spain, Sweden and the United Kingdom.

particularly effective practices from which lessons and guidelines of general applicability may be drawn.

The universal service section of the report describes itself as the "first comprehensive study of universal service in the countries of Western Europe" noting that "until very recently the notion of "universal service" [had not been] discussed" in Europe (OECD, 1991, pp. 3,13), and, in line with Kelly's normative intention, goes on to address the

> *arguments used to justify the retention of public, or publicly-controlled, telecommunications monopoly structures [which] are based on the claim that only through such structures will there be an assurance of maintaining universal telecommunication service (OECD, 1991, p. 23)*

This section of the report analyses the challenge of ensuring universal service in the context of the growing wave of market liberalisation and the move to cost-based pricing, and concludes that

> *there is no institutional reason why universal service should not be required of and delivered by either public monopolies or regulated private competitive operators. (OECD, 1991, p. 85)*

Although the report makes a number of recommendations (OECD, 1991, pp. 83-7), these are rather generalised, stopping well short of specifying a concrete programme of interventions, and thus far from setting international good practice benchmarks.

The report does, however, flag the importance of definitional questions, pointing out that the "concept of universal service is . . . too imprecisely defined to serve as a useful guide to policy" and to the consequent need to set "distinct, realizable and measurable goals" (OECD, 1991, p. 83).

In addition, it does point forwards towards a number of issues and areas that would later come to characterise the policy debate. For example, its breakdown of the notion of universal service into the "distinct subsidiary concepts" of

- *universal geographical availability…*
- *non-discriminatory access, that is, the equal treatment of all users [in respect of tariffs and quality of service]…*
- *reasonable costs or affordability (OECD, 1991, p. 26)*

is essentially the first exposition of what would later become the mantra of 'availability, accessibility and affordability' (ITU, 1998, p. 63) that permeates international good practice to this day, and which will be discussed later.

This framework does appear to have informed subsequent ITU thinking. Discussing a 1994 ITU workshop on universal service, Blackman suggests that the universal service "regulatory obligation" should cover "universal geographical availability . . . non-discriminatory access . . . [and] reasonable costs or affordability" (Blackman, 1995, p. 172). The framework was subsequently explicitly adopted into ITU best practice under the catch phrase: "availability . . . accessibility . . . affordability" (ITU, 1998, p. 63), where it has remained ever since (cf (infoDev, 2009, pp. 2-3; Blackman & Srivastava, 2011a, pp. 155-156).

Likewise, the report's consideration of how to deal with universal service in relation to incipient digitisation and the introduction of new services, to some extent anticipates consideration of what would later be characterised as the concept of the "basic access continuum" (Msimang, 2003, p. 35).

As noted, the report recognises the tension between the goal of achieving universal service and that of introducing market competition, and of the consequent need to "protect the delivery of universal service from the impact of liberalisation" (OECD, 1991, p. 86). However, although it refers to a "number of tools in the regulators [sic] armoury, such as access charges, life-line service and universal service contracts" and "universal service obligations" (OECD, 1991, pp. 86,7), it gives little detail on what precisely is meant by these interventions or on how they might be applied.

Strangely too, the report makes limited reference to what would appear to be self-evident linkages between the two questions under consideration: rate rebalancing has a clear impact on consumer tariffs, which in turn has a clear impact on affordability of telecommunications services and hence on the ability to achieve universal service. The question of affordability is an issue that threads its way through much of the subsequent universal access and service literature.

4.3.4 EC & OECD: The Cost of Universal Service Obligations

A duo of similarly titled[72] subsequent reports a few years later, commissioned respectively by the European Commission (EC, 1994) and the OECD (1995), served to take the formulation of international good practice forward. Both reports for the first time foreground and frame as their central issue the question of universal service obligations[73], something that was to become part of the canon of universal access and service interventions (Intven, 2000a, pp. 6-1 - 6-56).

The focus of the two reports marks a shift towards the question of specific, implementable universal service interventions of the kind that more properly constitute international good practice. Both reports remain squarely placed within the context of the debate as to whether a liberalising telecommunications landscape with the introduction of competition firmly on the agenda will spell the end of universal service. Both conclude that the introduction of competition is not antithetical to the achievement of universal service objectives or to the imposition of universal service obligations, stating variously that "there is no reason in principle why universal service obligations[74] cannot be satisfied in the framework of competition" (EC, 1994, p. 4), even that "prohibiting competition could serve, in fact, to impede progress towards universal service" (OECD, 1995, p. 5).

The OECD report is rather more explicit. It notes that the achievement of universal service goals has often been seen as antithetical to the introduction of competition, and, indeed, that this argument has often been exploited by monopoly providers as a justification for opposing market liberalisation. Its rejoinder is firm and forthright:

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[72] The reports are entitled 'Meeting Universal Service Obligations in a Competitive Telecommunications Sector' (EC, 1994) and 'Universal Service Obligations in a Competitive Telecommunications Environment' (OECD, 1995) respectively.

[73] The earlier OECD report (1991) does mention 'universal service obligations' in several places and via several different formulations, but provides no systematic treatment of the issue.

[74] It is perhaps worth noting that 'universal service obligations' is another concept in the field that has undergone a metamorphosis in meaning over the years. This will be discussed below. For the purposes of the OECD and EC documents under consideration here, the universal service obligation refers to the requirement for the incumbent (monopoly) telephone operator to provide a service to any customer requesting it, regardless of the cost of that provision. This was usually achieved by cross-subsiding uneconomic (eg remote or low usage) customers from the revenues earned of profitable (eg urban or high usage) customers. Such cross subsidies are not readily sustainable in a competitive market.

> *The primary conclusion of this study, therefore, is that competition and the achievement of universal service objectives are not mutually exclusive nor necessarily in conflict. With appropriate arrangements in place, competition rather than monopoly may still be the more appropriate structure to ensure the maintenance — or expansion — of universal service objectives and targets.* (OECD, 1995, p. 6)

It is again noteworthy that both reports once more draw on the academic epistemic community in their research and the formulation of their recommendations[75]. Both sets of authors also draw explicitly on the academic literature in the framing and justification of their arguments. Both reports also engage in the cross-country benchmarking approach which has already been noted as characteristic of international good practice literature[76].

Both reports engage in some consideration of what it is that constitutes universal service, its characteristics and criteria. The European Commission report is rather briefer, identifying four "policy perspectives" or "dimensions" that it sees as comprising universal service, viz:

> *(1) Achieving universal geographic coverage…*
>
> *(2) Offering residential services at geographically averaged prices…*
>
> *(3) Pursuing universal access through widely subsidised residential access...*
>
> *(4) Offering Targetted Telephone Subsidies (EC, 1994, pp. 6-13)*

In related vein the OECD report provides an extensive discussion of what it sees as five core "dimensions" or "constituent elements of the universal service objective", viz:

> *(a) Universal geographic access: subscribership and penetration levels…*
>
> *(b) Universal affordable access…*
>
> *(c) Universal service quality…*

---

[75] The European Commission report was jointly authored by Prof Martin Cave (Faculty of Social Sciences, Brunel University, UK), Claire Milne (Antelope Consulting, Woodford Green, UK) and Mark Scanlan (Faculty of Social Sciences, Brunel University, UK) (EC, 1994), while the OECD report was written by Patrick Xavier (Swinburne University of Technology, Australia), with one of its chapters prepared by Professor Martin Cave (Faculty of Social Sciences, Brunel University, UK) (OECD, 1995).

[76] The European Commission report covers: Australia, Finland, New Zealand, Sweden, United Kingdom and the US (EC, 1994); while the OECD report examines: Australia, Japan, New Zealand, the UK and the US (OECD, 1995, p. 17).

(d) Universal access by the disabled…

(e) Tariffs for universal service (OECD, 1995, pp. 36-49)

Both reports appear thus to be picking up on the concepts of geographic availability, non-discriminatory access, and affordability from the earlier (1991) OECD report, but not necessarily framing the issues with any greater clarity. Clearly ensuring both universal geographic coverage and consumer affordability for telecommunications services are common policy objectives and performance criteria in all three cases. However, the EC report in particular seems to focus on a number of specific pricing interventions as proxies for ensuring affordability.

Universal service obligations are explicitly framed as a central issue in both cases, in the context of 'public good' benefits to society and public interest notions of social equity. It is worth looking at their respective definitions of the concept.

According to the European Commission report, universal service obligations encompass those

> *services which an operator is required to supply and supplies efficiently, yet which impose losses upon the operator.*
>
> *Universal service obligations typically require a "basic service" to be provided at a specified quality of service. (EC, 1994, p. 5)*

The OECD report adopts a similar position, stating that

> *Usually these obligations constitute a requirement to provide basic telephone service to all who request it at a uniform and affordable price even though there may be significant differences in the costs of supply (OECD, 1995, p. 13)*

The definitions have in common their emphasis on the provision of 'basic' voice telephony services to (usually residential) consumers, together with their recognition that providing such services is likely to be loss-making. Implicit in both definitions is the fact that meeting the universal service obligation is likely to be unprofitable for operators in terms of both location and revenue, the two dimensions of the 'access gap' that will be discussed below. The cost of supply to remote, usually rural locations is high because of the distances involved. Conversely, income from less affluent customers with consequent low levels of usage is low.

The requirement imposed on an operator to provide telecommunications services to remote and often relatively impoverished communities and customers to meet public interest

objectives remains the essence of universal service obligations as understood within universal access and service good practice today (Intven, 2000a, pp. 6-19; Blackman & Srivastava, 2011b, p. 160).

Because of the uneconomic nature of universal service obligations, both reports devote considerable attention to an analysis and quantification of the costs of meeting such requirements, in each case devoting a full chapter to this exercise. Of more interest from our perspective, however, are the range of interventions they recommend which might support the sustainability of universal service obligations under competition.

Whilst remaining rather tentative in its recommendations, the EC report does make a number of suggestions drawn from the experience of its country case studies (viz Finland, New Zealand, Sweden, United Kingdom and the USA). These include:

- financing the universal service obligation from general taxation (which it rather discounts as a viable option);
- cross-subsidising the obligation via a levy on operator profits or on existing customers in order to fund loss-making customers (ie those where an "access deficit" is incurred) — a proposal that sounds uncannily similar to the 'access deficit charge (ADC)' of which India seems to have been the last remaining outpost (Financial Express, 2008), but one which may also have the seeds of the universal service fund levy;
- competitive tendering open to all operators for the provision of the universal service obligation — akin to the least-subsidy auction approach, of which Chile is perhaps the best known example (Wellenius, 2002);
- proposals for middle-income countries, including: restricting competition to certain market segments (eg international calls); a rather complex averaged access deficit calculation; or the award of "non-overlapping franchises", possibly subsidised, to provide services to unserved areas (EC, 1994, pp. 61-62) — a proposal that has some echoes of the under-serviced area licensing approach adopted much later in South Africa, and discussed extensively in a later chapter.

Although the later OECD report devotes a full chapter to a consideration of examples of universal service interventions in a number of countries (including Australia, Japan, but principally the United Kingdom and the US), its focus instead is on "providing a framework and set of principles for (re)considering the identification, costing, funding, reporting and monitoring of universal service which is applicable to OECD countries" (OECD, 1995, p. 16).

The proposed set of principles to assist in "designing an operational universal service programme" is useful in that it sets out a useful best practice approach rather than a recommended set of implementation options:

a) *Universal service objectives and coverage need to be clearly and specifically articulated;*

b) *Identify barriers to universal service;*

c) *Identify schemes which could cost-effectively address the identified barriers to universal service;*

d) *Estimate the cost of universal service programmes;*

e) *Consider the relative merits of alternative mechanisms for funding universal service;*

f) *Progress in universal service should be regularly and publicly reported;*

g) *Performance in universal service delivery should be regularly monitored and evaluated.* (OECD, 1995, pp. 135-139)

In both reports many of the proposals are derived from the assessment of practices adopted in the countries considered. A number of the conclusions, however, are on the vague side, and thus fall short of achieving a catalogue of international good practice.

However, as a result of the various reports examined above, universal service was now firmly on the agenda, in the context of a firmly liberalising telecommunications environment, with the focus now shifting to concrete policy proposals and regulatory interventions to ensure that it was achieved both in mature markets and in the developing country context[77].

4.3.5 Universal Service: Colour me Green in Africa

As the ITU sought further to hegemonise telecommunications reform, it issued what it was later to describe as a series of "flagship reports.... guidelines for governments embarking on

[77] The various chapters of a contemporaneous World Bank report, for example, make repeated mention of the imperative of universal service in their review of the experience of telecommunications reform across a wide range of country jurisdictions (Wellenius & Stern, 1994). Although its cross-country format lent itself to the development of international good practice, it strangely did not single out universal service as one of its key regulatory issues.

reform of the telecommunication sector and as a tool to practically assist regulators facing the many challenges encountered in promoting the sector" (ITU, 2011). Amongst these was the 'African Green Paper'[78], the development of which had been mandated by a resolution of the ITU's 1990 'African Telecommunication Development Conference', held in Harare. Self-consciously modelled on the European Union's own 'Green Paper' (discussed above), it mandated the ITU to "study and propose guidelines" in order to "elaborate and formulate suitable recommendations to the African countries [for an 'African Information and Telecommunication Policy and Strategy" (ITU, 1996a, pp. 80-81), and to inform both the OAU and PATU accordingly.

Approved in 1996 at the subsequent 'African Telecommunication Development Conference', held this time in Abidjan, the Africa Green Paper was relatively circumspect in its recommendations. Making much of the need for co-operation across the continent at various levels, it defined the "principal challenge" facing Africa as the need to "adapt the sector in a coherent and systematic manner to market forces". At various points it refers to:

Figure 4.4: African Green Paper: Cover

Source: (ITU, 1996a)

- The "creation of a separate national body for the regulation of telecommunications";
- The "initial opening to regulated competition of market segments for which demand remains to be satisfied"[79];
- The operational "separation of postal and telecommunication services";
- Measures to "improve the operational efficiency and productivity of Public Telecommunication Organizations (PTOs)". (ITU, 1996a, p. 4)

What are now seen as the main pillars of telecommunications reform are all there, albeit that the contentious (to this audience) notion of privatisation receives the barest of mentions as something that "may be a useful tool among others" (ITU, 1996a, pp. 3-10).

Perhaps surprisingly, given the low levels of teledensity across Africa at the time, the consideration of 'universal service' is scant and weak. The document only considers the

[78] Others included 'Telecommunication policies for the Arab Region - The Arab Book', and 'Telecommunication Policies for the Americas: The Blue Book'.

[79] It further qualified its relatively timid and "prudent approach to liberalization" based on a "study all of the advantages and disadvantages of maintaining a monopoly on basic infrastructures and services".

concept in relation to the "provision of the basic telecommunication services (such as telephone and telex services)… covering the whole geographical area… [and] provided on demand to all users" (ITU, 1996a, p. 38). Universal access, already on the horizon as an issue, receives nary a mention. Universal service obligations are viewed solely in relation to the incumbent "PTO" (ITU, 1996a, p. 41).

The African Green Paper does not appear to have had a great deal of direct influence, despite being cited by Mokgosi, along with the WTO and TRASA, amongst the "international instruments and organisations" influencing and setting a precedents for the regulation of the ICT sector in South Africa (Mokgosi, 2006, p. 107), although its own listing of some 29 sub-Saharan African countries with prior ITU-assisted telecommunications "master plans" (ITU, 1996a, p. 145) does suggest a considerable degree of influence. It is likely, rather, that the African Green Paper was subsumed in the welter of contemporaneous developments, including as the launch of the African Information Society Initiative (AISI) under the umbrella of the United Nations Economic Commission for Africa, and the Information Society and Development (ISAD) Conference, both in the same year. The pressures towards sector reform on African countries were manifold and multilateral.

Universal access and service began slowly to surface more strongly in the ICT sector reform discourse, although the concept was not without its detractors. For example, Mustafa, Laidlaw and Brand were dismissive of the notion, largely on the basis of its prohibitive costs, stating baldly that, for "low-income countries, providing universal service, as commonly understood, is impossible" (Mustafa, Laidlaw, & Brand, 1997, p. 32). The African Information Society Initiative was, on the other hand, according to the hindsight assessment of Nancy Hafkin, its founding director, considerably more sanguine: "from its inception, AISI was concerned with creating universal access to ICT in Africa, emphasizing public over individual access" (Hafkin, 2002, p. 118).

4.4 Globalising Good Practice

Globally, universal service, as shown above, first really came to prominence within the context of a number of processes that were changing the nature and face of the global regime governing telecommunications. On the one hand were the set of changes associated with the ITU reform movement that placed liberalisation firmly on the table and that positioned the ITU to fulfil a normative role with respect to sector reform in the face of developing country concerns. On the other, were the Uruguay round of multilateral trade negotiations

that commenced in 1993 and culminated in the 1996 WTO General Agreement on Trade in Services (GATS) and its associated Agreement on Basic Telecommunications Services and the Regulatory Reference Paper.

The formulation and tabling of the various OECD, EC and other reports discussed in the previous section clearly shows that there were mounting pressures for a shift of policy in the direction of liberalisation. The two more recent of the reports were issued after the Uruguay round of negotiations had already kicked off in 1993. The reports also clearly reflect the tensions between the social objective of retaining the universal service imperatives and the market drive towards the introduction of competition, and form part of a process of rethinking the most appropriate policy mix — and that not only in respect of universal access and service.

As shown above, the pressures to liberalise the telecommunications sector and to introduce competition, provoked a defensive response on the part of countries and monopoly providers, who argued that this would undermine the objective of achieving universal service. It was therefore necessary for those arguing for telecommunications reform to demolish this argument by showing that competition and universal service were in practice not incompatible. It was then necessary to demonstrate, as the two universal service obligations studies attempted to do, that there were a range of mechanisms available to policymakers which would serve to ensure that the goal of universal service could be sustained or achieved under conditions of market competition. Many of these were, as already noted, relatively embryonic in articulation, and would require further engagement on the part of policymakers with identifying and setting out what might be considered international good practice in relation to universal service.

It is worth stressing again the normative trend within the institutions comprising or allied to the telecommunications regime as they sought to formulate and disseminate a cluster of international good practice prescriptions, something that will be further discussed below. The role of largely academic epistemic communities is also, as has been noted, a significant one, with academics prominent in the drafting of many of the studies, and academic sources featuring in the various report bibliographies, and many reports resurfacing, repurposed as academic journal articles. Drawing on the literature of policy transfer, one can characterise the international good practice normative regime sketched in this chapter as one distinct from an enforced "coercive transfer" of policies and practices, and as rather one tending far more

towards ensuring diffusion through a "lesson-drawing" approach (Dolowitz & Marsh, 2000, p. 5).

Rather more on the prescriptive policy transfer end of the scale are the instruments of the WTO component of the international telecommunications policy regime. Whilst the Agreement on Basic Telecommunications Services puts the weight of the WTO behind the imperative to liberalise telecommunications markets, the Regulatory Reference Paper can be viewed as an attempt to institutionalise and grant quasi-legal status to international good practice in the regulation of telecommunications. Currently assented to by 82 of the WTO's 160 member countries, the Regulatory Reference Paper commits them to adhering to a broad and fairly generalised set of regulatory principles covering competitive safeguards, interconnection, universal service, public availability of licensing criteria, independent regulators and the allocation and use of scarce resources (WTO, 1996b).

Despite its normative intention and standing as an instrument of policy transfer, the Regulatory Reference Paper is a document that remains relatively circumspect and unspecific in respect of universal service, merely stating that:

> *Any Member has the right to define the kind of universal service obligation it wishes to maintain. Such obligations will not be regarded as anti-competitive per se, provided they are administered in a transparent, non-discriminatory and competitively neutral manner and are not more burdensome than necessary… (WTO, 1996b, p. Clause 3)*

While, on the one hand, this may have served to ensure that universal service became part of mainstream regulatory practice at a global level, the criticism of commentators like Fredebeul-Krein and Freytag that the 'universal service' provision is "by far not detailed enough" and the "main shortcoming of the regulatory framework" (1997, pp. 490-491), must be conceded.

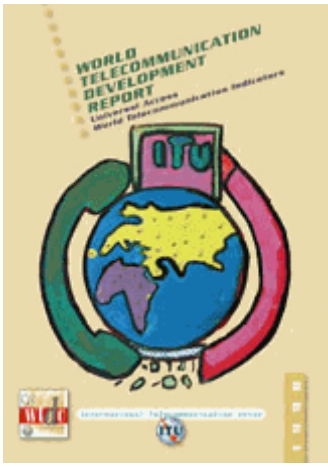
4.4.1 ITU: From Universal Service to Universal Access

The 1998 publication of the ITU's fourth World Telecommunication Development Report, which was tabled at the ITU's second World Telecommunication Development Conference,

held in Valletta, Malta (ITU, 1998, p. 1)[80], marked a qualitative shift in establishing a more comprehensive canon of international good practice in relation to universal access and service.

Tim Kelly, who had joined the ITU in 1993 and who was one of the authors of the report, suggests that the World Telecommunications Development Reports should be viewed as a series focused on developing a canon of international good practice (interview, 27 October 2014). The previous report had dealt with the trade in telecommunications issues emerging from the WTO negotiations; its successor focused on the rise of mobile telephony. He describes this report as a "transitional one, which looked at different schemes that had been tried to achieve universal service, like telecentres… [which] were not successful", noting that "already it was clear that mobile telecommunications was the best way to extend universal service" (interview, 27 October 2014.

Figure 4.5: WTDR 1998 - Universal Access



Source: (ITU, 1998)

Nonetheless, this report serves as a landmark in relation to universal access and service. It provides the first explicit formulation of the concept of universal access as a policy objective for developing countries, explicitly distinguishing it for the first time from the more established concept of universal service. The categorisation of these two concepts and their differentiation remains a fundamental tenet within the field to this day (SADC, 2011, p. 5).

Universal service, as defined by the ITU in this report, is "focused upon connection of individual households to the public telephone network", and is viewed as a policy objective more appropriate to developed countries (1998, p. 61).

The objective of universal access policy, by contrast, is to ensure that "everyone, at home or at work, should be within a reasonable distance of a telephone" (ITU, 1998, p. 61), and is viewed as a policy objective more appropriate to developing countries.

[80] The 1998 World Telecommunication Development Conference was held in Valletta, Malta (23 March - 1 April) as the third such conference by ITU-D's Telecommunication Development Bureau. These conferences now take place every four years. The keynote address to the Valetta conference was delivered by Sir Donald Maitland.

The report thereby provides the basis for definitional distinctions that remain current today, with universal access focused on widespread community-level, shared access, and universal service focused on individual or household level, private access.

Sadly and strangely, the report proffers no substantive clue as to the derivation or genealogy of the concept of universal access that it is so instrumental in placing on the table. The closest it comes is via a box in the introduction referring to the 'Statement on Universal Access to Basic Communication and Information Services' issued in April 1997 by the UN Administrative Committee on Coordination (ACC) (ITU, 1998, p. 10). This statement in turn is firmly rooted in the policy tradition of the digital divide focus on disparities in access to the broad range of ICTs (including both the Internet and telephony) and derives from the AAC's "decision to embrace the objective of establishing universal access to basic communication and information services for all" (UN, 1997, p. Para 7). Interestingly, it does touch on the universal access vs service distinction made explicit in the later ITU report: "universal access in basic communication and information services to the developing world would thus make it advisable to focus on the community level . . . rather than the household or individual level" (UN, 1997, p. Para 14).

There are some suggestions of the origins of the concept in some of the earlier academic and expert literature. The definition adopted by Wellenius and Stern for 'universal service', for instance, implicitly points to the notion of 'universal access' as a more appropriate policy goal for developing countries, but without using the term:

> ***universal service.*** *The concept that every individual 'within a country should have basic telephone service available at an affordable price. The concept varies among countries, from having a telephone in every home and business in the wealthier countries to most inhabitants' being within a certain distance or time away from a public telephone in developing countries. (Wellenius & Stern, 1994, p. 744)*

Where the concept appears in the academic literature, it is often used loosely as a synonym for 'universal service' or in the context of ensuring access to the Internet and the information society (Clement & Shade, 1996; Compaine & Weinraub, 1997). Drawing on Compaine, Xavier[81] elaborates the notion of "public access… to the networks and services of the information society" and proposes "public access points" as means of achieving this (Xavier,

[81] Principal author of the 1995 OECD report on universal service obligations (OECD, 1995).

1997, p. 837). Former Director General of Communications, Andile Ngcaba, who was active in the ITU at the time, is unclear as to the origins of the concept, ascribing it to a "collective effort", although he does count himself a "firm advocate of the idea" (interview, 28 January, 2015).

Drawing on and citing from earlier work by Milne on developmental stages in the progress towards universal service (also used in (EC, 1994), and later published academically – (1998)), this distinction between universal access and universal service forms the basis for a series of recommended differential policy interventions (ITU, 1998, p. 65ff).

It also articulates clearly and precisely for the first time the formulation of availability, accessibility and affordability that was to remain the mantra of universal access and service policy for more than 15 years:

- ***Availability.*** *There should be nationwide coverage of telephone service, wherever and whenever required;*
- ***Accessibility.*** *Users should be treated alike; there should be non-discrimination in terms of price, service and quality, irrespective of geographical location or race, sex, religion;*
- ***Affordability.*** *Telephone service should be priced so that most users can afford it. (ITU, 1998, p. 63).*

As the discussion above noted, geographic availability and pricing affordability had regularly featured in the preceding studies on universal service from the EC and the OECD. The dimension of 'accessibility' appears to bring together concerns to ensure uniform quality and service, provision of services for disabled users, and geographically averaged tariffing. It is only very recently that changes have been proposed to this formulation, with Msimang arguing, rather tentatively it must be said, for the addition of two further dimensions in relation to universal access and service with respect to broadband - 'awareness' and 'ability':

> *In addition, "awareness" and "ability" are fast becoming central tenets of universality as the Internet and broadband services are included in the scope of universal service, and access enabling the use of ICTs is a factor. (Msimang, 2012, p. 83)*

Msimang credits the genesis of these potential additional dimensions for universal access and service to a recent ITU school connectivity project workshop in Tanzania, when lack of

computer skills (ability) and lack of understanding which Internet browser icons to use (awareness) surfaced as impediments to access (interview, 7 November 2014)[82]. These are clearly more information society concepts, and it remains to be seen whether they will be adopted more widely.

For developing countries, the 1998 report recommends that it should be universal access that occupies centre stage in policy and regulation, with universal service more appropriate for developed countries. At this stage, these policy and regulatory interventions were still relatively under-developed, and the report's specific recommendations include the imposition of operator obligations, cross-subsidies, access charges[83], the establishment of universal service funds, and financial assistance to needy users (ITU, 1998, pp. 86-90).

This time the report draws on an epistemic community largely internal to the ITU: the authors - Michael Minges, Dr Peter Lovelock, and Dr Tim Kelly - were all senior staffers within the ITU at the time. Michael Minges and Peter Lovelock also had several academic journal articles to their credit. The report was edited by Dr Colin Blackman, then editor of the leading journal in the field, the prestigious *Telecommunications Policy*.

Universal access has continued to be mentioned in every edition of the ITU's (approximately) annual report, 'Trends in Telecommunication Reform', from 1999 onwards, either in specific sections or chapters, or in relation to other substantive policy and regulatory issues or challenges.

4.4.2 ITU: Practical Universal Access Tools for Regulators

Universal access and service policy and regulation was again specifically revisited in far greater depth by the ITU a few years later, when the 2003 edition of *Trends in Telecommunication Reform* was entirely devoted to providing policy-makers and regulators with a "well-developed tool kit . . . to address the true access gap that remains unbridged even after sector reforms occurred" (ITU, 2003b, p. 124), while at the same time recognising "many experiments and attempts to find working models to achieve universal access and, beyond that, universal service" " (ITU, 2003b, p. 125). Detailed best practice recommendations from the report

[82] Interestingly, her suggestion is borne out by a recent Stats SA report analysing 11 years of household survey data, which rates "lack of knowledge / skills / confidence" as the single biggest reason (38,6% of respondents) for not having access to the Internet at home or via a mobile device (Stats SA, 2015, p. 49).

[83] More commonly referred to nowadays as 'access deficit charges'.

included: strengthening ICT sector reform; establishing universal service funds; using minimum subsidy auctions; and promoting telecentres (ITU, 2003b). This edition of *Trends in Telecommunication Reform* was the product of an even more diverse team than its predecessor, most of them either ITU staffers (Doreen Bogdan-Martin, Michael Minges, Susan Schorr, Nancy Sundberg, Tensin Tobgyl) or ICT consultants, many of whom had done work for the ITU (John Alden, Andrew Dymond, Sonja Oestmann, Mandla Msimang, Edgardo Sepulveda, David Townsend), with Dr Michael Best, then at MIT, the lone academic. Many of them continue to be active in the field of ICT policy and universal access and service to this day.

International good practice for universal access and service policy has continued to remain a focus of policy research and regulatory recommendation. More recently an ITU-commissioned report examined global trends in relation to universal access and service policies (Maddens, 2009). Proceeding from the range of current universal access and service "mechanisms, including market reform, the imposition of universal service obligations on certain or all market players, the designation of universal service providers, the financing of universal service obligations, the creation of Universal Service Funds, as well as through innovative measures such as public-private partnerships, business-NGO partnerships, etc", the report seeks to develop an "effective framework" (Maddens, 2009, pp. 2-3) of policy and regulatory best practice. This included: ensuring a proper institutional framework; defining universal access and service; imposing universal service obligations; strengthening regulatory reform; ensuring a multi-pronged approach in pursuit of universal access and service; and establishing mechanisms to finance universal access and service, including a universal service fund (Maddens, 2009).

Figure 4.6: Trends in Telecomm Reform 2003 - Practical Tools to Regulate UAS

Source: (ITU, 2003b)

Based on this approach, an ITU-funded project undertook an assessment of universal access policy and practice for the countries affiliated to the Communication Regulators' Association of Southern Africa (CRASA) in relation to international best practice (Lewis & Maddens, 2011).

The project resulted in two further good practice documents, a set of policy and regulatory guidelines in respect of universal access and service for the Southern African Development Community (SADC, 2011) and a toolkit for the establishment and operationalisation of universal service funds (ITU, 2011).

From the account in this section it is clear that there was an ongoing, substantial effort to derive a relatively coherent set of guidelines in respect of policy and regulation pertaining to universal access and service in the ICT sector. Driven by the need to ensure that the objectives of universal access and service are sustained and achieved under conditions of ICT sector liberalisation, principally the with introduction of competition, most of the guidelines derive from the body of international good practice, much of which emanates from multilateral institutions such as the OECD, the WTO and the ITU.

Although it is not a tightly prescriptive body of practice, there are certain common threads and strands that run through it. Two features stand out in common across many of the recommendations from 1998 onwards[84]:

1. The imposition of universal service obligations upon operators, usually by means of licence conditions;

2. The creation of a universal service fund to finance access interventions in uneconomic areas.

It can be argued that there is a considerable overlap between the dimensions of availability, accessibility and affordability that was discussed earlier, and the two core good practice precepts identified above. However, the overlap is not a simplistic one. In each case, the intervention recommended can be shown to address more than one of the dimensional issues.

Before turning to an examination of international good practice in the context of ICT sector reform, it is useful to consider the concept of the 'access gap', which, like the notion of availability, accessibility and affordability, forms a conceptual underpinning to the various policy interventions, and shapes their application in practice.

[84] Both continue to feature as key components of international good practice today (SADC, 2011; ITU, 2013).

4.5 Mapping the Access Gap

Both the mandate of ensuring universal service and the goal of achieving universal service imply some form of access gap between those users who already enjoy the benefits of telecommunications services and those to whom, for reasons of equity, the public good or economic welfare, policy-makers seek to extend the benefits of fixed and mobile telephony, the Internet and high-speed broadband. The notion of an access gap, to some extent, therefore, attempts to conceptualise, quantify and map the digital divide in respect of universal access and service. Like many of the issues and concepts discussed in the previous section, it too has evolved over the years.

A number of analysts have attempted to map the gaps in universal access and service over the years. Amongst the first were Tyler, Letwin and Roe in briefing report examining regulation and universal service, which was prepared for the ITU's second regulatory colloquium in December 1994 (ITU, 1994c)[85]. Drawing on 12 country case examples (including South Africa[86]), the report, *inter alia*, seeks to identify and plot the "logical distinctions between different categories of current telecommunications users and potential future users" (1995, p. 5) - see Figure 4.7 below).

The primary axis of the diagram is that of affordability, although there is some disaggregation to cater for those in rural areas or affected by disability.

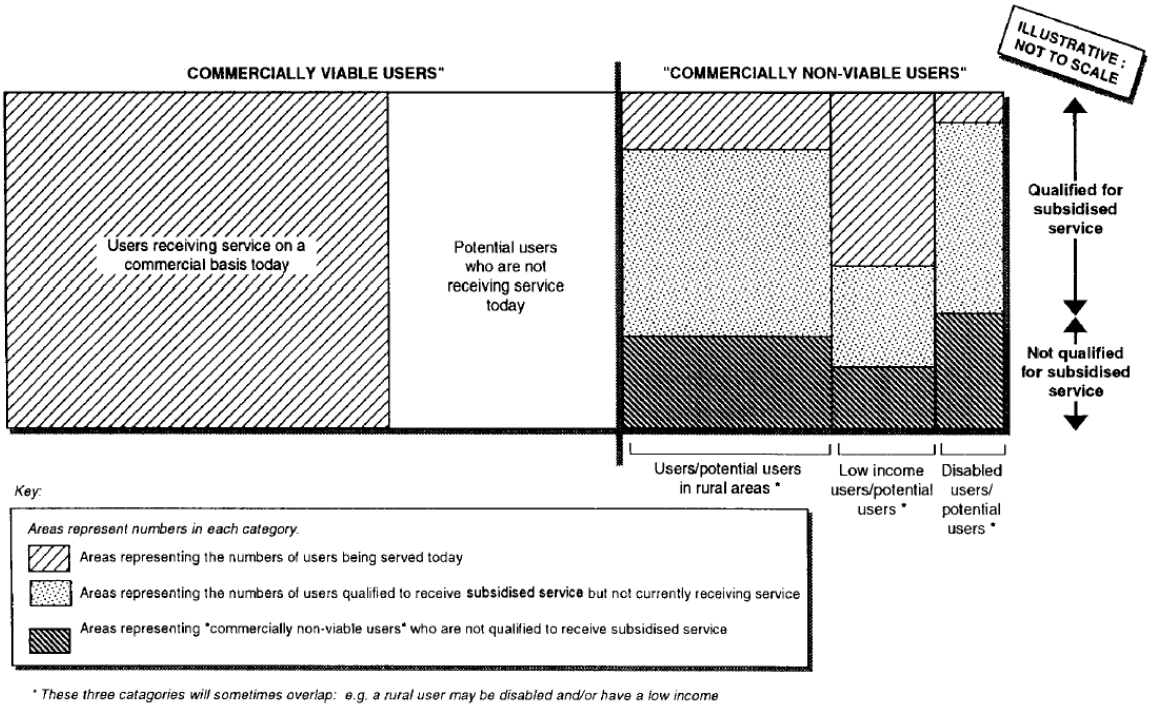
What is valuable in this analysis is the distinction between those users who are "commercially viable" and those who are "commercially non-viable", which implies that, properly managed and regulated, the market can serve a number of users who are currently not receiving service. The consequent implication of the need for a market-enabling policy and regulatory environment to promote universal access and service is a question that comes more specifically to the fore in later iterations of the 'access gap' diagram as discussed below. Further the identification of users who currently do not qualify for support also points to an important area for universal access and service intervention. As Tyler, Letwin and Roe point

[85] Their full report, entitled 'The Changing Role of Government in an Era of Deregulation, Universal Service and Innovation: Fostering Linked Goals through Regulatory Policy' is not readily publicly available. The discussion which follows draws instead on the subsequent academic journal article which appeared in *Telecommunications Policy* the following year.

[86] Tyler, Letwin and Roe acknowledge the assistance of Andile Ngcaba, then heading up the ANC's telecommunications think tank, the CDITP.

out, their model aims to examine "how cost-effectively resources are or could be applied [sic] to achieving those targets, and thus address the problem of choosing the right economic means for bringing telecommunications to each different segment of potential users (1995, p. 6). In other words, modelling the 'access gap' is both a diagnostic tool and an intervention map. The model, however, is essentially one-dimensional, and fails to include indicators that further categorise those without telecommunications service.

Figure 4.7: Commercially Viable vs Non-viable Users



Source: (Tyler, Letwin, & Roe, 1995, p. 5)

Tyler, Letwin and Roe go on to debate the appropriate degree of regulatory oversight (from "broad oversight" to "detailed direction") of universal service obligations, as well as a variety of mechanisms to cross-subsidise the rollout of services to 'commercially non-viable users'.

The conceptual framework of 'availability, accessibility, affordability' can again be found in Tyler, Letwin and Roe, who suggest four methods of achieving the goal of 'universal service', viz:

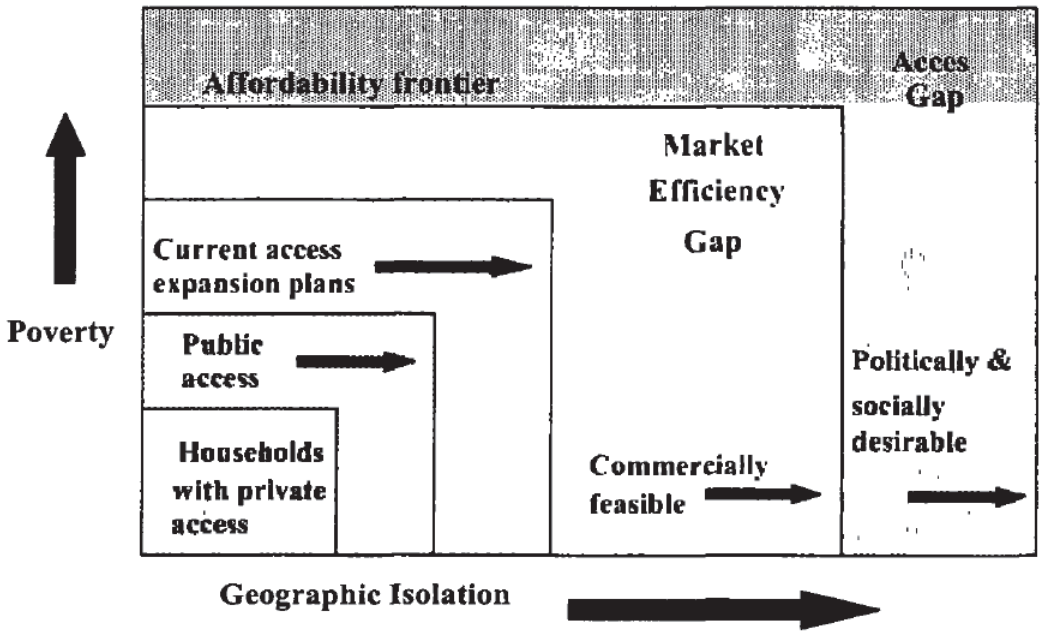
> *Extending the PSTN to unserved areas….*
>
> *Making telecommunication services 'affordable' for low-income households….*
>
> *Making telecommunication services usable and affordable for disabled persons….*

Meeting unsatisfied demand for access lines. (Tyler, Letwin, & Roe, 1995, p. 4)

The two main features extrapolated from the good practice literature above, namely universal service obligations and a universal service fund receive some attention, with the level of intervention in respect of the former being debated, and the latter mentioned as one example of a means to provide cross-subsidies to support non-viable users. This is in part a consequence of the report's aversion to the normative prescription of 'international good practice" because of the need to ensure that objectives and interventions are grounded in and derived from the circumstances specific to each country. In the words of the report: "the 'pros and cons' of these alternatives are so specific to the regulators' operational and institutional circumstances that it is not useful to attempt to offer any general summary" (Tyler, Letwin, & Roe, 1995, p. 20).

A later 'access gap' model developed by Navas-Sabater, Dymond and Juntunen for a study commissioned by the World Back and published as a discussion paper (2002) takes an important step forward in aligning the 'access gap' model more closely with some of the standard axes of the digital divide (Figure 4.8 below).

Figure 4.8: The Access Gap (2002)



(Navas-Sabater, Dymond, & Juntunen, 2002, p. 8)

Their model is likewise aimed at providing a diagnostic tool aimed at providing targeted normative guidance for policy-makers and regulators. Analytically more complex than the

diagram of Tyler, Letwin and Roe, and using slightly different terminology, it instead maps two key "dimensions — poverty and geographic isolation" that account for and align with lack of access to telecommunications services (Navas-Sabater, Dymond, & Juntunen, 2002, p. 8). This allows the telecommunications market to be segmented into "commercially feasible" users, and those subject to the "access gap". These are users who are too remote or too poor to be commercially feasible, but where access remains desirable for political and social reasons.

In the former case access can be provided by means of the standard and "well-known set of policy and regulatory measures" that serve to promote the efficient functioning of the market, including competition, privatisation and regulation (Navas-Sabater, Dymond, & Juntunen, 2002, p. 7). The central plank for interventions to address the 'access gap', in turn, is seen to lie in the establishment of a universal service fund, from which "smart subsidies[87]" can be deployed to support service rollout and to subsidise poor users (Navas-Sabater, Dymond, & Juntunen, 2002, p. 34ff).

The report shares the cross-country comparative analysis focus common to much of the international good practice literature, and forms part of an explicit normative policy transfer approach by the World Bank to ICT sector reform and to universal access and service in particular. In support of this "key strategic direction" the Bank sets out to provide "advice and technical assistance on policy measures, and [to provide] targeted and selective financing that leverages substantial private investment" (Navas-Sabater, Dymond, & Juntunen, 2002, p. v). The authorship of the report is anchored within the World Bank where Juan Navas-Sabater worked as a Telecommunications Specialist, and includes telecommunications consultant Nina Juntunen, but shows some overlap with the broader epistemic community in the person of Andrew Dymond.

The study discusses a wide range of possible universal access and service interventions, which it summarises into a complex framework under three broad categories, viz: "US/UA Obligations" imposed on a mix of licensees (which are not an approach favoured by the Bank); what it terms "Retail Schemes" (including pay-phone operators, phone shops and telecentres); and "Funding Mechanisms" (principally the establishment of a USF, but also including the use of cross-subsidies and interconnect fees).

[87] The report explicitly equates this with a least subsidy auction approach, in which bids are evaluated in relation to the level of subsidy requested from the USF. The bid with the lowest subsidy requirement scores the highest.

It is unfortunate that Navas-Sabater, Dymond and Juntunen fail to provide either the derivation or full analytical justification of their model, since it continues to hold sway within international good practice (ITU, 2003b, p. 59; Blackman & Srivastava, 2011b, p. 157). As Andrew Dymond remarks, "virtually everyone seems to use the basic concept now" (personal communication, 19 November 2014).

The origins of the latter diagram remain somewhat elusive. ICT consultant David Townsend suggests it was rooted in the broader epistemic community of academics and consultants working on universal access and service: "its origins are somewhat obscure, as there was an evolving set of ideas around these concepts for several years, and a variety of versions of the diagram were utilized in various documents by different experts" (personal communication, 12 February 2015). Andrew Dymond suggests the access gap diagram was developed for the first time for the paper, which was written in July 2000. He attributes its origin to Juan Navas-Sabater who, he says, "initially put the concept down onto paper in an informal meeting we had when we planned the publication" (personal communication, 19 November 2014). Dymond further suggests their diagram was developed independently: "I don't think I knew anything about the Tyler, Letwin and Roe [paper], so there was no known influence, unless Juan has picked that up before we came up with our model" (personal communication, 20 November 2014).

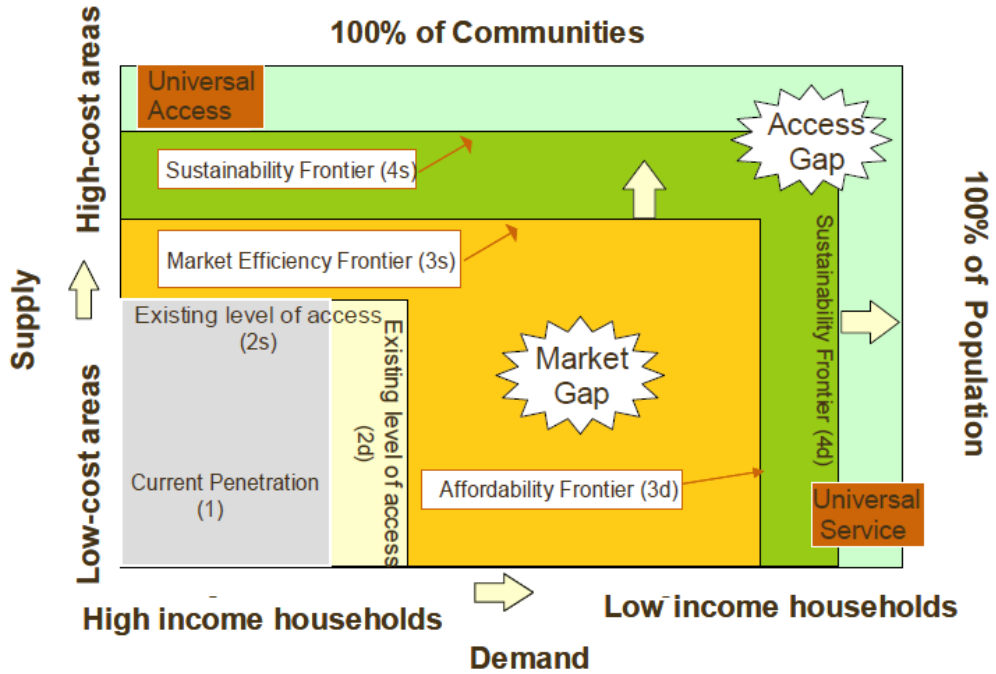
A somewhat different version and more technicolour of the access gap model (see Figure 4.9 below) appeared a few years later in a study[88] evaluating the experience of universal access and service programmes in Latin America and making recommendations for future interventions.

The similarities with the preceding 'access gap' are evident, although the axes of the diagram differ, as does some of the terminology. The two principal axes of supply and demand are interesting, in that 'supply' seeks to align itself with the established concept of 'availability', for the 'geographic isolation' of the previous diagram, and that 'demand' seeks to align itself with the established concept of 'affordability', or the 'poverty' of the previous diagram. Further, it is suggested that universal access programmes tend to focus on supply-side interventions (such as universal service obligations, and USF-supported service rollout), but

[88] The study was undertaken by a team of three international consultants, led by Peter Stern, and supported by local consultants. It was commissioned by the World Forum of Latin American Telecommunications Regulators (Regulatel) and funded principally by the World Bank.

that attention increasingly needs to focus on demand-side stimulation which supports the long-term goal of universal service (Stern, Townsend, & Monedero, 2006, pp. 8-14).

Figure 4.9: The Access Gap (2006)



Source: (Stern, Townsend, & Monedero, 2006, p. 8)

David Townsend, with the qualification of the concept being current within the epistemic community, claims authorship of the diagram as one based on his "own version, which [he] substantially modified in the context of the World Bank / Regulatel 2003-05 study… [and which he has] been using and improving… ever since" (personal communication, 12 February 2015)

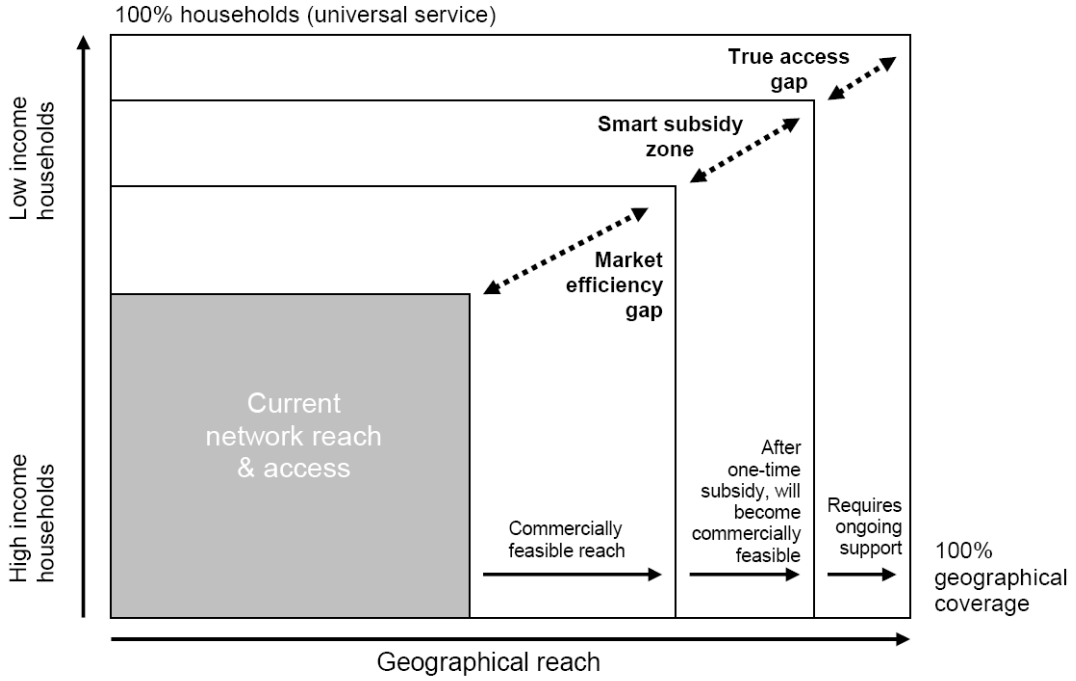
The report's recommendations cover three broad areas:

1. *Update and redefine universal access and establish new goals…*
2. *Accelerate, simplify and diversify the use of universal access funds…*
3. *Implement legal, regulatory and institutional reforms to close the market efficiency gap… (Stern, Townsend, & Monedero, 2006, pp. 13-20).*

Aside from strengthening ICT sector reform through ongoing privatisation, strengthened sector regulation and greater competition, and the need for greater conceptual and definitional clarity, the use of universal service funds remains the centrepiece of policy and regulatory intervention.

Further development of the Navas-Sabater, Dymond and Juntunen 'access gap' model took place at the hands of Andrew Dymond's Intelecon Research (infoDev, 2009). Its primary improvement (see Figure 4.10 below) is the distinction beyond the 'market efficiency gap' between those potential users who can secure access through some form of one-off intervention (the "smart subsidy zone") and those who require ongoing support and intervention (the "true access gap") (infoDev, 2009, pp. 10-12).

Figure 4.10: The Access Gap (2009)



Source: (infoDev, 2009, p. 10)

Although not acknowledged as such (the context within an online training resource does mitigate against this), it is likely that the notion of the 'smart subsidy zone' is at least in part derived from Townsend's concept of the 'sustainability frontier'. The notion of commercial feasibility on the back of a one-off universal access intervention is essentially the same in both cases.

The version of the 'access gap' diagram reproduced above continues to appear in and inform international good practice literature to this day (Blackman & Srivastava, 2011b, p. 157; Msimang, 2012, p. 84).

4.6 Conclusion

The analysis, therefore, shows that ICT sector reform was a complex process, driven principally by technological changes that undermined the monopoly rationale in the telecommunications sector, and by the demands of business interests seeking to exploit the benefits enabled by the combination of computing and information technologies, coupled with advances in telecommunications services. The changes in the existing telecommunications regime were primarily driven through the existing multilateral institutions such as the OECD and the EU, and then globally through the International Telecommunication Union (ITU), and through the formation of the World Trade Organisation (WTO), and influenced by the World Bank.

If the WTO regime drove the broad ICT sector reform agenda, and raised the question of how signatories should to comply with the new market imperatives through privatisation of monopoly incumbents, and through introducing competition and establishing independent regulation, it was the ITU that supplied the international good practice solutions.

This set of sector reforms in turn raised the question of how to meet the non-market imperative of universal service, with many jurisdictions using the universal service imperative as a justification for retaining the status quo, so much so that universal service has been described as the "fig leaf of the monopolist" by one World Bank economist (Tim Kelly, interview 27 October 2014).

This in turn led to the sustained international development of a set of good practice interventions, in order to demonstrate how the delivery of universal access and service is fully compatible with a competitive marketplace. Drawing on concepts like availability, accessibility and affordability, on the distinction between universal access and universal service, and on the notion of the access gap, this recommended, principally:

- The imposition of universal service obligations upon licensees;
- The creation of universal service funds to finance access and service projects.
- The adoption of a range of implementation models, including telecentres, least subsidy auctions and licensing of rural operators.

There was clearly involvement from a broader epistemic community in the development of that set of international good practices, with figures like Garnham, Xavier and Milne party to

much of the formulation. Many of these people knew each other, and interacted and worked with each other.

Despite the caveats from Milne (1998) and Tyler et al (1995) that policy-makers should base their interventions upon in-country realities, this remains essentially a policy transfer regime. The analysis will now move on to how that policy was transferred and diffused to South Africa, how it was adopted and adapted in the specific country context.

5 Universal Access and Service in South Africa's Telecommunications Policy

South Africa had been excluded from the ITU in 1965 as a consequence of its racially exclusive and oppressive *apartheid* policies. This was a good many years before the pressures catalogued in the preceding chapter began to reshape the international telecommunications regime, and before the march of privatisation, competition and regulation began to change the face of the ICT sector through the process of 'telecom reform'. Coupled with the country's growing sporting, cultural and political isolation, along with its increasingly problematic economic ties with Africa in particular and the world in general, this meant that South Africa was to a degree insulated from the changing face of international telecommunications, from the reformulation of its governing institutions, and from the pressure to conform to international good practice.

However, South Africa was not immune from the developments outlined above. A number of the pressures driving the changes were also present in the South African market. And, once South Africa began to move down the hesitant and often highly conflictual path to democracy, post-1990, ICT sector reform was firmly on the cards. It was, however, only after the country's first democratic election, in April 1994, that reform of the sector became a concrete reality. It was, though, to be a transition to ICT sector reform unlike any other - driven by a new ANC government with limited experience, facing a deeply suspicious business sector and a hostile bureaucracy.

It is the unfolding shape of that reform that this chapter examines[89], and, more particularly the place of universal access and service policy formulation within it. It is a story that encompasses profound regime change - at the political level, to a degree within the economy, and across the ICT sector, its institutional framework, and the principles, norms and procedures that govern it. It is also a story of policy transfer, with international good practice being the source of much that was put in place, alongside a degree of policy innovation.

[89] For a much fuller treatment of sector reform in South Africa, particularly during the transition to democracy, see Robert Horwitz's seminal work, Communications and Democratic Reform in South Africa (2001).

5.1 The *Ancien Regime*: Telecommunications under *Apartheid*

The structure of the telecommunications sector in South Africa in the early 1980s was little different from what prevailed in most other countries in the world at the time. In addition, it was a substantial market, then the 15th largest in the world (Kaplan, 1990). Services were provided by an integrated state-owned monopoly, South African Posts and Telecommunications (SAPT), which was responsible for both postal and telecommunications services. Not only was this in line with established global practice at the time, it was also part of the Afrikaner nationalist government's post-1948 strategy of continued state involvement in the economy, *inter alia* through a number of such public entities or parastatals[90], both in order to direct and intervene in the economy and in order to provide employment for its 'white' Afrikaner constituency.

This arrangement was governed by the 1958 Post Office Act, under which postal and telecommunications services were provided by a vertically and horizontally integrated Post Office monopoly. It was a system built upon cross subsidies, both from telecommunications to postal services, but also, as in most of the rest of the world, from business telephone users to personal subscribers, and from urban subscribers to rural ones, as well as from international calls to local calls. For example, telecommunications accounted for 80% of the total revenue of the SAPT, and just "6% of all telephone subscribers, of which approximately 78% [were] business telephone subscribers and 22% residential telephone subscribers… [contributed] 50% to the total telephone service revenue" (de Villiers, 1989, p. 60 & 8).

As a vertically-integrated monopoly telecommunications provider, SAPT also created an upstream monopsony for equipment supply, including customer premises equipment (CPE, eg telephone instruments and PABX equipment). This was partly due to South Africa's inward industrialisation policy, driven by the National Party government, with Afrikaner capital and mining capital the chief beneficiaries, and partly a consequence of the growing pressure of sanctions (Kaplan, 1990).

The SAPT also functioned very effectively through the *apartheid* policy of 'job reservation' (legislation which precluded the employment of 'African' in specified categories of skilled work)

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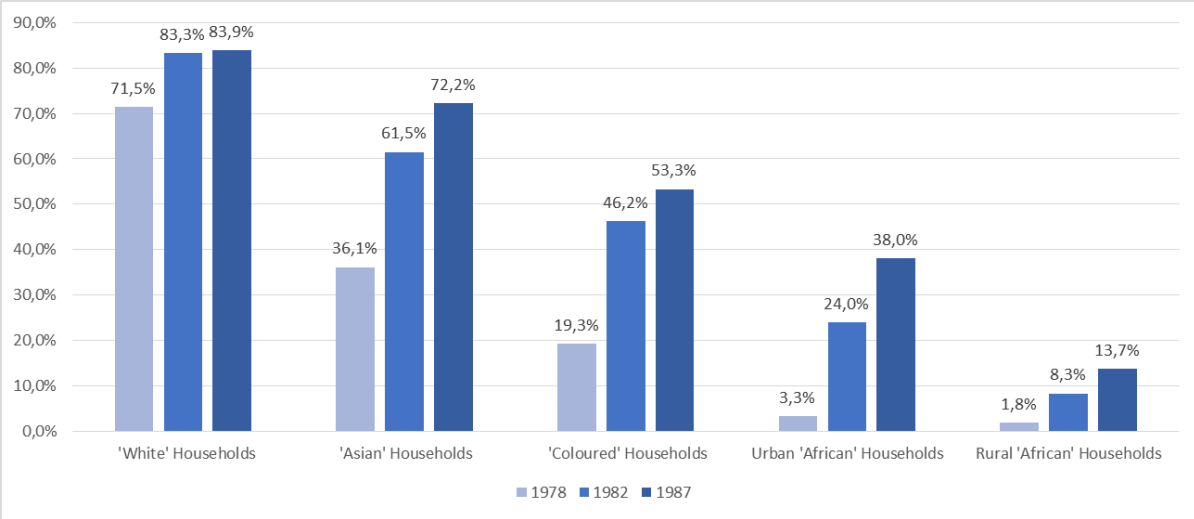
[90] A number of these, such as the Electricity Supply Commission (Eskom) and the Iron and Steel Corporation (Iscor), had been set up in the 1920s. Others, such as the South African Coal, Oil, and Gas Corporation (Sasol), the Southern Oil Exploration Corporation (Soekor), and Phosphate Development Corporation (Foskor), were post 1940 creations.

as a vehicle to create cosy employment opportunities for 'white' Afrikaners, who made up a disproportionate share of the parastatal's workforce, already itself disproportionate to its customer base. Only gradually was this policy relaxed, with the first non-'white' telephone technicians taken in in 1974 (Telkom, nd). By 1980 'whites' still comprised 60% of the 75 490 employees of the SAPT, down from 68% in 1968 (the earliest available disaggregated record) (Standish, 1987, p. 45). As Horwitz points out: "As the *apartheid* policy of white uplift succeeded, Afrikaners moved into technical and managerial ranks, and nonwhites began to occupy the lower job grades of the parastatals" (Horwitz, 2001, p. 81). As a consequence of its sheltered employment role, productivity in the SAPT was also abnormally low by global standards, with a lines-per-employee figure of 45,4 in 1989[91].

Further, the twisted logic of *apartheid* created a digital divide and an access gap with a unique South African flavour. As the chart below (Figure 5.1) shows, despite strong increases in some areas in respect of residential access to telephony over a period of nearly 10 years, *apartheid* racial imbalances meant that while nearly 84% of 'white' households had a telephone at home, less than 14% of their rural 'black' counterparts did.

Figure 5.1: Household Penetration of Telephony in South Africa by Racial Classification (1978-1987)



Adapted from: (Horwitz, 2001, p. 75)[92]

[91] Lines-per-employee is a standard measure of productivity in the fixed-line telecommunications market. Comparable figures include 99,2 lines-per-employee in the UK and 174,6 in Japan (Coopers & Lybrand, 1992, p. 16). Today, Telkom's figure is 182,9 (Telkom, 2014, p. 7).

[92] Curiously, Horwitz cites the de Villiers report (1989) as his source. However, the figures he gives differ slightly from the partial figures available in the de Villiers report, which nowhere provides a full disaggregation of the kind

These figures form the basis for Horwitz's analysis, and reflect an almost saturated 'white' market, and consequent, if limited, moves to penetrate other demographic segments of the market. They are, however, almost certainly misleading, and appear substantially to overstate telephony penetration for 'black' households[93]. The de Villiers report does not provide a racial disaggregation of traffic and usage, but this was likely to have been similarly skewed.

Teledensity figures provided by the ITU some years later, but unfortunately undated, suggest alarmingly low levels of access to telephony across the TBVC states, ranging from 0,2% in the Transkei, through 0,5% in Venda, up to 2,5% in the Ciskei, compared to 25% in "white communities" (UNDP / ITU, 1995, p. 29)[94]. Similar teledensity figures, unsourced, but dated to 1994, appear in the Green Paper, which gives the national average as 9,8% (as opposed to the 8,4% of the ITU) with penetration as high as 25% in "white urban areas" and as low as 0,1% in "rural TBVC areas" (RSA, 1995)[95].

Despite a degree of inconsistency, the overall picture that emerges from these figures is one of a stark and dramatic digital divide, closely aligned to the hierarchical divisions imposed by *apartheid*, and dubbed a 'digital donga' by academic Peter Benjamin[96]. The steps in this tiered

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he presents. Nevertheless, whatever their source, the figures present a credible picture, consistent with other data available.

[93] Prepared under *apartheid*, the report likely adheres to its racial geography, which would have excluding much of those parts of 'black' South Africa likely to have the lowest levels of access to telephony. For example, it is likely that the de Villiers figures exclude the TBVC states (Transkei, Bophuthatswana, Venda, and Ciskei, four nominally independent - their 'independence' was not officially recognised outside of South Africa - entities created under the 'bantustan' programme of grand *apartheid*.). The figures likely also exclude the six nominally self-governing 'bantustans'. Nearly ten years later Stats SA was to record 'black' household penetration nationally (ie combining urban and rural households) as being a much lower 11,3% (1996, p. 80).

[94] Note that this report presents the figures for 'teledensity', or per capita access. Household penetration, which excludes business subscribers, provides a better picture of access to fixed-line telephony for individuals and families. This ITU report, unfortunately, does not provide a racial disaggregation of its figures, but the Transkei (0,2% teledensity) would have been overwhelmingly Xhosa-speaking and rural, whereas the Ciskei (2,5% teledensity), although also overwhelmingly Xhosa-speaking, included substantial urban pockets such as Zwelitsha and Mdantsane (home of future Director General Andile Ngcaba whose father was the Postmaster there). The figures are poorly sourced (they are merely attributed to an unreferenced "Bluebook") but are nonetheless consistent with those presented by Horwitz.

[95] Figures from the RDP are not considered here, because, as indicated elsewhere, they appear to be speculative and tendentious.

[96] It is an appropriate and striking metaphor in the South African context, since a donga is a narrow, steep-sided gulley formed by soil erosion, but usually dry except in the rainy season. Benjamin was the first person the author heard use the phrase in relation to the digital divide in the 1990s.

litany of differential access show 'white' South Africans at the top of the pile, with their 'Coloured' (mixed-race) and 'Asian' / 'Indian' counterparts[97] somewhat, worse off, albeit decreasingly so, and the 'African' / 'Black' majority population soundly and substantially at the bottom of the heap. The causes, nature and explication of this bluntly racialised access gap are complex, multi-dimensional and systemic. They may align with the divides of *apartheid*, but they are not a simplistic consequence or racial prejudice and naked racism.

Certainly, racist attitudes were widely prevalent within the overwhelmingly 'white', Afrikaans-speaking workforce at SAPT, leading to rude and discriminatory treatment of 'black' customers or applicants for service. Almost any 'black' South African of that generation can recount anecdotes of racial abuse and racist denial of service. A colleague recounts her parents' never-explained rejection of their first application for telephone service in the mid-1970s and the derisive, racist laughter that met a second application (Noluthando Tungande, personal communication, 16 May 2015). This is little different from the example of torn-up applications cited by Horwitz (2001, p. 77).

However, the SAPT may not have been uniformly racist, with some semblance of a public service ethos, at least at management level. Horwitz puts the substantial increases in access for 'black' South Africans, all be they off a very low base, "in part to marketing, in part to the vision of [Deputy Postmaster General] Jimmy Taylor… [who] believed in state monopolies, public service, and universal telephone service to all" (Horwitz, 2001, p. 180). And there does appear to have been something of a shift towards rolling out telephony services to 'black' South Africans going into the 1980s and reform *apartheid*, as Figure 5.1 above shows. There is, of course, also some anecdotal speculation that opponents of the *apartheid* regime had little difficulty securing access to (tappable[98]) telephony!

But the racial 'digital *donga*' in access to telecommunications cannot be ascribed directly to the SAPT on its own. *Apartheid* geographies and the euphemistically-named system of 'influx control' ensured that many 'Africans' were considered 'temporary sojourners' in the bulk of the country, with only limited numbers enjoying permanent residence status via much sought-

[97] The groupings brought into the discredited Tricameral Parliament, which was created in 1983 under reform *apartheid*, in an attempt to stave off the inevitability of majority rule.

[98] Surveillance under *apartheid* was widespread. There is no detailed report on telephone surveillance at the time, but the SA History Archive lists of over 8 000 individuals for whom the Security Police held files (SAHA, 2002).

after 'Section 10 rights'[99]. In addition, large numbers were sequestered in dormitory-style 'hostels' under the migrant labour system[100]. The very modalities of 'African' life and living conditions created by *apartheid*, therefore, ensured that many had no long-term fixed abode or billable address, and hence mitigated against individual access to telecommunications services.

Further, the bantustan system kept large numbers of 'black' South Africans in isolated and impoverished rural homelands, where both accessibility to Telkom's network and affordability for customers were challenges. Thus, the traditional urban-rural divide of telecommunications access was, in South Africa, stamped with and exacerbated by the characteristics of the *apartheid* state.

It is also important to note, as Horwitz points out (2001, p. 76), that the 'digital donga' aligns roughly largely with disparities in income, themselves created by the logic of *apartheid* - although penetration is still lower than would be expected on grounds of income disparities alone.

These arguments may to some extent be circular - *apartheid* causes poverty and deprives people of access to housing; these in turn account for a lack of access to telecommunications services. As in so many other cases, telecommunications exclusion lines up with many other axes of deprivation (income, geography, education and skills, gender too). Although the causalities were complex and interlinked, *apartheid*'s 'digital donga' has emerged as a powerful motivation behind the centrality of universal access and service in post-*apartheid* telecommunications policy. In the words of ITU expert, Mandla Msimang:

> *The South African experience is not born out of decades of telecommunications regulation in the public interest, as is the case in many other jurisdictions. Rather, current regulation emerges from an attempt to reverse the damage caused by decades of policies that promoted racial discrimination and denied certain*

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[99] So-called after Section 10 of the Natives Laws Amendment Act of 1952, which limited the category of 'Africans' who had the right of permanent residence in in urban areas to those who had been born and had lived there continuously for not less than 15 years, or who had been employed there continuously for at least 15 years, or who had worked continuously for the same employer for at least 10 years. 'Influx control' was removed in 1986.

[100] Under the migrant labour system hundreds of thousands of 'African' men were brought to work on mines and farms on a temporary basis. Most lived in crowded single-sex hostels near their jobs. Their wives and children, who were seen as "superfluous appendages", were not allowed to accompany them. The migrant labour system survives little changed to this day.

individuals access to telecommunication services. The philosophy that informed apartheid and the ideology behind the promotion of universal service and universal access are mutually exclusive. (Msimang, 2006, p. 218)

5.2 Tentative Telecommunications Reform

As a monopoly state-owned provider of telecommunications services, with an uncertain degree of commitment to public service objectives, the SAPT was partially cut off from global precedent. The substantial international pressure on the *apartheid* regime was mainly concentrated towards bringing about political change, leaving the ICT sector was somewhat shielded from pressure to conform to the precepts of telecommunications reform, and to adopt the prescriptions of international good practice outlined in the preceding chapter.

However, this does not mean that the SAPT was not subject to many of the same pressures that precipitated the onset of sector reform elsewhere in the world. The relatively advanced nature and substantial size of South Africa's telecommunications network, along with high levels of digitisation, exposed the country to many of the technological pressures felt elsewhere. Some were already calling for reforms in the upstream equipment supply chain, particularly in respect of the cosy, long-term manufacturing contracts entered into by the SAPT (Kaplan, 1990). Business users were subject to similar demands to be able to reduce input costs and to leverage the information technology revolution in order to exploit business opportunities and re-engineer business processes. For example, one contemporary report refers to a 20 member association, calling itself the Data Communications Co-ordinating Committee (DCCC) and incorporating "all the major data line users in government, industry and commerce" as putting pressure on the SAPT to "secure more freedom for its members in the way data lines and switching techniques are used" (FM, 1983a, p. 30). This was succeeded by an association of large business users, the National Telematics User Group (NTUG)[101], which called for the removal of restrictions on the use of leased lines and the provision of value-added network services. A "sister grouping", the National Association of

[101] An association representing the large users of SAPT's Saponet-P X.25 packet-switched data networks - mostly companies with multiple offices and overseas links, such as banks, insurers, freight forwarders (Adrian Schofield, personal communication, 13 May 2015) - which had been created as a "vehicle which was created to interface with and engage with Telkom on behalf of all user categories relating to data usage". It was later renamed the National Telecoms User Group. A number of these associations later came together under the umbrella of Communications Users of South Africa (CUASA). (Mike van den Bergh, personal communication, 18 May 2015).

Business Voice Users (NABVU), "covered the voice issues, and probably more accurately covered items relating to PABX competition and the like" (Mike van den Bergh, personal communication, 18 May 2015). The issues thus raised included calls for the liberalisation of customer premises equipment, such as private networks and PABXs, and protests against poor customer service from the SAPT (Snyman, 1998, pp. 90-93). In short "all the typical problems of large, intensive telecommunication users confronting a voice-oriented monopoly telephone network could be found in the South African situation in the late 1980s" (Horwitz, 2001, p. 189).

Faced with pressures from within the sector, Horwitz suggests that political admiration of the right-wing policies of British Prime Minister Margaret Thatcher, and the consequent successful privatisation of British Telecom, may have been influential in persuading the National Party that deregulation and privatisation were policy options worth pursuing. Rather discounting the Thatcherite policy transfer influence, Fine instead suggests a more immediate and practical trigger - the increasing financial difficulties faced by the *apartheid* regime with its high levels of state economic intervention, leading to the 1985 debt freeze and the need to restore "creditworthiness in terms of the ability to raise loans" (Fine, 1995, pp. 7-9).

These various pressures likely worked in combination, with the debt crisis providing the tipping point and creating the conditions under which policy emulation became an attractive option. It seems clear that they led to discussions internally within the ruling National Party which began to surface from the mid-1980s when the notions of 'privatisation' and 'deregulation' began to enter the political discourse - mentioned by Finance Minister Barend du Plessis in speeches in 1984 and 1985, and touched on in the 1984-5 annual report of the SAPT (Horwitz, 2001, p. 107).

Work was clearly already afoot to reassess the ownership, role and functioning of several key state-owned entities. In 1983 Wim de Villiers, a prominent Cape Afrikaner businessperson, had been appointed by then State President PW Botha to investigate and report on the "practices and management of the main parastatals", viz the Electricity Supply Commission (Escom), South African Transport Services (SATS)[102], and the SAPT (Horwitz, 2001, p. 109ff). Horwitz goes on to characterise de Villiers as a proponent of what he calls "reform *apartheid*", espousing what others might describe as a "verligte" (enlightened) approach to the

[102] Formerly South African Railways and Harbours (SARH).

maintenance of 'white' domination, and recognising the need for economic and political reforms in order to preserve the status quo.

In 1987, shortly after de Villiers completed his investigation of the SAPT, the National Party Government issued a White Paper on Privatisation and Deregulation (RSA, 1987). Although pressing forward down the same path, this was not a particularly detailed or prescriptive document.

The White Paper places itself in the context of South Africa's increasing slide into economic difficulty, noting that a "number of external and internal events have had an increasingly negative effect on the… economy", and, in a possible allusion to Thatcherite policies, refers to international trends towards the "promotion of private initiative" and a "thorough reconsideration of the nature and extent of government's responsibility in the economy" (RSA, 1987, p. 1). The White Paper only mentions the SAPT in the context of de Villiers' recently completed "investigations to bring about rationalisation in the parastatal undertakings" (RSA, 1987, p. 7). The White Paper goes on outline a broad brush-stroke essentially Thatcherite strategy to "[limit or reduce] the public sector's involvement in the economy" and to give the private sector the "opportunity to develop and grow optimally with minimum State intervention and regulation" (RSA, 1987, p. 8). It outlines a number of possible means by which could be achieved, including the outright sale of public enterprises, what are now termed 'public-private partnerships', the leasing of business rights, what is now referred to as 'outsourcing', and withdrawal from the market entirely (RSA, 1987, p. 9). On the question of deregulation, the White Paper is again less than specific, calling for "minimum interference by the State… [to] promote the optimal functioning of market mechanisms and self-regulation" (RSA, 1987, p. 13). Short on specifics it may be, the White Paper essentially sets the scene for a future within which the SAPT could be privatised, competition introduced, and an independent sector regulator established.

5.2.1 The de Villiers Report

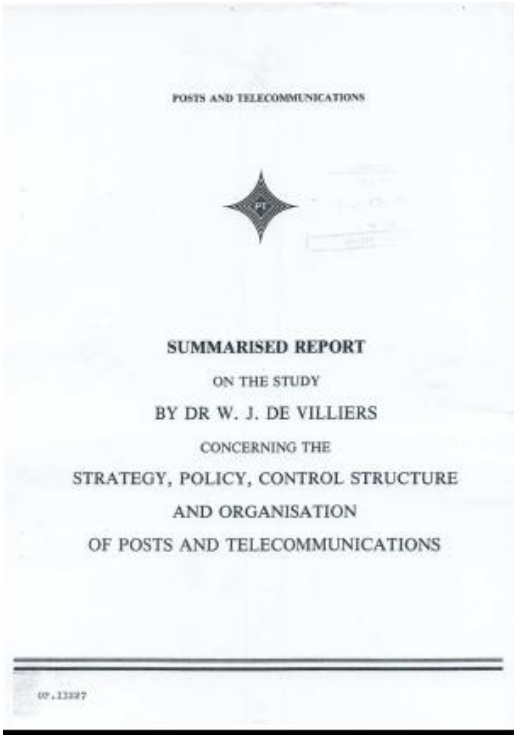
This, then, was the climate within which the de Villiers report (1989) saw the light of day, and the context which it anticipated. It is easy perhaps to criticise the report from the perspective of subsequent developments in the sector, but it seems excessively preoccupied with a focus on the SAPT as a business and less concentrated on the perspective of the sector as a whole. Much of the attention is taken up with an analysis of the telephony market, on the demand for telephone services, on the costs of service provision and on an examination of revenue

streams - hence leading to recommendations for the possible privatisation of the SAPT and the introduction of regulatory structures to oversee the sector.

Further, whilst the report recognises the impact of the "progressive overlapping of telecommunications and computer technology and the growing integration of speech and audiovisual communication", it seems more concerned with the likely effect this might have for residential subscribers in terms of "high tariff increases and a limitation of the provision of services to ordinary subscribers" (de Villiers, 1989, pp. 28-29). There is thus limited awareness of the potential role of telecommunications as a business enabler.

Hence there is almost no attention given to the demands of groups like INTUG for the liberalisation of leased lines, PABX and PTNs. This leads the report to criticise the SAPT for over-investing in capacity (de Villiers, 1989, p. 31ff) to roll out services to 'black' South Africans whose usage and therefore revenue profiles were low, and towards what Horwitz characterises as its "essential error in condemning SAPT's digitalization program" (Horwitz, 2001, p. 180). Although the report does provide some consideration of the demand for telephony services amongst the majority 'African' population of the country, the notion of 'universal service' is entirely absent from its vocabulary, with it merely ascribing suppressed demand to the "unrest conditions in the black townships" (de Villiers, 1989, p. 3).

Figure 5.2: The de Villiers Report


POSTS AND TELECOMMUNICATIONS

SUMMARISED REPORT
ON THE STUDY
BY DR W. J. DE VILLIERS
CONCERNING THE
STRATEGY, POLICY, CONTROL STRUCTURE
AND ORGANISATION
OF POSTS AND TELECOMMUNICATIONS

Source: (de Villiers, 1989)

The ultimate point of the de Villiers report is reached in its concluding pages (de Villiers, 1989, pp. 85-97) with its "transformation and privatisation" recommendations. These are, however, are annoyingly equivocal, presented in different places in formulations that are not always entirely consistent. Nonetheless, it seems clear that three steps are envisaged:

- the separation of posts and telecommunications into distinct entities;

- the requirement that the various entities operate according to sound "business principles" with appropriate management and governance structures[103];
- eventual partial privatisation through the sale of shares to the public.

There is, in particular, a degree of ambiguity as regards the introduction of competition. On the one hand, the report unequivocally sees telecommunications as a "natural monopoly" (de Villiers, 1989, p. 85 & 92). Indeed, it contemplates folding in other existing national networks, those of the SA Transport Services and Eskom, even those of and Defence[104] (de Villiers, 1989, p. 95)! But it also contemplates the creation of competition in the downstream market: "whereas the Telecommunications Administration will own and operate the telephone network, other undertakings may be established to operate value-added services by making use of the network" (de Villiers, 1989, p. 85).

The report does recognise the potential abuses that could take place at the hands of a privately-owned monopoly provider, especially in relation to pricing and the protection of business and residential consumers. Accordingly, it notes that "in order to obtain benefits for the consumer, regulation of the private sector monopoly is essential" (de Villiers, 1989, p. 86). In the end it suggests creating two separate regulatory authorities: one to deal with "technical" issues, including spectrum, quality of service enforcement and type approvals of equipment; and the other to function as a "price controller" (de Villiers, 1989, pp. 93-94).

The report was not met with universal acclaim, with a number of the organisations representing the interests of business users claiming that de Villiers had spurned their offers to contribute to the investigation, voicing a their criticism of a number of its findings, and coming out as "particularly critical of his recommendation that government should retain its interest in P&T's operations" (FM, 1989)[105].

The overall vision thus adheres broadly to the standard prescriptions of telecommunications reform previously noted: privatisation and regulation, but with some equivocation on competition.

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[103] Often referred to in the South African context as "commercialisation" - cf (Horwitz, 2001, p. 115).

[104] Interesting the transport and electricity services' networks resurfaced many years later as part of the proposed basis for the makeup of the second fixed-line operator. One can imagine the enthusiasm of the *apartheid* generals dealing with a growing insurgency at home and on the borders for the third suggestion.

[105] The National Data Communications Consultative Committee (NDCCC) - presumably successor to the Data Communications Co-ordinating Committee - is specifically cited.

This was the path that South Africa continued to follow over the next few years (Horwitz, 2001, p. 113ff). Speeches by successive State Presidents, P W Botha and F W de Klerk, in 1988 and 1989 restated the National Party government's commitment to privatisation. A Minister of Administration and Privatisation was appointed in 1988. Electricity and transport parastatals were reorganised into Eskom[106] and Transnet respectively. The ferro-steel parastatal, Iscor, was privatised in 1989; and the three-step privatisation of the oil-from-coal parastatal, Sasol, was completed in 1991. Horwitz suggests that the late-found enthusiasm of the *apartheid* authorities for privatisation of state-owned entities was motivated by considerations beyond the recognition of their inefficiencies and the resultant drain on the fiscus, and, indeed, beyond the desire to emulate practices of Thatcherism. Rather, he suggests, it was equally motivated by a desire to place the 'commanding heights of the economy' beyond the reach of an incoming ANC-led government still at the time committed to public ownership[107] (Horwitz, 2001, pp. 114-115).

5.3 Political Reform

State President FW de Klerk's landmark 2 February 1990 speech was perhaps more of a surprise to the public of South Africa than it was to the African National Congress. What became popularly known as 'talks about talks' had been under way since the mid-1980s (Sparks, 1994). The speech unbanned[108] the ANC (along with a number of other previously restricted organisations) and set the stage for the release a few short days later (11 February 1990) of Nelson Mandela, imprisoned leader of the ANC. Andile Ngcaba (later Director General of Communications, but at the time in charge of military communications for MK in Angola) recalls being sent home at short notice as part of the first delegation[109] to prepare for the

[106] Previously abbreviated as Escom.

[107] Cf the ringing call of the Freedom Charter, still a lodestar document: "The mineral wealth beneath the soil, the Banks and monopoly industry shall be transferred to the ownership of the people as a whole" (ANC, 1955).

[108] 'Banning' was widely used by the South African government to quash opposition to *apartheid*. It included prohibition and suppression, by administrative action under several pieces of legislation, of organisations, gatherings and publications, or the placing of individuals under severe restrictions with respect to freedom of movement, association, and speech.

[109] He was in charge of ensuring secrecy of communications with ANC headquarters in Lusaka.

release of Mandela and for the forthcoming negotiations with the *apartheid* government (interview, 28 January 2015)[110].

The shift towards a negotiated political settlement in South Africa initially had little direct impact on the process of telecommunications reform, although, as subsequent events show, it moved the trajectory of the reform process into the realm of stakeholder politics, and placed its outcomes beyond the control of the *apartheid* government. In the words of Horwitz, it was to lead to the establishment of the "structures and mechanisms of the participatory, consultative politics typified in the communications reform process" (Horwitz, 2001, p. 3).

Some evidence of the likely impact of the now unbanned ANC on government's plans for the reform of the sector were seen later in the year, when the government backed off from privatisation and postponed the commercialisation of the SAPT in the face of "intense opposition from the ANC and the unions" (FM, 1990). Nevertheless, later the same year the National Party government moved ahead with the implementation of the de Villiers recommendations, introducing a Post Officer Amendment Bill that would separate posts from telecommunications and transform the latter into a commercialised public corporation overseen by a board of directors (Lambert, 1990; Horwitz, 2001, pp. 190-192).

The Bill was firmly opposed by the COSATU-aligned majority union at the SAPT, the Posts and Telecommunications Workers' Association (POTWA). POTWA - well aware of the experience of its counterpart unions in the UK and elsewhere - recognised commercialisation as the thin end of the privatisation wedge, and argued that the government had "no mandate to enact a major restructuring of the public sector" in the dark before the dawn of majority rule. The ANC too remained, in the words of then head of information and telecommunications, Andile Ngcaba, "entirely opposed to the principle of privatisation" (Business Day, 1991). POTWA also raised a concern that would remain a feature of the concerns of COSATU and its affiliates over the years: namely the likely impact of the changes on affordability and hence on the poor, charging that commercialisation would "inevitably lead to increased tariffs that will hit blacks hardest" (FM, 1991). This is essentially a UAS affordability concern, although it is probable that the union at that stage was not exposed to the universal access and service

[110] It's not clear which mission is being referred to - Ngcaba's dating is a little unclear. The most likely candidate is when, on 21 March 1990, Jacob Zuma, Penuell Maduna and Gibson Mkanda were smuggled into the country by the National Intelligence Service to set up the talks, and that they were joined by Mathews Phosa and Curnick Ndlovu from the internal structures (Sparks, 1994, p. 111). He does not, however, record Ngcaba as part of the delegation.

discourse. POTWA's opposition, which included strike action, was shared by a number of strange bedfellows with very different motivations. These included the 'coloured' Labour Party, the right-wing 'white' Conservative Party, and conservative managers within the SAPT (FM, 1991; Horwitz, 2001, p. 193).

The Bill was finally passed and promulgated in June 1991, after some concessions on privatisation and labour relations (Horwitz, 2001, p. 192), despite being blocked by the Labour Party in the 'Coloured' chamber of the Tricameral Parliament. Thus, on 1 October 1991, Telkom became a commercial entity with a monopoly in telephony services, subject to the Companies Act and managed by a Board of Directors (RSA, 1991). Despite the "exclusive power" telecommunications monopoly afforded to Telkom, the Minister retained the power "after consultation with [Telkom or SAPO[111]]… in the public interest… [to] authorize" [sic] competing operators (RSA, 1991, pp. Sections 4, 7 & 90A). The Act fell short of creating any semblance of the regulatory structures recommended by the de Villiers report, placing the exercise of regulatory authority over the sector firmly in the hands of the Minister (RSA, 1991, p. Section 119A).

Interestingly, South Africa's first two VANS licences were issued on 27 September 1991, four days before Telkom officially came into existence (Mike van den Bergh, personal communication, 18 May 2015). One of these was FirstNet[112], a subsidiary of First National Bank[113], one of South Africa's big four commercial banks. It was companies such as these, as noted above, that had been pushing for reforms in the sector.

Horwitz reports that the overwhelming majority of SAPT telecommunications staff, some 67 000 in all, were transferred to Telkom, leaving about 100 behind in the Department to act in a regulatory capacity (Horwitz, 2001, p. 192).

South Africa's first steps in telecommunications reform were thus largely in line with international good practice. Posts had been separated from telecommunications and placed on a commercial footing, with privatisation, although contested, nonetheless on the horizon;

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[111] Strangely, neither Telkom nor SAPO (which was originally to have been called Sapos) are named in the Act, which merely refers to them as "successor companies" - this despite their names having been circulated in the media for months (Curtin, 1990).

[112] The other appears to have been Trafex, a joint venture between another of the big banks, Standard Bank, and ISM, a computing company created following the 1986 divestiture of IBM from South Africa.

[113] First National Bank itself was created in 1987 following the divestiture of Barclays Bank from South Africa.

a very limited degree of competition had been introduced; and an embryonic regulatory function had been created. Although this has all the hallmarks of policy diffusion, there is no evidence that there was any direct interaction with the international telecommunications regime, or any structured policy transfer process. Certainly, Horwitz reports none, and none of the interviewees in this study cite any. At best, there was a very loose and tentative degree of policy emulation. Its faltering nature perhaps reveals the degree of isolation of the *apartheid* bureaucrats from the epistemic discourse centred around Washington, London, Paris, Brussels and Geneva. And there was, as yet, no commitment to universal service. Thus, as Horwitz remarks, "the Post Office Amendment Act left a number of central questions unaddressed and an effective vacuum of direction" (Horwitz, 2001, p. 195).

From late 1991 ICT sector reform in South Africa moved forward along a number of parallel tracks. On the one hand the National Party government attempted to push through its own reform agenda at the hands of the newly appointed Minister, Piet Welgemoed. In parallel, the structures and processes engaged in negotiating the democratic transition also placed telecommunications on their agenda, leading to the establishment of the stakeholder-based National Telecommunications Forum. At the same time the ANC established its own ICT policy think tank, the Centre for the Development of IT Policy (CDITP), which began to engage in capacity building and policy formulation. The three processes ran largely in isolation from each other, but together they reflect a growing engagement with the precepts of telecommunications reform and the gradual emergence of universal access and service as a centrepiece of ICT policy, along with elements of international good practice.

5.3.1 The Coopers & Lybrand Report

In October 1991 - the very same month that the legislation implementing the de Villiers report came into effect - the National Party government embarked on a new study into the sector, when the newly appointed Minister, Piet Welgemoed, commissioned international auditing and consultancy firm Coopers & Lybrand[114] to undertake a further "analysis of the policy options for restructuring the country's telecommunications services sector" (Coopers & Lybrand, 1992, p. 1). The decision to embark on a further review of the sector may not have been entirely unilateral. Senior MTN executive Karel Pienaar suggests the review was, at least in part a response to lobbying from data communications providers for greater liberalisation,

[114] Now PwC, following its 1998 merger with Price Waterhouse.

as well as a result of pressure from aspirant mobile operator, M-Net (interview, 6 February 2015).

It was a process which was anything but transparent and consultative, one which took place entirely outside the political negotiations process then unfolding, something which Horwitz ascribes to Welgemoed's political hostility to the negotiations and personal ambition to mould the sector on his own (Horwitz, 2001, p. 196). Coopers & Lybrand claim to have "consulted widely" in the preparation of the report (Coopers & Lybrand, 1992, p. 2). But clearly not widely enough, since its release late the following year provoked howls of outrage from both the ANC and several industry bodies, saying their input was not "canvassed" (Sergeant, 1992)[115]. There does appear to have been input from at least M-Net arguing for a mobile licence and making the case for the "broader society benefit" that mobile could offer, as well as Transtel[116] who at the time were keen to secure a fixed licence (Karel Pienaar, interview, 6 February 2015).

Much more broadly concerned with the sector overall than its predecessor, the Coopers and Lybrand report is rather closer to developing international good practice. However, although grounding itself against the "background of revolutionary changes in the telecommunications industry worldwide" and stating that it draws upon the evidence of "international experience", the report makes no direct reference to the work of either the ITU or the OECD relating to telecommunications reform, and gives only passing mention to the work of the European Commission (Coopers & Lybrand, 1992, p. 1). Indeed, the report makes little reference to external sources at all, except when citing statistics. The extent of policy diffusion, therefore, can only be inferred. The report does, however, make extensive reference to the experience of other countries, the UK[117] in particular, but also the US, Australia and New Zealand, showing its willingness to follow other international good practice exemplars.

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[115] The report states that a list of those consulted is provided in an appendix - but the version of the report in the author's possession sadly does not contain that appendix - making it impossible to verify the extent of consultation. Presumably as a result of the outcry, the government did call for submissions in response to the report.

[116] Horwitz concurs. Having been granted permission to operate a private telecommunications network in 1969, which, under pressure of commercialisation occasioned by a separate de Villiers process, became Transtel, the company operated South Africa's largest private network. It had "pushed the "private network" envelope quite broadly" and aggressively, and harboured ambitions to "enter into a joint venture with an international operator and become one of South Africa's future public telecommunications operators" (Horwitz, 2001, pp. 206-208). This explains its strong interest in joining the M-Net consortium.

[117] This is perhaps not surprising, given the firm's London headquarters. Other countries referred to include Canada, Japan and Germany.

Albeit not explicitly, the Coopers & Lybrand report does align itself with the three main "policy levers" of developing telecommunications reform practice, namely "competition, regulation and privatisation" (1992, p. 22). Within this context it recognises three key policy objectives, namely: increasing "telephone penetration" particularly in the townships and 'black' rural areas; ensuring "affordability"; and providing advanced "service levels" for business users. Further, it recognises that there is an inherent conflict between the "social policy" objectives (presumably 'penetration' and 'affordability') and the "market-orientated" objectives (Coopers & Lybrand, 1992, pp. 4-5). In this regard, it anticipates the later Reconstruction and Development Programme of the ANC, which sought in similar vein to balance the universal access and service imperative with the telecommunications requirements of business (1994b, p. Section 2.8). From this starting point the Coopers & Lybrand goes on to make recommendations in four main areas:

- Protection of Telkom's monopoly - the report recognises the need to ensure that Telkom's monopoly, particularly in respect of long-distance and international telephony, be protected for 5 years to prevent cream-skimming[118], and thus to allow it to finance the crucial quid pro quo for this protection - the ramped-up rollout of services to the country's majority population;
- Competition - notwithstanding the recommendation above, the report recommends that a competitive market structure be seen as the norm, and recommends liberalisation in a number of areas, including licensing supplementary local network operators, liberalisation in respect of VANs, PTNs, VSATs and customer premises equipment (CPE)[119]; more particularly it recommends the licensing of two mobile operators[120] with Telkom being involved in one of the them, either through a joint venture or full ownership;
- Regulation - the report devotes considerable space to emphasising the need for a separate, independent, regulator, along the lines of the UK's Oftel, governed by a

[118] A pejorative conceptual metaphor referring to the perceived operator practice of providing telecommunications services to high-revenue or low-cost customers (ie usually affluent individuals and businesses in urban areas) whilst disregarding less profitable users (ie the poor and those in rural areas).

[119] It is perhaps unfair to chide Coopers and Lybrand for failing to consider Internet services, since these were largely the preserve of academia at the time. Although commercial bulletin board services such as Digitec Online were already active and popular, the launch of South Africa's first commercial ISPs would only happen in late 1993 (Lewis, 2005, pp. 7-8).

[120] In the light of the subsequent burgeoning of mobile, the report's estimate of the total mobile market as being between 160 000 and 220 000 by 2002 (Coopers & Lybrand, 1992, p. 76) appears somewhat quaint.

collegial commission and subject to the law and to Ministerial policy; its powers and functions are recommended to include consumer protection, preventing abuse of Telkom's monopoly, ensuring fair competition, dealing with spectrum and licensing, prescribing standards for technical regulation, and enforcing universal service obligations;

- Privatisation - recognising that the privatisation of Telkom was not on the immediate agenda (presumably because of likely opposition from the ANC), the report holds this out in the medium term as a means of incentivising efficiency and injecting capital into the enterprise.

One notable feature of the report is the painting of three possible scenarios, involving 10 year projections of the future development of the sector based on certain strategic policy choices. Aside from the status quo ("Base Case") scenario, based on Telkom's existing 5-year plan, the two divergent scenarios envisaged either "Network Expansion" (based on aggressive rollout of the "availability" of basic telephony, particularly to urban and rural 'black' households, under monopoly provision, funded by cross-subsidies from business users) or "Competition" (based on rate rebalancing, preparing the ground for competition and the rollout of public payphones) (Coopers & Lybrand, 1992, pp. 28-32). In each case the impact on telephony penetration, on pricing and affordability and on the financial viability of Telkom[121] is modelled. Strangely, the impact on advanced service levels as required by business was not considered, even though this was listed one of the key policy objectives for the sector.

Despite the report's lack of reference to the international telecommunications regime and its international good practice precepts, whose evolution was traced in the previous chapter, and not situating itself within that epistemic discourse, its analysis and recommendations are largely in line with principle of liberalisation and the three broad norms sector reform: privatisation, competition and regulation. The recommendations of the report, based as they are on international good practice, clearly reflect policy diffusion even if this is not explicitly acknowledged. But, because of the detailed engagement by Coopers and Lybrandt with the realities of the South African context, both in their recognition of the policy constraints placed on them and in basing their analysis on the concrete specifics of the local market, place the report more on the policy learning end of the spectrum: international good practice has been assimilated and interrogated in the local context in order to derive recommendations.

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[121] The report pays considerable attention to Telkom's excessive debt burden, and the requirement that it fund the postal deficit, but essentially concludes that the corporation is financially sound.

What is indeed ironic about the Coopers & Lybrand report is how closely a National Party initiated initiative foreshadowed the subsequent evolution of the sector under the incoming ANC administration post democracy. Telkom was to enjoy a five-year monopoly with substantial universal service obligations, with limited competition introduced via liberalisation in the value-added services sub-sector and through the licensing of two mobile operators (in one of which Telkom was to have a 50% stake). A sector regulator was to be established, and Telkom was to be partially privatised, albeit much earlier than foreseen by the report.

However, arguably one of the most significant aspect of the report was the way in which it, for the very first time in South Africa, put issues recognisably relating to universal access and service firmly on the table as central ICT sector policy issues. Perhaps the foregrounding of universal access and service was a consequence of the report's recognition of penetration (for which one might read the network 'availability' discussed in the previous chapter) and affordability as two of its key policy objectives.

The report starts with a recognition of the racialised gap in access that was, as noted previously, a consequence and an expression of the racial, economic and social divides of *apartheid*. The report's discussion of the level of telephone penetration in South Africa draws attention to the gap in access between 'white' and 'black' South Africans (see Figure 5.3 below). The graph shows a typical Jipp curve[122], linking teledensity and income, showing that 'white' South Africans are both dramatically more wealthy and enjoy dramatically better access to telephony than their 'black' counterparts[123]. Coopers & Lybrand do make a number of caveats in presenting the graph. Because it represents teledensity (raw number of telephone main lines per 100 head of population) rather than household penetration, it is skewed by the inclusion of business lines, and by differential household sizes[124], and by differences in purchasing power parity between countries. Nevertheless, both plots for South Africa are below the trend line, suggesting that penetration for both 'white' and 'black' South Africans fell below the global norm for their respective levels of income.

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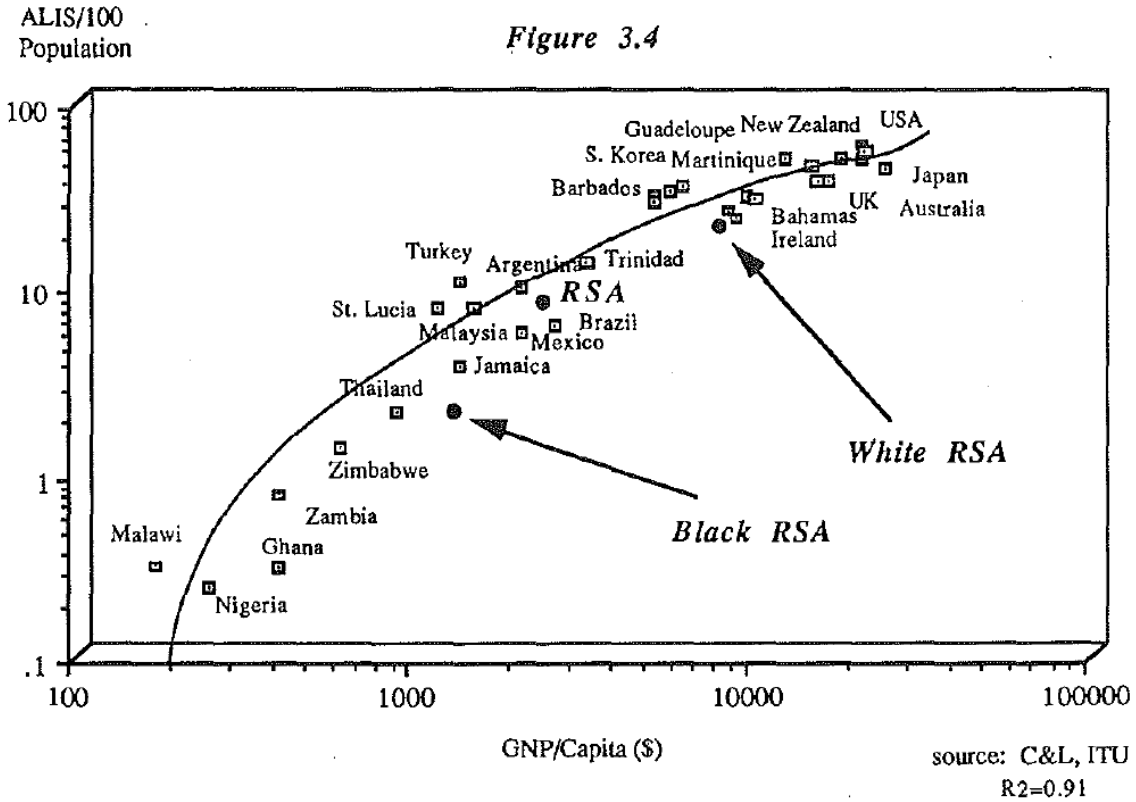
[122] An eponymous curve plotting (usually telephone, but latterly mobile, Internet, even broadband) penetration per capita against wealth (usually measured in GDP per capita), showing the correlation between the two (Jipp, 1963).

[123] Note that the graph employs a logarithmic scale which minimises the magnitude of the gap.

[124] Business lines made up around a third of all lines at the time. It is likely that the proportion of business lines may well have differed between the 'white' and 'black' communities. Household sizes certainly differed between the two communities. Both factors are likely to obscure the real levels of individual and household access.

It is a pity that the report does not dwell upon the geographic dimensions of the *apartheid* telecommunications divide, where the gaps were much starker. A contemporaneous, independent analysis by Morris and Stavrou serves to lay bare this dimension. Noting a similar "characteristic racial duality" in telecommunications provision, they show that, in contrast to the 'white' farming community[125], "in the shanty towns surrounding the urban metropoles and in the black rural areas there is a near-total absence of a telecommunications network" (Morris & Stavrou, 1993, p. 1).

Figure 5.3: Teledensity vs GDP/capita - RSA compared



Source: (Coopers & Lybrand, 1992, p. 9)[126]

The analysis of Coopers & Lybrand leads them to suspect "considerable suppressed demand... constrained by both income levels and the non-availability of services and infrastructure"

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[125] 'White' farmers were well-served by telephony as voting supporters of the ruling National Party, who were often seen as outposts against 'black' discontent in the rural areas, and, especially, against guerrilla incursions on the 'border' of the country.

[126] The figures in the graph appear to be for South Africa as a whole, plotting 'black' per capita telephone penetration at 2,4 / 100 as opposed to Telkom's higher figure of 3,0 / 100, which excludes the TBVC states and the bantustans. The corresponding figure for 'white' telephone penetration was 25 / 100 (Coopers & Lybrand, 1992, pp. 7-8). It is not clear whether 'coloured' and 'Asian' subscribers were included in either or neither figure.

(Coopers & Lybrand, 1992, p. 9). The survey work of Morris and Stavrou bears this out, finding that "over two-thirds of all rural and urban respondents and just under half of shantytown respondents interviewed wished to possess a private telephone" (Morris & Stavrou, 1993, p. 4).

Coopers and Lybrand recognise that affordability is likely to be a key constraint in achieving increased levels of penetration, but offer little concrete guidance in this regard. Noting that connection, rental and local usage charges for both residential and business customers are low by international standards[127], they are, however, unable to present much of substance in relation to the ability of potential users to pay for the services that would be the result of any strategy centred on increased rollout of access (Coopers & Lybrand, 1992, pp. 9-12). By contrast, the contemporaneous report by Morris and Stavrou sounds a warning for attempts to increase penetration, finding that "less than one-tenth of rural respondents, could afford to install and maintain a telephone at the present tariffs (1993, p. 5).

Although Coopers and Lybrand make sparing reference to the concept and terminology of 'universal service', they do recognise the central role of Telkom in achieving availability and affordability targets:

The responsibility for network expansion must therefore lie principally with Telkom. As a quid pro quo for its exclusive right to provide long-distance and international telephony, we would suggest that Telkom be required to meet specific, quantified targets for service growth. (Coopers & Lybrand, 1992, p. 24)

Although couched in the terminology of "community service obligations" borrowed from Australia[128], these are essentially universal service obligations, requiring Telkom to extend its network to under-served or unserved areas and communities, and to increase teledensity through providing telephony access to households and communities and through rolling out payphones. The report envisages that these obligations will be set and monitored by the newly created regulator, specified in Telkom's licence, and funded from its international and log-distance monopoly.

[127] On international calls, the report finds that pricing is high by international standards on high volume routes, but low on less busy routes.

[128] The term 'community service obligations' survives to this day in the licence obligations of the mobile operators.

The report interestingly hints at the later distinction between universal access and universal service in its drawing of a distinction between household provision of service (universal service) and rollout of payphones (universal access) when it summarises the two principal ways which it sees of extending the "availability of basic telephone service, particularly to the black communities in the townships and rural areas", namely:

- *by improving access to public telephones, including agency phones and community phones; and/or*
- *by increasing the penetration of private residential access lines. (Coopers & Lybrand, 1992, p. 24)*

The report goes on to link each of the two strategies to one of its scenarios, with the former (universal access) strategy the chief rollout component of its "competition" scenario, and the latter (universal service) strategy core to its "network expansion" scenario (Coopers & Lybrand, 1992, p. 90).

Elsewhere the report recommends the imposition of geographic coverage obligations upon the two proposed mobile licensees, drawing on the model of the UK (Coopers & Lybrand, 1992, p. 77). This was to be carried through into the licences awarded to Vodacom and MTN[129], and made South Africa one of the few countries in the world to do so.

The report does briefly touch on the notions of access deficit charges, which it rules out on grounds of complexity, and of a universal service fund[130], which it rather ignores (Coopers & Lybrand, 1992, pp. 23-24).

Together with its predecessor, the de Villiers report, the Coopers and Lybrand report was instrumental in aligning South Africa, albeit not explicitly, with global trends in the reform of the sector. It also marked an important milestone towards putting universal access and service at the forefront of ICT sector policy. Both issues were to remain on the surface in the negotiations leading to South Africa's transition to democracy, and in the development of ANC

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[129] The report also flags the question of interconnection rates as a critical success factor in the viability of the proposed mobile licensees, and a tough challenge for regulation. Both issues continue to dominate the South Africa market to this day, with litigation and counter-litigation marking ICASA's current attempts to regulate mobile termination rates from 2009 onwards. Vodacom has even gone on record to suggest that high levels of interconnection pricing were what underwrote mobile's success in providing universal access (Knott-Craig, SA cellphones pass two affordability tests, 2005).

[130] Again, the example of Australia is cited.

policy and policy positions for the sector, both of which developments were running in parallel to and largely isolated from Minister Welgemoed's initiative.

Before returning to these processes, it is worth noting the public reception that greeted the publication of the report in August 1992. As noted above, both the ANC and business attacked the lack of consultation in the process leading to the report, despite the government's call for submissions its planned workshop on the document. Horwitz describes the response of the ANC as a "blistering attack" (2001, p. 199)[131]. A contemporary press report paints much the same picture, describing the ANC's Andile Ngcaba as "outraged" over the "Department's determination to restructure telecommunication systems without broad consultation" and its "acceptance of privatisation" which the ANC continued to oppose. Ngcaba also described the report's rather cautious flirtation with the possibility of retrenchments as a "shocking prescription" (Sergeant, 1992). Not unexpectedly, rather opposite views were voiced by the business lobby which called for speedier liberalisation and the immediate establishment of an independent regulator (Business Day, 1992). The promised workshop may well have been held, but the promised Bill never materialised, probably overtaken by developments in the more overtly political negotiations around South Africa's transition to democracy.

5.3.2 Preparing to Govern: The CDITP

It was during the same period, recognising that the complex and technical nature of the ICT sector required the kind of expertise, research and experience sorely lacking within its own ranks[132], that the ANC set up its ICT policy think tank, the Centre for the Development of Information and Telecommunications Policy (CDITP).

On his formal return from exile, Andile Ngcaba had already set up the Department of Communications and the Information Systems at the ANC's head office in Shell House. From there he moved to set up the CDITP in 1991 in response to "development[s] in the political negotiations at CODESA in the area of broadcasting and telecommunications" as an "independent, non-profit-making policy research and training organisation" to support the "analysis of policy options" in preparation for the "transition to a full democracy" (CDITP,

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[131] The press statement cited by Horwitz is oddly not on the ANC's website, which contains a comprehensive database of thousands of such statements stretching back to 1950, suggesting it may have been issued through Ngcaba's CDITP rather than directly from the ANC.

[132] Unlike many other sectors, such as housing, health and the economy, the ANC was unable to draw on a corresponding body of established, progressive expertise from the NGO sector or academia.

1995a, pp. 2-3), with the assistance of Australian left-wing academic and trade unionist, Kevin Morgan[133], and with funding from Liberty Life[134] and offices at University Corner (Andile Ngcaba, interview, 28 January 2015).

Ngcaba lists what he sees as the three central achievements of the CDITP:

1. Securing "academic and other training" to build 'black' expertise;
2. "researching and writing policy positions;
3. Establishing the National Telecommunications Forum (interview, 28 January 2015).

Figure 5.4: CDITP Logo

Source: (CDITP, 1995a)

The cadreship programme of the CDITP reads like a veritable Who's Who of South Africa's ICT sector today. Its board included people such as Moeletsi Mbeki (younger brother of Thabo Mbeki, an independent thinker and latterly a critic of the ANC), Kgabitsi Mosunkuthu (then President of POTWA and Deputy President of SANCO, later board member of Telkom), Aki Stavrou (then an academic at the University of Natal), Lyndall Shope-Mafole (telecommunications master's graduate from Cuba, later SATRA Councillor, then Director General in the Department of Communications, now a senior leader with the breakaway Congress of the People political party), Dr Sebeletso Mokone-Matabane (later Co-Chair of the IBA, subsequently CEO of state-owned signal distributor Sentech) (Ngcaba, 2001). The CDITP reached out widely to young 'black' professionals and intellectuals, sympathetic to the ANC and its positions, and usually with some exposure to the sector. Such alumni include: Noluthando Gosa (SATRA Councillor, SABC Board Deputy Chairperson); Linda Khumalo (then a Telkom staffer, later CEO of Alcatel Lucent South Africa); Pops Mageza (adviser to Pallo Jordan, first ANC Minister of Communications); Hellen Makhuvela (now a senior official with ComSec, South Africa's cybersecurity agency); Pinky Moholi (then an engineer, later CEO of Telkom); Felleng Sekha (first chair of the Independent Broadcasting Authority, later senior manager at MTN, and Deputy Chair of the SABC); Dr Marcia Wilson (then an academic, later an ICASA Councillor).

[133] Now an independent consultant, Kevin Morgan served as an adviser in telecommunications policy and regulation to the Australian labour movement from the 1970s. He served as a member of the advisory panel appointed by Australia's then Minister for Transport and Communications, Kim Beazley, to oversee the introduction of competition in 1991.

[134] Secured through Hylton Appelbaum, son-in-law of Liberty founder Donald Gordon.

Many of them were head-hunted by Ngcaba. Felleng Sekha, then studying finance law on a postgraduate scholarship at Melbourne University, recalls a 3 am call from Kevin Morgan, who then put her through to Andile Ngcaba in Geneva. Ngcaba in turn persuaded her to switch her line of studies to telecommunications law, which the ANC would fund (Felleng Sekha, interview, 5 December 2014). Sekha describes Ngcaba as having had an "enormous impact" on her life.

The CDITP ran training courses in South Africa, bringing in international experts such as the ITU's Tim Kelly and Australia's Kevin Morgan. A number of CDITP recruits were also sent abroad for training at entities such as United States Telecommunications Training Institute (USTTI), the Telecommunications Executive Management Institute of Canada (TEMIC), Wollongong University and the Science Policy Research Unit (SPRU) at the University of Sussex (Andile Ngcaba, interview, 28 January 2015), as well as through the ITU and the Cable and Wireless School of Telecommunications in the UK. Others were sent on study tours to Sweden, Canada and the UK (CDITP, 1995a, p. 11 & 19).

The CDITP also produced a number of research reports and policy recommendations (CDITP, 1995a)[135], amongst them of relevance to this study being:

- Licensing of cellular mobile telephone services - the impact which deregulation and cellular phone competition will have upon universal service and the affordability of telephones for the South African community (September 1993);
- The ANC policy for equity and efficiency in the telecommunications sector: A policy discussion paper (March 1994);
- Reform of the South African telecommunication industry - the legislative context: A submission and draft legislation for the South African market (September 1994);
- A master plan for the South African telecommunications sector - a preliminary study (no date given).

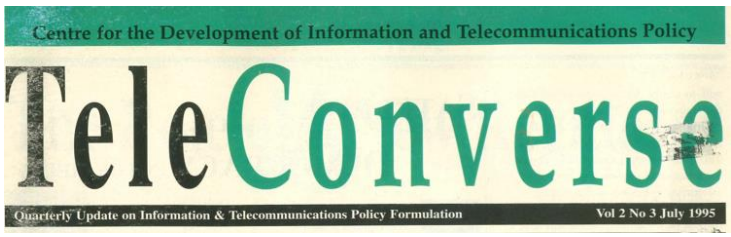
The approach to policy formulation evidenced in the CDITP report, combines an awareness of international good practice and the pressures for reform along the lines of a particular

[135] Unfortunately, no copies of any of these seem to have survived. A February 1994 draft of the 'ANC policy for equity and efficiency in the telecommunications sector' (CDITP, 1994) was secured by the author from papers in the SA History Archive (SAHA).

formula which that brings to bear, tempered with a strong desire to ground policy formulation in the realities of South Africa and the needs of the majority of its citizens.

Thus, the CDITP argues for the development of a "clear telecommunications policy that reflects the needs of the community, rather than directly importing models that have been developed in other parts of the world" (CDITP, 1995a, p. 16).

Figure 5.5: CDITP Journal Masthead


Centre for the Development of Information and Telecommunications Policy
TeleConverse
Quarterly Update on Information & Telecommunications Policy Formulation
Vol 2 No 3 July 1995

Source: Andile Ngcaba

This is not a rejection per se of the diffusion of policy lessons from elsewhere, as evidenced by the way in which the CDITP embraced international training and study tours and engaged with international experts. However, the latter tended naturally to be chosen on the basis of holding 'progressive' or 'left' positions, critical of the vested interests of the big powers and major corporations. Jill Hills, Kevin Morgan and Vincent Mosco come to mind, amongst others. In this way the CDITP was able to plug in to an epistemic community broadly sympathetic to the positions of the ANC in opposition to those of the National Party government. Thus, the CDITP was willing to "learn from experience elsewhere in the world" but equally determined to "adapt that experience to the unique demands of our society" (CDITP, 1995a, p. 17).

Accordingly, the question of universal access and service - the "the challenge of getting basic services to all people" - looms large in the work of the CDITP. Noting the need for the sector to be "refocused from the current bias towards advanced sectors of the economy to the needs of the South African economy and society at large", it called for a "master plan for development of the sector" which would be centred on "marked increases in telephone penetration in black communities" (CDITP, 1995a, p. 15).

5.3.3 Negotiating Telecommunications: from CODESA to the NTF

At much the same time that the Coopers and Lybrand team was conducting its investigations, public political attention was focused on the Convention for a Democratic South Africa (CODESA) negotiations.

These had commenced in late 1991, and saw the establishment of a number of working groups, which attempted to reach agreement on a range of issues, leading to a second plenary

in early 1992. The nature and scope of the CODESA negotiations meant that telecommunications was only peripheral to the issues under consideration[136]. It fell within the ambit of Working Group 2, whose scope included "political neutrality of, and fair access to, State-controlled / statutorily instituted media (particularly the SABC and SATV), including those of the TBVC states", and which reached agreement on the establishment of an "Independent Body to Regulate Telecommunications Sector", which would have spectrum management and licensing as its principal functions (CODESA, 1992, p. 1 & 8)[137]. Aside from this notion of a converged regulator, there was little of telecommunications substance in what was brought to the table at CODESA 2, beyond a commitment to universal service by ensuring that a "wide range of telecommunication services, including regional and community broadcasting program [sic] services, is available throughout South Africa" (CODESA, 1992, p. 8). In the event CODESA 2 collapsed in mistrust and acrimony and a struggle for political dominance, leading to a failure to reach agreement on constitutional principles and transitional arrangements.

Given the lack of mention of a single substantive telecommunications issue, aside from that of spectrum management, in the CODESA report, the extent to which the proposal for a "combined telecommunications, broadcasting and spectrum regulator" (Gillwald, 2002b, p. 4) represented a far-sighted convergence position is doubtful. And to describe, as Horwitz does, the breakdown of negotiations as a move by "constitutional negotiators to annul a previous decision at CODESA to deal with broadcasting and telecommunications policy together, and instead to proceed with establishing a regulatory authority for broadcasting separately" (2001, p. 196) seems a gross mischaracterisation. The focus of that working group always was specifically on the role of print and broadcast media in creating a climate conducive to free and fair elections: it had no telecommunications mandate per se.

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[136] The CODESA working groups dealt with: the creation of a climate for free political activity, including access to the media and control of the security forces (Working Group 1); constitutional principles and guidelines for a constitution making body (Working Group 2); transitional mechanism, including the establishment of an interim government / transitional arrangements / transitional authority (Working Group 3); the future of the TBVC states and their reincorporation into a future South Africa (Working Group 4); process and time frames (Working Group 5) (NMF, nd).

[137] No agreement, however, was reached on the status and restructuring of the government broadcaster, the SABC, an institution seen as critical to the creation of an open political climate conducive to free and fair elections. Strangely, there was also no agreement on the relatively semantic issue of naming the regulator with two possible names being touted, viz the South African Independent Telecommunications Authority (SAITA) versus the South African Independent Telecommunications Commission (SAITCOM).

It is also mistaken to attribute the exclusion of telecommunications when negotiations resumed again towards the middle of 1993 under the rubric of the Multi-party Negotiation Process to the absence of a corresponding "consultative stakeholder forum" (Horwitz, 2001, p. 196). None of the existing stakeholder forums, such as the ground-breaking National Economic Forum[138], the National Electrification Forum or the National Housing Forum, to name a few of the many, found substantive correspondence in the negotiations for what was essentially a political settlement.

Most of these forums were in fact established in the very fraught interregnum[139] between the breakdown in negotiations at CODESA 2 and their resumption the following year[140], and likely represent a strategy on the part of the ANC-led alliance to broaden its engagement for democratic reform by bypassing the narrow channels of formal negotiations and thus increasing the pressure on the National Party government.

Further, it is likely that including telecommunications under the umbrella of what was ultimately agreed as the 'Independent Broadcasting Authority', would have introduced too many complexities at the time of scope and jurisdiction. Gillwald points to a reticence on the part of the ANC and its allies "about dealing with telecommunications, because of the lack of understanding of the technical and economic issues" (2002b, p. 5). Thus, it seems likely that the complexities of putting a converged regulator in place would simple serve to hold back progress on both fronts, telecommunications and broadcasting (FM, 1992). In any event the central focus was on the creation of a fully independent entity to regulate broadcasting in the broad public interest (Gillwald, 2002b, p. 6). This perspective is borne out by Willie Currie, some years later in a memo to the IDRC of Canada, when he noted that, "unlike the control

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[138] Forerunner to the current National Economic Development and Labour Council (NEDLAC) which brings together government, labour, business and community organisations to discuss, negotiate and advise on economic, labour and development issues.

[139] The period was characterised by increasing levels of violence, punctuated by intermittent attempts to restart negotiations. It was marked by events such as the Boipatong massacre (June 1992), and ANC-led general strike (August 1992), the Bhisho massacre (September 1992), the King Williamstown attack (November 1992), culminating in the assassination of SACP leader Chris Hani on 10 April 1993.

[140] The National Economic Forum (NEF) was established in November 1992, and had its roots in a call issued by COSATU during the previous November 1991 general strike for "for the establishment of a 'macro-economic negotiating forum'" (Callinicos, 1996). The National Housing Forum (NHF) had already been established in August 1992, followed by the National Electrification Forum (NELF) in May 1993, and the National Telecommunications Forum (NTF) in November 1993.

and regulation of broadcasting, telecommunications was not pivotal to the fairness of the election coverage and that further policy work was [felt to be] necessary" (Currie, 1994).

This is not to understate the role of stakeholder forums in negotiating many of the substantive issues which would form the content of the slew of new policies that would be required by the new post-1994 democratic government (Habib, 1997; Lodge, 1999). Horwitz is correct to emphasise the role of forums, with their roots in the organised opposition to *apartheid* rule in the townships and through the trade union movement, as representing the "effort by excluded, largely black, groups to gain entry to policymaking arenas during the 1990–94 transition period" (Horwitz, 2001, pp. 14-17). A similar point is made by Friedman, who sees forums as representing, in the absence of an electoral democracy, the two sides of a negotiated struggle for power:

> *The strength of mobilization against minority rule ensured that policy could not be made without popular movements, the recognition that the old order could not be defeated and had to be negotiated out of power meant that the authorities and the affluent needed to be parties to decisions* (Friedman, 2006, p. 1)

As such, forums functioned as sites of struggle, born out of a recognition by the various parties of the need to reach an accommodation on policy issues that none could unilaterally impose on the others. The South African forums brought together groupings of stakeholders, each with a particular set of negotiating positions and policy objectives, all with a vested interest in winning outcomes to their advantage, but with a degree of shared interest in a common agreement. Typically, they involved government, business, labour, academia and civil society. In effect they acted as mini-regimes with agreed rules and decision-making procedures, and with some congruence of principles and norms, leading to a negotiated set of policy outcomes. They also functioned as elite policy-formulation arenas[141], bringing together contending epistemic communities in search of compromise. They also to an extent acted as epistemic communities in their own right, through "getting parties previously virtually unknown to each other to comprehend the necessities and complexities of policy under the new political dispensation" (Horwitz, 2001, p. 204). They were particularly important from the point of view of the ANC-led alliance, needing to win 'progressive' positions in the face of a hostile government and state bureaucracy.

[141] Both Horwitz and Friedman note that neither stakeholder forums nor their constituent formations are necessarily democratic.

It was in this context that the National Telecommunications Forum (NTF) was launched in late 1993. There is a degree of uncertainty as regards the exact timeline of events[142]. Ngcaba suggests 1992/93 (interview, 28 January 2015), whereas Currie pegs the date somewhat later in 1993 (1996a), while Horwitz says the stakeholders began talking in 1993, with a constitution finalised in 1994 (2001, p. 208). Probably the most accurate dating comes from the first secretary-general of the NTF, Fikile Khumalo, who says the creation of the NTF emanated from a recommendation at a key July 1993 telecommunications policy conference[143] organised by the CDITP, the ANC's telecommunications policy think tank (see above), with a formal launch in November 1993 (2001).

The three day CDITP conference, under the rubric of 'Telecommunications in a Post-*apartheid* South Africa', set out to be a substantial, landmark event. It boasted over 100 delegates (including a visibly reluctant Postmaster General, Ters Oosthuizen), and was addressed by 17 local speakers (including representatives of industry, labour, civic organisations and academia) and 12 international experts (including Vincent Mosco[144] (Carleton University, Ottawa) and Jill Hills (City University, London)). Delegates were greeted by a welcome letter from ANC General Secretary Cyril Ramaphosa, stating that "communications constitutes the nervous system of the democratisation process" (CDITP, 1995a, p. 25). Ngcaba was certainly guilty of overstatement when he described the conference as "the most important telecommunications event in SA's history", but it was clearly intended by the ANC as a slap in the face for the government and a reminder that the National Party government had "no legitimate authority on policy decisions" and that it would be "foolhardy" for them to proceed as if it were "business as usual" (FM, 1993a).

The call for the establishment of a telecommunications forum came from COSATU's Bernie Fanaroff. Describing the government's moves in the sector as a "disaster [with] no openness, no transparency, grossly inadequate consultation and no strategy for a universal service", he called for the establishment of a sector forum to carry through a "coherent, integrated strategy to provide an affordable telephone service of a high quality" (cited in (Ofir, 2003, p. 20)).

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[142] Unfortunately, little if any documentation from the NTF survives in the public domain.

[143] This is borne out by the CDITP, which reproduces the recommendations of that conference, held from 28 - 30 July 1993 (CDITP, 1995a, p. 24).

[144] Mosco warned that convergence mitigated against setting up separate regulators for telecommunications and broadcasting, despite the political nature of the latter (FM, 1993a).

The NTF was constituted in short order following the conference, following the model of the other forums of the transitional period, with the objective to "formulate recommendations on telecommunications policy and issues for the new government" (Khumalo, 2001) with Lyndall Shope-Mafole, head of the policy division of the CDITP, as its first chair (James, 2001, p. 184).

The conference had, crucially, also committed itself to ensuring universal access and service, stating that the "objective of providing access for all to universal services [sic] is of prime importance" (CDITP, 1995a, p. 24) and accordingly gave the mandate of universal service to one of its 8 working groups (Ngcaba, Speech by the Director General of Communications, Andile Ngcaba, at the Telecommunications Colloquium, 2001). The commitment was carried through into the NTF's subsequent formal mission statement, in which it pledged to:

> *offer policy option proposals that would ensure the socioeconomic development of all the people of South Africa through universal service, as well as the economic development of the country through a well-developed, technologically-sound and appropriate telecommunications infrastructure (cited in (Horwitz, 2001, p. 209)*)

Although the NTF was established somewhat later than some of its counterparts, the delay was not inordinate[145]. It may in part have been delayed by the opposition from the Minister and from Telkom, but the delay was also likely due to the heavy workload commitments of the ANC's Andile Ngcaba, who had been extensively involved in preparations for the ITU's Additional Plenipotentiary Conference, which opened in Geneva in December 1992 (interview, 28 January 2015).

Ngcaba viewed the establishment of the NTF as "huge step as far as policy developments and the consultation process were concerned… [one marked by] intensive debate in an inclusive forum" (Ngcaba, Speech by the Director General of Communications, Andile Ngcaba, at the Telecommunications Colloquium, 2001). More informally he describes the role and importance of the NTF as he envisaged it: "I said to the guys now: Let's prepare for post 1994…. [The legislation] is going to change. Let's prepare now; let's talk… There was a lot of activity… We discussed [telecommunications] policy and the future of South Africa" (interview, 28 January 2015).

[145] The National Housing Form (NHF) had been formally established in August 1992, the National Economic Forum (NEF) in November 1992, and the National Electrification Forum (NELF) in May 1993.

The inclusive nature of the NTF was clearly important to the ANC and to Ngcaba, as its set in place a "consultation process… widened to encompass labour, business, government, non-governmental organisations, user groups" (Ngcaba, Speech by the Director General of Communications, Andile Ngcaba, at the Telecommunications Colloquium, 2001). NTF Despite a hostile attitude on the part of government[146], representation included: business (including Telkom, NTUG, the Electronic Industries Federation, the Computer Society); labour (COSATU, the main union at Telkom, POTWA, even the metalworkers' union, NUMSA); academia (including Prof Hu Hanrahan, Electrical and Information Engineering, University of the Witwatersrand) (interview, 28 January 2015). The NTF was supported by Telkom, in a reversal of its earlier "incredibly contemptuous attitude" and its refusal to talk to Ngcaba and the ANC (Horwitz, 2001, pp. 193-194)[147].

It would be in the period after the 1994 elections, as the ANC moved to change the legislation in the sector, that the NTF would really come into its own.

5.3.4 Community Service Obligations and the Advent of Mobile

In the context of our focus on the evolution of universal access and service policy in South Africa, it is important also to consider the advent of mobile, and the furore that this generated. The licensing of Vodacom and MTN occupied political centre stage during much of 1993 (Horwitz, 2001, p. 200), largely because of resolute and strident opposition to the deal from the ANC and COSATU.

One strand of that hostility stemmed from an ideological anti-privatisation stance. Andile Ngcaba was reported as insisting that Telkom should remain a monopoly, saying that "We don't want to kill Telkom by introducing competition which will steal valuable income from it. We want a national cellular network, owned by the state" (Sergeant, 1993d).

Another was anti-elitist. Mobile telephony was popularly viewed as a high-priced, low-uptake toy. As a result, the ANC had "branded cellular phones as elitist, promising to benefit only

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[146] Ngcaba notes that the then Postmaster General, Ters Oosthuizen, Post Master General (PMG) "refused to participate in these activities" (Ngcaba, Speech by the Director General of Communications, Andile Ngcaba, at the Telecommunications Colloquium, 2001) and only sent low level representatives (interview, 28 January 2015). Horwitz, likewise, records the hostility of his predecessor to the formation of such a forum (2001, p. 196). Oosthuizen himself in similar vein remarked that he took his orders from the Minister, not the NTF (FM, 1993a).

[147] Horwitz suggests that Telkom had earlier been conspicuous by its absence amongst the entities funding the CDITP.

the rich with pockets deep enough to afford to buy the hand-sets and use the system" (Chester, 1993).

Others alleged process skewed in favour of white business. SunTel Chair Naepe Maepa[148] is quoted as alleging that the "process has been tilted in favour of white businesses, with stumbling blocks to deter black participation - especially returning exiles who had honed new high-tech skills abroad" (Chester, 1993).

The resultant furore was also deeply coloured by the antagonism and contestation that characterised the ongoing negotiations between the *apartheid* regime and the ANC. The latter's response to the cellular licensing imposition was thus also part of its continued push back against unilateral changes to the market structure of the sector imposed by the National Party government. Amongst many other commentators, Makanya, for example, describes the ANC as being "adamant [that] this "unilateral restructuring" of telecommunications must be suspended" (1993).

But the licensing of the two mobile operators also marked, as Horwitz points out (2001, pp. 202-203), one of the first vendor-financed dividend flow 'black economic empowerment' deals[149] (Spamer, nd). As such, it provided one of the first vehicles through which a major business deal could be sweetened for approval in return for a rent-seeking mechanism that ensured wealth creation for an aspirant 'black' elite.

More importantly, though, from the perspective of this analysis, the mobile licences represented a policy victory for universal access and service. They included significant provisions designed to ensure universal, affordable access to telecommunications services for the country's disadvantaged majority - the first universal service obligations to be imposed on any licensees in South Africa.

The public furore may have occupied centre stage in 1993, but the roots of the mobile licensing saga stretch back well before then.

It is difficult to pinpoint the origins of the pitch for GSM services in South Africa. Both of the initial two licensees claim credit. Alan Knott-Craig, Vodacom's founding and long-standing

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[148] Later ICASA Chair.

[149] Such a deal sees company shares awarded to one or more BEE partners, subject to deferred payment terms, funded from any dividends payable on the allocated block(s) of shares. This minimises barriers to entry for 'black' business with limited access to capital, but is open to influence peddling and other forms of corruption.

CEO, but then still a senior manager at Telkom, deals with the subject in some detail in his somewhat hagiographic autobiography, which appears richly coloured with hindsight. He points to a study tour[150] to covering Europe, Australia, the Far East and the US, at the instigation of Telkom's newly appointed Chair, Jack Clarke. Knott-Craig credits himself with voicing the resultant unanimous recommendation to settle on the then more expensive GSM mobile technology and to opt for a duopoly in the sub-sector:

> *South Africa must go the cellular route, and that it should adopt the GSM standard, digital as opposed to analogue. And what's more, we must insist on a competitive environment, with at least two cellular players – we don't want to create another Telkom (Knott-Craig & Afonso, 2009, p. 37)*

MTN senior manager Karel Pienaar has a rather different view, and emphatically places the origins of mobile in South Africa with pay television company M-Net, where he was responsible for new business development at the time: "cellular materialised in South Africa because of a small team sitting in M-Net" (interview, 6 February 2015). He describes a 1990 study tour undertaken by himself and several other M-Net staffers to PacTel in California, one of the offshoots of the AT&T divestiture, which was using an analogue technology, Advanced Mobile Phone System (AMPS), for mobile telephony. This convinced them that "this is the business we want to be in", and led to serious "lobbying" by M-Net of senior government officials, including Postmaster General Ters Oosthuizen and Minister Dawie de Villiers, who was a friend of the Chair of M-Net, Tom Vosloo. M-Net also conducted market research and ran focus groups, and set up a test network with 4 base stations in Khayelitsha[151] using a pilot licence (Karel Pienaar, interview, 6 February 2015).

It is likely that the truth reflects a more complex interaction of these various initial initiatives, coupled with pressure from manufacturers touting for business. M-Net's interest and early activities may well have spurred Telkom to move more aggressively on its "distant plans" (Karel Pienaar, interview, 6 February 2015) to launch GSM at some point in the future. It is also probable that both initiatives fed into the substance of the Coopers and Lybrand report, and influenced its recommendation for two GSM licensees along the lines of the UK model.

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[150] Knott-Craig gives no dates for the study tour, but it would likely have been in either late 1991 or early 1992, following Clarke's appointment in March 1991 leading up to the corporatisation of Telkom in October 1991.

[151] Sprawling, mostly Xhosa-speaking, dormitory township outside Cape Town.

Knott-Craig points to an agreement between Finance Minister Derek Keys and senior Telkom executives that essentially mirrored the recommendations of the Coopers and Lybrand report:

> *licences would be issued to two cellular operators… Telkom could form part of one consortium that would bid for the cellular licences, but that it could not have more than a 50% stake in the group. However, if that consortium lost out in the envisaged tender process, then Telkom would not be involved in the cellular industry at all. (2009, p. 41)*

The driving idea of providing access to South Africa's unserved, largely 'black' population is pervasive in both accounts. Likely a substantial dose of hindsight[152], both Vodacom's Knott-Craig and MTN's Pienaar cite altruistic service delivery motives for the move into mobile. The recognition of the profit-making possibilities offered by the pent-up demand identified in both the de Villiers and Coopers and Lybrand reports is likely a more accurate if less charitable interpretation. MTN's Pienaar suggests that their persistent lobbying for a licence was because M-Net "knew and believed that this new technology would provide service to the previously underserved", with the central challenge being how "you use this mobile technology for broad-based communications for all" (interview, 6 February 2015). In similar vein, Knott-Craig puts Telkom's universal service aspirations for mobile down to the vision of the newly appointed Chair, Jack Clarke, who, he says, "wanted to provide telecommunications services for millions of [black] South Africans who didn't have access to a telephone", and goes on to speak of his own perception of "cellular as a means of providing universal access" (Knott-Craig & Afonso, 2009, p. 35 & 47).

But securing a mobile licence was also about forging business partnerships. Both local aspirants sought out potential international partners with the necessary expertise and experience to roll out services locally. Knott-Craig reports an early approach from Minister Welgemoed to Sir Gerald Whent and Sir Julian Horn-Smith of the UK's newly-formed Vodafone Group (Knott-Craig & Afonso, 2009, p. 42). M-Net, in turn, approached Cable and Wireless, as well as Vodafone, before settling on the former as their preferred international partner (Karel Pienaar, interview, 6 February 2015). Potential local partners for both included tobacco giant Rembrandt (Knott-Craig & Afonso, 2009, p. 42) (Karel Pienaar, interview, 6 February 2015). M-Net was rather more canny, and the earlier mover of the two, recognising that in

[152] GSM was a niche product at the time, with prepaid unthought-of.

the incipient new South Africa, as a 'white' Afrikaner company, they needed a 'black' empowerment partner, and they approached Nthato Motlana[153] and FABCOS[154].

Pienaar even suggests there was an attempt on the part of Telkom to bring both aspirants into a single GSM licence bid, but that M-Net rejected this because they were only offered a paltry 10% stake (Karel Pienaar, interview, 6 February 2015).

In the event the National Party government decided to proceed along the lines of the Coopers and Lybrand report and in accordance with the agreement that Finance Minister Derek Keys had brokered with Telkom (Business Report, 1993). Thus, on 5 April 1993 a tender for two cellular mobile licences was issued. Knott-Craig suggests that the tender was fully open, for two licences (2009, p. 50), but, given that Telkom was guaranteed a 50% stake in one of the two licences, this created the rather bizarre situation of a tender for 1½ licences (Bidoli, 1993a) with the selection of Telkom's eventual partner, Vodacom, taking place *ex parte* (Sergeant, 1993e). Unfortunately, the original tender is no longer in the public domain for us to verify the exact permutation proposed[155].

However, it appears that the tender did give considerable emphasis to widespread provision of services to the country's underserved 'black' majority, partly because of M-Net's input into the tender (Karel Pienaar, interview, 6 February 2015), but presumably largely because Minister Welgemoed recognised this as a necessary attempt to forestall ANC criticism. Sergeant alludes to this in her comment that

> *The ANC argues that government's decision on cellular phones does not address the shortage of phones, among SA's black inhabitants… A senior government source said the tender was sensitive to issues like providing telecommunications to less advantaged communities… source argued 'that the tender took into account all the ANC's' criticisms to ensure widespread penetration' (1993b).*

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[153] Prominent Soweto doctor and anti-*apartheid* activist, who founded New African Investments Limited (NAIL) in the early 1990s as a vehicle for black economic empowerment.

[154] The Federation for African Business and Consumer Services (FABCOS) was founded in 1988 with an explicit 'black' economic empowerment vision, to bring informal 'black' business into the mainstream of the economy. Its founders included James Ngcoya (President of the SA Black Taxi Association), Dr Ellen Kuzwayo (ANC-aligned women's rights activist), Andrew Lukhele (president of the National Stokvels [informal 'black' savings schemes] Association) and others.

[155] The tender specifications were only available in hard copy on application from the then Department of Posts and Telecommunications.

According to Knott-Craig:

> *tendering companies [were required] to provide evidence of their ability to reach the widest possible community…*
>
> *The tender document was unique in two other respects: first, the bidders had to show how they would generate R1 billion in economic activity outside the mainstream business; and second, the successful applicants had to sell airtime on community phones*[156] *in underserviced areas at a third of the normal price. (Knott-Craig & Afonso, 2009, pp. 48-49)*

Bidoli provides much the same summary, saying "applicants will have to specify the extent to which their choice of technology will lead to high volumes and low costs, how they will provide a service to poor communities and how they will support SA industry" (Bidoli, 1993a). It is likely that Bidoli's summary is more accurate than Knott-Craig's hindsight description. Pienaar suggests that the tender did not actually specify 'community phones' and that these were an innovation in MTN's bid derived from their Khayelitsha pilot, which Vodacom was thus subsequently forced to adopt (interview, 6 February 2015).

Knott-Craig also claims that the sliding scale annual licence fee, pegged at 5% of revenue (in addition to a hefty upfront fee of R 100 million), was an innovative world first (2009, p. 49), particularly so when viewed from the hindsight of the phenomenal and unexpected uptake of the service[157]. Several commentators, however, criticised the high upfront fee as mitigating against rollout to poor communities (Sergeant, 1993c), with the resultant initial and ongoing capital drain reducing the capital reserves necessary to finance the construction of the mobile network, with its expensive base-station towers, backhaul circuits and switching systems. They feared the impact would potentially turn cellular telephony into "just a yuppie toy" (Bidoli, 1993b), earmarked for an urban elite.

Not unexpectedly, the ANC's response was one of outrage, calling on the government "to suspend with immediate effect the unilateral call for tenders and the award of licences for the proposed cellular telephone system" (quoted in (Sergeant, 1993e)). The universal access and service provisions built into the tender, however, undermined the ANC's ability to attack it on

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[156] This was to become the community-service telephone universal service obligation in the final licences.

[157] Coopers and Lybrand, it will be remembered, had estimated the total market size to be a maximum of 220 000 by 2002 (1992, p. 76). In fact, 2002 it had already surpassed 11 million, and today there are over 75 million active SIM cards in the market (author's spreadsheet compiled from annual reports and press statements).

that basis, meaning they could only demand a "proper planning and consultative process, aimed at providing an affordable telephone service to all" (Sergeant, 1993e). Many of the ANC's concerns were voiced by Andile Ngcaba, characterised by Knott-Craig as "firmly opposed to privatising the public telecommunications network" without "sufficient planning and consultation" through the issuing of the licences (2009, p. 46). He goes on to quote Ngcaba as saying "'It's not about introducing cellular to the country as such; it's about how it should be done. The concern is for black involvement and how black empowerment will fit into the bigger telecoms picture" (2009, p. 47)[158]. Ngcaba later described the process as "corrupt" and without legal foundation[159] and leading to cellular telephony being unaffordable for the poor (Sergeant, 1993f).

There was some engagement behind the scenes with the ANC's investment arm, Thebe Investment Corporation, in an attempt secure ANC support for the deal, but the vocal opposition of the politicians led to the approach being rebuffed (IOL, 2000). Instead, to give additional weight to their opposition the ANC brought together a grouping calling itself the Cellular Telephone Consultative Forum, "representing black businesses, labour unions in the telecommunications and electronics sectors, civic organisations and other interest groups" (Sergeant, 1993g). In a further ratcheting up of the pressure, the ANC even threatened to revoke the licences once it came to power "if the bidding process was not halted until the transitional executive council had been established" (Sowetan, 1993). COSATU too joined in the fray, attacking the lack of consultation, describing the process as "unilateral reconstruction in contravention of undertakings given by government to the National Economic Forum", calling for local manufacturing requirements to be included[160], and restating the demand for "universal, affordable service" (Naidoo, 1993).

The final make-up of the bidding consortia was as follows:

- Barlow Rand, comprising Barlow Rand (34%), Deutsche Telekom Mobile (34%), with 32% earmarked for black economic empowerment;

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[158] Knott-Craig's choice of quotation is perhaps unfair to the ANC public position, which presented itself as far more deeply animated by universal service than economic empowerment concerns, but does anticipate the final deal that was struck to allow cellular telephony to go ahead.

[159] This appears to be an attack on the fact that Ters Oosthuizen at that stage had only been appointed as the "independent regulator" for the sector. The Minister promptly promoted him to Postmaster General (Sergeant, 1993f).

[160] This echoed, from a job creation perspective, earlier calls made by the Electronic Industries Federation (Sergeant, 1993a).

- Cellstar Cellular Network, comprising Grintek (51%), Telkom Finland (11%), Finnfund (11%), with 27% earmarked for black economic empowerment;
- Mobile Telephone Networks (MTN), comprising M-Net (30%), the UK's Cable & Wireless (30%), Transnet's Transtel (10%), and black economic empowerment groupings[161] Naftel[162] (25%) and FABCOS (5%);
- Suntel, comprising later head of the regulator, Naepe Maepa[163];
- Vodacom, comprising Telkom (50%), Vodafone (35%) and Rembrandt (15%) (Knott-Craig & Afonso, 2009, p. 53)[164].

The waters were muddied further by unsuccessful attempts on the part of US-based telecommunications companies to have the process delayed until after US sanctions had been lifted in order to enable them to compete (Sergeant, 1993i), and by the 11th hour entry and demands for a share of the spoils from a new 'black' economic empowerment grouping, the African Telecommunications Forum (ATF)[165], which included the ANC's own Thebe Investment

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[161] The clear specification of 'black' economic empowerment groupings in the MTN bid (neither Barlow Rand nor Cellstar had concluded specific deals in advance) clearly repaid their preparatory work over the preceding two years (Karel Pienaar, interview, 6 February 2015).

[162] A 'black' empowerment umbrella investment company, comprising Dr Nthatho Motlana's NAIL, and another 'black' empowerment umbrella. The ownership of the latter goes back via Johnnic Holdings to Hoskens Consolidated Investments, which had been created by the investment arms of two COSATU affiliates, and which was led by two former trade unionists, Marcel Golding (National Union of Mineworkers (NUM)) and Johnny Copelyn (South African Clothing and Textile Workers' Union (SACTWU)). Sergeant suggests Naftel was "formed by M-Net and Cable & Wireless to 'spread ownership to the previously disadvantaged business community on a fair and equitable basis' (1993h). The interlocking nature and shifts in shareholding of many such 'black' empowerment companies makes tracing ownership and control a complex, sometimes impossible, task.

[163] Maepa infamously remarked that his company was "not managed by any ordinary kaffirs" (The Star, 1993). His bid was apparently submitted on a single handwritten sheet of paper (presumably to cock a snoop at the process) and thus not considered (Knott-Craig & Afonso, 2009, p. 53).

[164] Other reports give slightly different percentages. The Financial Mail, for example, has a bigger percentage of MTN as being held by Transtel (20%), with proportionally smaller shares going to Multichoice and Cable & Wireless (FM, 1993c). The Barlow Rand percentage here has been adjusted down from 35% to 34% to allow the total to balance to 100%. The absence of defined and agreed 'black' economic empowerment partners would certainly have weakened the bids of Barlow Rand and Cellstar.

[165] The ATF brought together a number of entities aggressively pushing for empowerment deals in the sector, that had been turned away from the Vodacom consortium by Telkom. These included Afritel (the CEO of which, Mark Headbush, acted as convenor of the ATF, and which later worked in partnership with Vodacom, and subsequently went on to establish Wireless Business Solutions (WBS), provider of the backbone network behind the National Lottery), the ANC's Thebe Investment Corporation, Naepe Maepa's Suntel (of the handwritten cellular bid fame),

Corporation (Bulger, 1993). The ruckus was further deepened when the National Party government apparently tried to slip through further amendments to the Post Office Act, prompting a blistering response from Ngcaba, who described them as new attempts to "deregulate Telkom, [marking] the most significant unilateral restructuring yet seen from a desperate government that is intent in selling off public assets In the dying days of illegitimate rule" (1993).

The announcement on 22 September 1993 of the winning bidders thus took place amidst a flurry of public sabre-rattling by the ANC and COSATU (Sergeant, 1993j) and a series of behind-the-scenes meetings involving, amongst others, Nelson Mandela and ANC Secretary General Cyril Ramaphosa (Cape Times, 1993a). A deal was finally struck, which allowed the licensing of Vodacom and MTN to go ahead. Horwitz suggests that the ANC secured significant 'black' economic empowerment concessions and the withdrawal of the Bill[166] in return for conceding to the granting of the licences (Horwitz, 2001, p. 202). It is true that the deal involved a 5% increase of 'black' shareholding in the case of Vodacom - which went to Hoskens Consolidated Investments (already the holders of a significant portion of MTN) at the expense of a decreased stake for Rembrandt. But in the case of MTN, it merely brought in the COSATU pension fund at the expense of decreasing the stake of Naftel, while increasing the shareholding of state-owned Transtel (FM, 1993c) - see Figure 5.6 below. These do not appear to be deal-making concessions.

Other reports point to countertrade, an agreement to give at least 50% of service-provider franchises to 'black' business, and the provision of mobile services to underserved areas as key to the deal (Chalmers, 1993; Cape Times, 1993b; FM, 1993b). The latter, as previously noted, had already been a bid requirement, and it is not clear if any significantly greater commitments in this regard were secured from Vodacom and MTN, unless it was the inclusion of community service telephone provisions within the licence of Vodacom[167].

Media Investment Trust and National Information Technologies. The ATF also claimed the involvement of NAIL's Dr Nthatho Motlana and NAFCOC's Gabriel Mokgogo (Bulger, 1993). The author recalls aggressive lobbying from ATF delegates for empowerment provisions during the February 2001 Telecommunications Policy Colloquium.

[166] Horwitz suggests that the Bill was relatively technical in nature (Horwitz, 2001, p. 202), which begs the question of whether the government was just engaging in some canny kite flying.

[167] This is unlikely, since community service telephones formed a substantive provision in the standardised licence awarded to both.

The reference to countertrade probably points to the rather mysterious Joint Economic Development Plan Agreement[168], which each mobile licensee was required to enter into. Referred to in the licence as "plan proposed by the Licensee as agreed by the Authority to assist in the development of the South African economy and in particular the telecommunications industry" (ICASA, 2004f), it appears to have included a "commitment for MTN and Vodacom to each invest 1-Billion Rands in South Africa by the year 2000" (Song & Akhtar, 1995, p. 58) in schemes to provide for the social and economic upliftment of disadvantaged communities, through training, job creation, foreign investment and the like.

The licence and the Multiparty Implementation Agreement[169] were formally gazetted a week later (DPT, 1993) but contain no details of shareholding, countertrade or sub-contracting agreements[170], and few specifics by way of universal access and service obligations. The Multiparty Implementation Agreement instead deals largely with the granting of spectrum, the provision of 'community service telephones' (see discussion below), the provision of backhaul by Telkom, interconnection, and a range of other technical agreements.

ANC Secretary General Cyril Ramaphosa[171] appears to have been central to brokering the deal (Willie Currie, interview, 18 September 2014), in one account overriding the opposition of Ngcaba (Denis Smit, interview, 20 November 2014). It is, however, unclear what real concessions Ramaphosa secured from the National Party government. 'Black' economic empowerment was already a significant feature of at least one of the bids, and the changes agreed only brought in a relatively small 5% empowerment stake in the other bid. Both licences already contained substantial universal access and service provisions, including

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[168] Neither of the two Joint Economic Development Plan Agreements appears ever to have been made public, and repeated requests to Vodacom and MTN for copies proved fruitless.

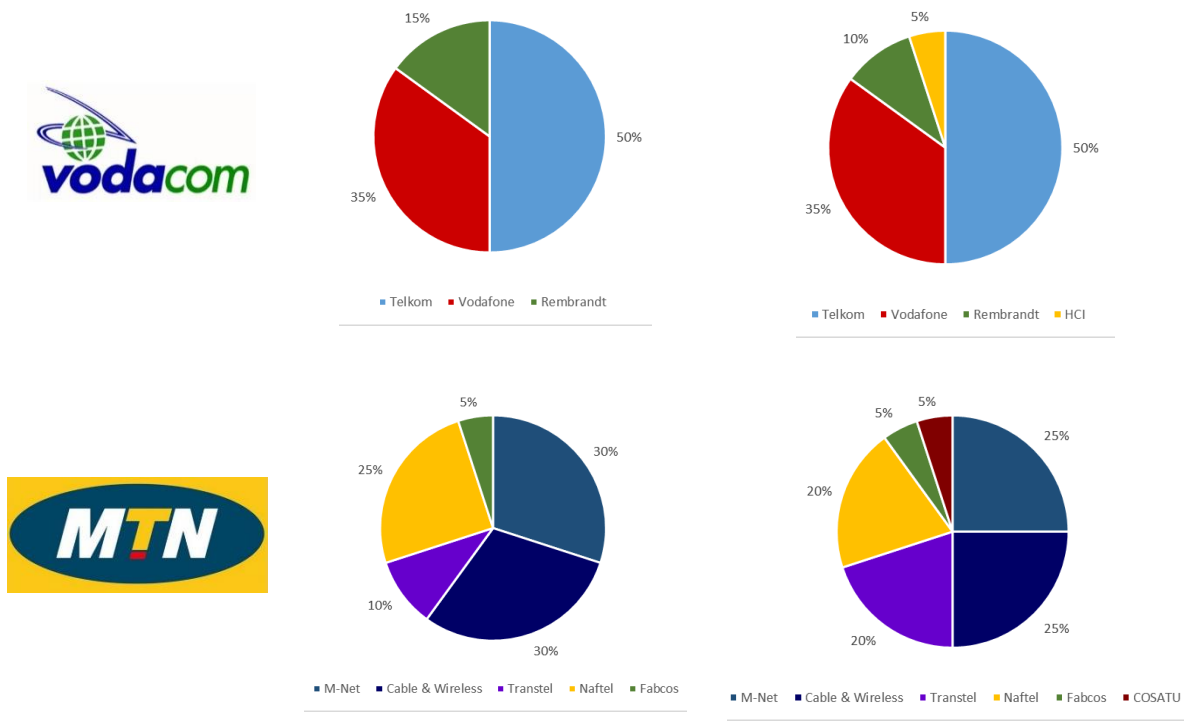
[169] It was signed by the Minister, the Postmaster General, Telkom, Vodacom and MTN, and does not include the ANC.

[170]These provisions were likely contained in the Joint Economic Development Plan Agreement, which deals with the R 1 billion commitment from each of the licensees, referred to by Knott-Craig, and above designed to "assist in the development of the South African economy and in particular the telecommunications industry" (DPT, 1993). As noted previously, no copies of these agreements are publicly available.

[171] Currently Deputy President of South Africa. Having previously retired from active politics in early 1997, following Thabo Mbeki's accession to leadership of the ANC and the Presidency, he became Chair of NAIL - which then held a shareholding in MTN via NAFTEL - and is rated one of South Africa's wealthiest business leaders. His role in MTN did not end there. He joined the Board of MTN from 2001, stepping down as Chair in 2015, to return to politics. It marks an ironic and curious footnote to the mobile licensing agreement.

community service telephones (see Figure 5.6 below). It is puzzling, therefore, what the ANC stood to gain by acceding to the deal.

Figure 5.6: Vodacom & MTN Shareholding before (left) & after (right) agreement



The cellular licensing furore thus marks perhaps the first emergence of active rent-seeking behaviour on the part of the ANC and its allies, particularly 'black' economic empowerment groupings, both from within its own ranks, and, more so, from those who had hitherto played little if any role in the struggle against *apartheid*, but who saw opportunities for the accumulation of wealth in its demise. This is not, of course, to deny the existing (mostly 'white' or state-owned) commercial interests in the sector, the likes of Telkom, M-Net, Rembrandt, who, with the quieter assurance of vested power, were equally desirous of making money out of the mobile licences.

There seem to have been several cross-currents flowing through the set of events described above. There was clearly a real commitment, on the part of the ANC, and of individuals within it like Ngcaba, to address the injustices and deprivation that *apartheid* had inflicted on the overwhelming majority of South Africans - the digital *donga* referred to previously, which saw so many deprived of access to telephony services, both systematically and systemically. There were also political dynamics and ideological positions at play, which underpinned the ANC's resistance to 'unilateral restructuring' of the sector and informed their firm opposition

to privatisation, and which equally drove the outgoing government to attempt to drive through both positions. Complicating all was self-interest, commercial greed and rent-seeking conduct, which manifested itself in the unseemly jostling for a share of the cellular spoils, and, possibly, through the manipulation of the political drama for personal gain.

From the point of view of universal access and service, it is, however, worth reflecting on the measures contained in the licences which were intended to address the lack of access to telephony for the majority. Still using the 'community service obligations' terminology derived from the Coopers and Lybrand report, the measures were essentially twofold. Firstly, they dealt with rollout requirements, or 'availability' of service in ITU parlance. Aside from blanket population coverage requirements set out in the body of the licence (60% within two years, 70% within four), these required a "Network Implementation Timetable", which provided for the incremental provision of mobile coverage of a specified grade of service to a number of population centres specified in an agreed schedule. Secondly, they dealt with a "Community Service Telephone Timetable", in terms of which a specified number of community service telephones would be rolled out on an incremental basis in accordance with an agreed schedule (DPT, 1993). Community service telephones were defined as having to be "freely accessible" to the public, "located in an Under-serviced Area or in a Community Centre", and provided at a discounted "Community Service Telephone Tariff" (DPT, 1993, p. Section 1). Unfortunately, the schedules in both cases, were "confidential" between the licensee concerned and the Minister and the Postmaster General.

Telkom, however, at some later point published both the Multiparty Implementation Agreement and Vodacom's various schedules of commitments (Telkom, 1993). Vodacom's schedules list large numbers of urban areas and traffic routes to be covered in stages over 48 months from the "commercial date" of the launch of their service, along with 22 000 community service telephones over a period of five years. MTN's schedule was later published (in presumably unamended or slightly amended form[172]) by ICASA (2002c), and, similarly, included long lists of towns and townships to be covered over four years, together with a slightly less detailed list of 7 500 community service telephones to be installed over a five year period. The Multiparty Implementation Agreement already marked out the differing rollout strategies of the two operators, with both focused on ('white') urban areas, but with Vodacom targeting coverage along the major highways, and MTN including a significant number of 'black' townships in its plans.

[172] The corresponding Schedule for Vodacom shows a few minor additions to the one published by Telkom.

These universal service obligations, which were the second major achievement of the mobile licensing brouhaha, will be assessed in detail in the next chapter.

5.4 ANC Policy on Universal Access and Service

It is evident from the events described above that the ANC had no clear and agreed set of policy positions on universal access and service, let alone in respect of telecommunications more generally. This is not unexpected, given its nature as a liberation movement engaged in struggle - the armed struggle, mass protest struggle, diplomatic struggle. However, at the same time the ANC was developing a range of "quite detailed sectoral policy perspectives" in other areas such as "land reform, policing, foreign policy, affirmative action, education and a national health plan" (Lodge, 1999, p. 9). Whether this is a fully accurate assessment, or whether it is influenced by the low profile of the NTF and a lack of awareness of the work of Ngcaba's CDITP, is a matter for conjecture.

The analysis of the events above suggests little by way of substantial policy alternatives in the field of telecommunications more broadly, and on the clearly critically important issues of universal access and service more specifically. Opposition to the privatisation of Telkom, and the demand for universal, affordable access to services could serve only as broad guiding principles. However, they needed to be backed by specific policy alternatives, and this they were not. The establishment of the CDITP by Andile Ngcaba (described above), along with the recruitment and training of a cadre of individuals with some experience and expertise in the sector, and the development of research and position papers, was clearly designed to fill the lacuna.

ANC policy in relation to telecommunications was slow to crystallise, and remained relatively generalised when it did. For example, the ANC's 1992 *Ready to Govern* makes scant mention of telecommunications, despite the fact that, according Pallo Jordan, a paper on telecommunications was presented there by Andile Ngcaba[173]. This landmark ANC policy document emerged from its National Policy Conference, held at the end of May 1992, following the breakdown of political negotiations at CODESA 2, and intended to promote the organisation's vision of the transition to democracy and to establish a "set of basic guidelines to policies [the ANC intends] to pursue". Telecommunications, in this vision, enjoys little

[173] Jordan may be referring to the subsequent ANC policy on telecommunications (1994a), largely developed by Ngcaba.

prominence, and is dealt with along with other aspects of infrastructure such as electricity and water, subject to the following guidelines[174]:

- The need to "promote infrastructural development in the rural areas";
- The need to provide "access to these essential services for all South Africans";
- "The equitable allocation of these resources between industry, agriculture and domestic consumers";
- "The democratisation of the control of utilities which provide these services" (ANC, 1992).

A rather firmer telecommunications policy position is fleshed out in the quasi election manifesto of the ANC, the Reconstruction and Development Programme (RDP), adopted in early 1994 shortly in advance of the country's first democratic election. The roots of the RDP, in fact, lie with COSATU rather than with the ANC (Lodge, 1999; von Holdt, 2004; Naidoo, 2010). Lodge suggests union disquiet with what was perceived as a rightward shift in the ANC positions adopted at the 1992 National Policy Conference referred to above, were the genesis. More specifically it can be traced to a response by then COSATU Assistant Secretary General Mbhazima Shilowa to remarks made by the ANC's Trevor Manuel at a June 1992 NUMSA workshop, in which Shilowa made COSATU's support for the ANC conditional on its protection of worker interests (Lodge, 1999, pp. 8-9; von Holdt, 2004, p. 1)[175]. Naidoo speaks about a growing feeling within COSATU of the need for a "reconstruction pact [which] would commit a new government to a joint agenda" (2010, p. 240) which was then formalised at its 1993 Special Congress.

What is of interest is the degree to which the Reconstruction and Development Programme was developed through participatory, consultative processes. The first four drafts were developed internally within COSATU before the 1993 Special Congress, with the remaining two drafts involving Tripartite Alliance structures. The author recalls attending one such session held at the Shaft 17 Conference Centre near Soweto, at which a variety of structures and individuals from with the broader anti-*apartheid* movement were present, and at which

[174] To be fair, they were policy 'guidelines' rather than a detailed statement of policy.

[175] In an ironic footnote to that history, Trevor Manuel served as Minister of Finance from 1996 to 2009, while Shilowa was one of the leaders of the breakaway Congress of the People, and NUMSA was recently expelled from COSATU for its opposition to the policies of the ANC under Jacob Zuma.

there was intense and detailed debate on the range of issues and options, suffused with a sense of creating a shared vision of real policy alternatives.

Of the early drafts only the fourth survives in the public domain. Although it deals with a range of issues such as housing, health care, social welfare, the environment, education and more, telecommunications is barely mentioned, save for "access to an affordable telephone" in a paragraph dealing with access to basic infrastructure including water and electricity (ANC, 1993). The relatively peremptory reference to telecommunications does suggest a lack of impact of the CDITP and the newly-formed NTF on the development of the RDP, however. But the RDP as a document continued to evolve. As Lodge suggests, its "intellectual evolution became increasingly complicated [as it] drew upon a progressively broader range of tributaries" (1999, p. 9) - although, for others, this meant that its "'radical' content was successively watered down (McKinley, 2003, p. 2).

Nevertheless, the final version of the RDP does contain rather more substantial policy provisions with regard to telecommunications and to universal access and service. Access to telecommunications is now dealt with specifically and in some detail under the section that deals with "Meeting Basic Needs". Proceeding from a characterisation of South Africa's racialised telecommunications divide, the document identifies 'universal affordable access' as a key priority both in its own right and as an enabler of socio-economic development. Pausing to cock a snoop at government's "indiscriminate privatisation", the document does manage to recognise the role of the sector as a business enabler. Because of the document's seminal, symbolic significance, it is worth reproducing the section in full:

> *2.8 TELECOMMUNICATIONS*
>
> *2.8.1 Telecommunications is an information infrastructure and must play a crucial role in South Africa's health, education, agricultural, informal sector, policing and safety programmes. Under apartheid the provision of telecommunications was racially distorted. For black people it is estimated that less than 1 line per 100 persons is in place compared with about 60 lines per 100 white persons*[176]*. Other countries with comparable per capita wealth have 30 lines per 100 persons. The situation is far worse in rural areas.*

[176] It is unclear quite where these dramatic and subsequently oft-cited figures come from other than via poetic licence. They differ substantially and improbably from the Coopers and Lybrandt estimates of only a few years earlier (which had rates of 2,4 and 25 respectively) (1992, pp. 7-9). They are also well out of line with similar figures from a later study by the UNDP and the ITU (1995, p. 29).

2.8.2 The existing parastatal Telkom is restricted by heavy debt from engaging in substantial further borrowing, and an indiscriminate privatisation process has fragmented the telecommunications system. The lack of infrastructure has also restricted the provision of services to peri-urban and rural areas. Other telecommunications networks are not well integrated into the existing Telkom network.

2.8.3 The telecommunications sector is an indispensable backbone for the development of all other socio-economic sectors. An effective telecommunications infrastructure which includes universal access is essential to enable the delivery of basic services and the reconstruction and development of deprived areas.

2.8.4 The RDP aims to provide universal affordable access for all as rapidly as possible within a sustainable and viable telecommunications system; to develop a modern and integrated telecommunications and information technology system that is capable of enhancing, cheapening and facilitating education, health care, business information, public administration and rural development, and to develop a Southern African cooperative programme for telecommunications. In terms of the RDP, telecommunications services must be provided to all schools and clinics within two years. (ANC, 1994b)

Later sections in the document deal the need to retain the basic network infrastructure under public ownership, to create an independent regulator, and to stimulate local telecommunications manufacturing capacity (ANC, 1994b, pp. 4.6.6-4.6.10).

The key features of the ANC's positions over the previous three years are all there: the antipathy to unilateral privatisation and restructuring, the importance of Telkom and its network for a planned approach to social development and economic growth, but, above all, the *apartheid* telephony divide and the imperative of universal access and service.

At the same time that the RDP was being negotiated, the CDITP was developing a more detailed ANC policy for the sector in parallel. The ultimate formal status of the document is not entirely clear. The CDITP, writing some years later, refers to it as the "detailed policy development which underpinned the framing" of the RDP , and goes so far as to claim credit for the telecommunications sections noted above (1995a, p. 10 & 34). The document itself too explicitly makes the linkage, and appears to predate the RDP, which it refers to as the

"Development and Reconstruction Programme" (ANC, 1994a), but there is no public record of the document's status[177].

Ngcaba was central to the authorship of the document, which Pallo Jordan describes as "interesting" and a "source" for many of the subsequent ideas that filtered through into policy (interview, 1 December 2014). Felleng Sekha is rather more forceful describing the document as "brilliant" and "very comprehensive" (interview, 5 December 2014). However, it is likely that the work had substantial input from the team at the CDITP. Aki Stavrou recalls being flown up from Durban every weekend for a period of about six months over 1993 / 1994 "basically drafting a new regulatory framework for telecommunications" that would serve as input into the drafting of a new legislative framework after the 1994 election (interview, 17 October 2014).

'The ANC Policy for Equity and Efficiency in the Telecommunications Sector' is a far more detailed and comprehensive policy articulation than that contained in the RDP. As its title suggests, it seeks to balance twin goals of addressing the *apartheid* telecommunications divide and of promoting ICTs as an enabler of economic and social development, reflecting the 'mixed economy' approach publicly argued by ANC Secretary General Cyril Ramaphosa (1993). But it is universal access and service that the document places, for the first time, as the pre-eminent goal of sector policy. It sets out its "overriding goal" as being the "delivery of affordable universal access to the telecommunications network, irrespective of race or location" (ANC, 1994a, p. 4).

Of course, the document is far more complex and nuanced than just a statement of a single goal and a single policy provision. In many ways it reveals the hand of Ngcaba in its alignment with developing international good practice, calling for:

- A "separation of functions", with policy vested in the hands of the government and the Minister, and regulation undertaken by an "independent regulator", answerable only to Parliament, and with the standard menu of regulatory responsibilities, ranging from spectrum management to consumer protection, and, of course, universal service;
- "Public ownership" and development of the "national telecommunications infrastructure" (notably Telkom, but also Transtel) to meet the goal of "universal

[177] The version in the author's possession is dated February 1994 and marked 'Draft', and appears to be the same version referred to by Horwitz.

service", with only limited competition "where it is demonstrable that the prime goal of universal telephone service will not be harmed"[178];

- "Meeting the community's needs" by ensuring that "telecommunications services should be both physically and financially accessible to all South Africans" through dramatically ramping up connectivity and through a substantial rollout of payphone provision;
- Reworking the structure of "tariffs and charges" to eliminate excessive cross-subsidies and to achieve rate "re-balancing;
- Support for "local industry" and "local manufacture" through "procurement policy", particularly on the part of Telkom[179];
- The promotion of human resource development and "affirmative action";
- A "review" of the mobile communications licences, which it still sees as "unilateral" and "unacceptable", to ensure the protection of Telkom and the rollout of services to the poor, with consideration of alternative technologies such as Telepoint[180] and CDMA[181];
- Securing readmission to the ITU and promoting regional co-operation (ANC, 1994a).

Whilst this much more detailed ANC policy, may not be aligned to the international good practice precepts of privatisation, competition and regulation identified previously, it is certainly aware of them. The policy's defence of the public ownership of at least the basic network, implicitly recognises and reacts to the pressures from business for greater liberalisation, and reaches its position primarily on the basis of the need for substantial state intervention through Telkom to provide universal service to the underserved majority of the country's population. It is an argument that is essentially based on the assumption of a natural monopoly, a line of reasoning strongly influenced by the ANC's historical allegiance to

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[178] It proposes a 'Telkom Act' to govern Telkom's role and (universal service') obligations, and the creation of a 'Telecommunications Investment Agency' to address Telkom's shortage of capital.

[179] Strangely only limited mention is made of black economic empowerment. Local manufacture is what occupies centre stage.

[180] A cheaper cordless telephony alternative to GSM, but with limited mobility, which only allowed outgoing calls while on the move. Four Telepoint licences were issued in the UK in 1989. All four licensees went under within two years of launching their services, unable to compete with GSM.

[181] CDMA was, according to MTN's Karel Pienaar, the technology "favoured" by the CDITP's Ngcaba and Shope-Mafole (interview, 6 February 2015).

nationalisation as a policy, and its grudging slow steps to back away from that position. That in turn created a fixation on the central role for Telkom which was to bedevil the way in which universal service obligations were to be conceived once legislative change was effected.

The ANC's huffy response to the imposition of the mobile licences is also strongly present, although the document stops short of threatening to revoke the licences or to nationalise the licensees. The policy's emphasis on 'local manufacture' is also reminiscent of the National Party government's sanctions-induced policy of 'import substitution', but more likely influenced by the 'inward industrialisation' strategy favoured by COSATU and the ANC's Keynesian Macro-Economic Research Group, MERG (MERG, 1993; Marais, 2001, pp. 124-126). On the other hand, the strong emphasis on the separation of powers and functions through the creation of an independent regulator, insulated from political interference, structured along the lines of the IBA, and answerable only to Parliament, is strongly reminiscent of the prescriptions of the ITU.

The emphasis of the policy document on universal access and service, may in part chime with some of the emphasis on 'meeting basic needs' that underpins the MERG approach and that runs through the RDP, but it more strongly echoes the repeated public emphasis on universal service by key alliance figures (Naidoo, 1993; Ngcaba, 1993; Ramaphosa, 1993). What is curious is that these UAS policy prescriptions remained generalised and unformed. Universal service obligations and the creation of a universal service fund were, as already noted, already being touted as international good practice: yet neither of these so much as receives a mention.

Nonetheless, this ANC policy document does represent an important and coherent formulation of policy for the sector, one that puts universal access and service at the forefront.

5.5 Diffusion, Learning and Transfer: The Shaping of UAS Policy in SA

The various policy developments and interventions in the South African telecommunications sector leading up to the country's first democratic election in 1994 need to be considered in the broader context of policy trends and developments, both global and domestic. The previous chapter traced the evolution of the international telecommunications regime, centred on the ITU and the WTO and, to a lesser extent, on the World Bank. Its central norms, as

identified above, were privatisation, competition and regulation. But to what extent were those policy norms transferred and adopted in South Africa?

Certainly, many of the pressures and drivers in South Africa were the same as those in play globally. The diffusion of technologies was clearly taking place, despite the relative degree of isolation imposed on South Africa as a consequence of *apartheid* during the 1970s and 1980s. As de Villiers has shown, Telkom presided over an advanced and increasingly digitised network (1989). Companies like IBM, ITT[182] and Barclays had either been suppliers or users of advanced technologies, before disinvestment and the consequent creation of local spin-offs - which often retained links to the parent companies from which they had become divorced. The pressures and demands of business, particularly the big users of telecommunications and data services, for greater liberalisation have already been noted. In this they are likely to have been influenced by international business trends and by their international counterparts: a degree of policy diffusion. Seeking solutions to business problems and opportunities for new markets, they are likely to have been influenced by international business trends through membership of global business associations and the like, and to have taken up the issues and demands of their international counterparts (Cutler, 2002).

The interesting question, however, from the point of view of this study, is the extent to which national policymakers in South Africa responded to those pressures and drivers by adopting the norms and principles of the global telecommunications regime, in other words the extent to which policy diffusion took place. They were certainly in a more fortunate and a stronger position than countries like Kenya, for whom telecommunications reform grew out of the barrel of an IMF gun, resulting in "short shrift given to the principle of universal access" (Muriu, 2002, p. 14 & 22). For example, a 1997 World Bank report, pushing hard for sector reform in order to "maximise investment opportunities", is strongly dismissive of the "policy objective of universal service… [as] inappropriate in the circumstances prevailing in [sub-Saharan Africa]" (Mustafa, Laidlaw, & Brand, 1997, p. vii & 32). Others too have noted a similar specific emphasis on "privatization and liberalization [competition] initiatives… in the context of structural adjustment programs by the IMF and World Bank" (Djiofack-Zebaze & Keck, 2008, p. 920).

[182] Founded in 1920 as International Telephone & Telegraph, US-based ITT is a global manufacturing company based producing specialty industrial and technological components.

As has been shown, in the case of the de Villiers report, any diffusion of global policy norms with respect to the separation of postal and telecommunications services, leading to the possible privatisation of telecommunications and the creation of a regulatory entity, can only be inferred, and is, at best, highly indirect and diffuse, since neither the document itself nor the circumstances of its production (other than its broad privatisation brief) suggest evidence to the contrary. The Coopers and Lybrandt report - with its continual reference to examples of practice from other jurisdictions - gives rather more grounds to suspect policy diffusion at work. Its clearly-held preferences for privatisation and the introduction of competition, together with its recommendation for independent regulation, suggest that, at the very least, it was aware of international good practice, even it appears reluctant to refer to this. And, in the absence, of access to its anonymous authors, it is impossible to determine the extent to which they drew from the norms and principles of the international telecommunications regime.

In the case of the policy processes leading to the development of the ANC's incipient policy on telecommunications, the evidence is rather clearer. The establishment of the CDITP, its associated capacity-building, and its research and publications activities (not only through its various research and position papers, but also its journal, *Teleconverse*[183]), all suggest the creation of an epistemic community, with its work focused on the development and elaboration of knowledge. As Ngcaba was later to put it, they

> *conducted extensive seminars on policy and regulatory issues and also engaged interested stakeholders through the production of a journal called* Teleconverse*. The latter publication served as a further tool of nurturing a vibrant debate and discussion environment and also facilitated knowledge sharing. (Ngcaba, Speech by the Director General of Communications, Andile Ngcaba, at the Telecommunications Colloquium, 2001)*

Andile Ngcaba was clearly the driving force behind the CDITP and the development of its policy positions. Ngcaba was by this stage deeply rooted in the ITU, having been involved there as an ANC representative[184] since the late 1980s, under Secretary General Richard Butler. Energetic, charismatic, hard-working and keen to learn, he was soon spotted and drawn into

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[183] The only copy that the author was able to track down is a slim 6-pager from July 1995 with articles discussing the Telecommunications Green Paper, digital television and the role of a new regulator (CDITP, 1995b).

[184] With South Africa having been expelled from the ITU, the ANC, as a liberation movement, enjoyed observer status.

the work of the ITU. He considers himself to be very fortunate to have been "exposed to the ITU, its functions and its work" (interview, 28 January 2015). His involvement with the ITU over the next few years was extensive, lasting until his appointment a Director General in 1995[185]. His work included attending a number of the ITU's study groups, working on the preparations for the ITU's 1992 Additional Plenipotentiary Conference, even helping to draft a series of booklets on regulation[186]. He was also active in at least the first three in the series of eight colloquiums under the umbrella of 'The Changing Role of Government in an Era of Telecom Deregulation' that ran in the years following that Plenipotentiary Conference, and describes himself as "very busy with ITU work, running the ANC department, and commuting back and forth between Johannesburg and Geneva" (Andile Ngcaba, interview, 28 January 2015). He was even approached by Bjorn Wellenius of the World Bank to help set up *info*Dev, and ICT for development research and funding programme, which collaborates extensively with the ITU.

All of this means that Ngcaba was very closely involved with the parameters of the international telecommunications regime emerging at the time (see discussion in the previous chapter). It also meant that, in setting up the CDITP and in developing ANC policy at the time, he had a "full network of people that [he] knew then at the ITU to tap into" (Andile Ngcaba, interview, 28 January 2015). Ngcaba's involvement with the ITU, then, at the very least, suggests a close grasp of the issues of privatisation, competition and regulation in the sector at the time. His enthusiasm in recounting the period suggests the ideas were influential in shaping his own thinking.

One of the key sources of developing a coherent telecommunications knowledge base for the ANC and the sector, therefore, was the transnational epistemic policy community Ngcaba was able to draw on. He cites two works as being particularly influential, books by George

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[185] In fact, his appointment letter reached him while he was at an ITU meeting in Geneva in December 1994, and he took some three months to wind up his ITU commitments before assuming the post. His description of the conflicting demands of his work in the ANC and that in the ITU betrays a hint that he may seriously have considered choosing to remain with the ITU rather than returning to become a senior civil servant.

[186] According to Ngcaba booklets were published in 1991, and were called 'Why Regulate?', 'What to Regulate?', 'How to Regulate?'. The author was, however, unable to verify this or to track down copies.

Codding[187] and Jill Hills[188] respectively. "If you want to know sociology and telecommunications, read [their] books", he urges (interview, 28 January 2015). He cites a number of others as being influential: the ITU's Tim Kelly[189], Sam Paltridge[190] of the OECD, academic Robin Mansell[191].

Ngcaba moved swiftly to draw in the transnational policy community within which he was embedded. As Stone has suggested, one of the strengths of a think tank like the CDITP is its ability to reach out to a broader international epistemic community, and thus to act as a "clearing-house" for knowledge and information, thereby facilitating policy diffusion (Stone, 2000). A stream of international visitors thus followed, at the invitation of Ngcaba, amongst them: ITU Secretary General Richard Butler and staffer Tim Kelly (who ran a training programme at the ANC's Shell House headquarters in 1991 / 1992), academics George Codding and Jill Hills, and Australian trade unionist Kevin Morgan (Andile Ngcaba, interview, 28 January 2015). Others also mention US academic Robert Horwitz (Felleng Sekha, interview, 5 December 2014) and India's Hanuman Chowdary[192] (Aki Stavrou, interview, 17 October 2014). The mix does not explicitly suggest a narrow desire "to call on an epistemic community whose ideas 'implicitly align' with [a] preexisting political agenda" (Adler & Haas, 1992, p. 374 & 381): expertise from the international telecommunications regime (Butler and Kelly), is balanced with those with experience of liberalisation in their own countries (Morgan and Chowdary), spiced with those likely to be sympathetic to a 'left', ANC agenda (Hills and Morgan). It suggests a conscious engagement with the diffusion of policy, an attempt to

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[187] Professor of political science at the University of Colorado, Boulder, with numerous publications on the history of the ITU and the changes introduced in the early 1990s to his credit. The book title Ngcaba specifically cites - 'The sociology of telecommunications in the 20th Century' - does not appear to exist.

[188] Hills, J (2002) *The Struggle for Control of Global Communication: The Formative Century*, University of Illinois Press and Hills, J (2007) *Telecommunications and Empire: Power relations within the global telecommunications empire*, University of Illinois Press. The latter is extensively cited in the previous chapter.

[189] Now Lead ICT Policy Specialist at the World Bank and *info*Dev, interviewed for this research project.

[190] Dr Sam Paltridge joined the OECD as a communication analyst in the Information, Computer and Communications Policy Division in 1993.

[191] Now at London School of Economics. She was Professor in Information and Communication Technology Policy, Science and Technology Policy Research Unit (SPRU), University of Sussex, 1995 – 2000.

[192] Dr Chowdary initiated and oversaw telecommunications reform in India, and was the first Chair and CEO of India's international connectivity incumbent, VSNL (Videsh Sanchar Nigam Limited), now Tata Communications (later the majority shareholder in South Africa's second fixed-line licensee, Neotel). He has also written prolifically on telecommunications.

come to grips with the dynamics of international telecommunications reform, and, on that basis, to fashion a 'progressive' agenda.

The training agenda and programmes of the CDITP, either through the identification and formal training of cadres like Felleng Sekha, or through the delivery of workshops and programmes in South Africa by people like the ITU's Tim Kelly, or through the numerous study tours abroad undertaken by those associated with the CDITP, have already been mentioned. Building capacity and skills amongst a segment of the population historically and systematically excluded was high on the agenda of the CDITP, which saw that the "best way of achieving [the country's] objectives is to train people with the relevant skills to develop innovative solutions to the policy, technological and economic issues arising from new communications technologies and services" (CDITP, 1995a, p. 17). All of these individuals would have exposed those involved to a slew of policies and practices in a variety of jurisdictions - of necessity, mostly in the English-speaking developed world[193] - all more or less in the throes of implementing telecommunications reform along the lines of the recommendations of the ITU, the OECD and the EC. It is therefore likely that those involved were to varying degrees influenced by the policy prescriptions they encountered.

But the CDITP was also actively engaged in its own research. Aki Stavrou, who had been drafted in to work with the CDITP, partly on the basis of previous underground work with the ANC and partly on the basis of academic research[194] into telephony in rural areas, says there was a deliberate and "conscious effort on the part of the CDITP to look at international best practice" (interview, 17 October 2014). Researching international best practice models was his core task. They looked at legislation and regulation in a number of countries, as well as at academic commentaries, but also undertook study tours (Aki Stavrou, interview, 17 October 2014) (CDITP, 1995a). Stavrou remembers watching the 1994 inauguration of President Mandela from an Irish pub while on one such study tour. There were also engagements with continental bodies such as the Southern Africa Transport and Communications Commission

[193] Sweden, Canada, UK, France, Netherlands USA, ITU. Singapore.

[194] Cf Stavrou, S (1988) 'A Study of the Socio-Economic Needs for Telecommunications in Rural KwaZulu, Report No 1, Centre for Social and Developing Studies, University of Natal, Durban; Stavrou, S (1989) 'Rural Telecommunications: A Household Evaluation Study', Report No 2, Telecommunications Project, Centre for Social and Development Studies, University of Natal, Durban; Stavrou, S (1989) 'The Urban & Rural Link in Rural Telecommunications', Report No 3, Telecommunications Project, Centre for Social and Development Studies, University of Natal, Durban.

(SATCC) and the Pan-African telecommunications Union (PATU)[195]. Pragmatically, their choice of good practice exemplars was influenced by the availability of material in English, but the degree of "modernisation" and the "level of liberalisation of telecomms policy" were more substantive selection criteria. Eventually, according to Stavrou, they narrowed the focus down to five countries: Sweden, the USA, the UK, Spain and Ireland[196]. Ngcaba suggests that Mexico and Brazil were also key models (interview, 28 January 2015. Whatever the actual list of comparator countries, it is an engagement that reflects a conscious effort to learn from the policies and practices of other jurisdictions, but to filter and interpret these in accordance with the requirements of the reality in South Africa, a managed policy diffusion. For example, the CDITP refers to ANC policy as embracing "elements of reform which have found acceptance in the European Community and in the Green Paper on regulation for African nations[197], which has been developed by the International Telecommunication Union" (CDITP, 1995a, p. 10).

Interaction with international experts, training and study tours, research into international good practice - all would have served as channels of policy diffusion. Ngcaba is explicit: "International best practice did influence what we did", although he does suggest that the "influence was far broader than just the ITU" (interview, 28 January 2015).

However, the resistance of the ANC to privatisation and its insistence on the importance of universal access and service, do suggest a degree of active engagement with the precepts of international good practice, whether bounded by historical positions on nationalisation or guided by the realities of the *apartheid* telephony divide.

5.6 Green Paper: Canvassing Telecommunications Reform

Following the victory of the ANC in the country's first free and fair and democratic election on 27 April 1994, the newly appointed Minister of Posts and Telecommunications, Pallo Jordan, embarked on a thorough review and overhaul of the sector. This was effected through a

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[195] Stavrou remembers meetings in Kinshasa and Yaoundé.

[196] In hindsight, Stavrou notes that they didn't look at Latin America, Asia, Korea. They did, however, consider Australia.

[197] This was presumably written in anticipation of the adoption of the African Green Paper, which only took place in Abidjan in May the following year (ITU, 1996a).

Green Paper (RSA, 1995) and White Paper (RSA, 1996b) process, leading to the 1996 Telecommunications Act (RSA, 1996b).

This process has already been charted in great detail in Horwitz's seminal work (Horwitz, 2001, pp. 178-281). Although it did constitute a move in the "direction of resolution" (Horwitz, 2001, p. 208) in the sense of codifying and laying down the policy framework that was to shape the ICT sector in South Africa for the next 20 years, it was not without its twists and turns, its shenanigans and confrontations. What is of interest to us from the point of view of this research project, is the role and prominence of universal access and service policy within that codified framework, along with the policy influences that shaped its central features.

5.6.1 Constructing ICT Sector Reform in an Unreconstructed Context

One of the key challenges facing the new ANC government as it moved towards the implementation of ICT sector reform was the fact that it had to be undertaken within a hostile institutional environment. The demands that the ANC had made in relation to the restructuring of telecommunications and the licensing of mobile services at the hands of the National Party in the years leading up to the first democratic election, together with the policy positions it had adopted internally and through the RDP, both of which were examined in the preceding section, meant that carrying through a new policy and legislative framework for the sector was not something that could be avoided. However, the so-called 'sunset clauses' in the 1993 Interim Constitution, which had enabled the political settlement, by guaranteeing the National Party a share in the Government of National Unity, and by protecting the jobs of those in the civil service (RSA, 1993b, p. Sections 88 & 236). The encumbrance of the bureaucracy inherited from and historically aligned to the *apartheid* state acted as a considerable constraint on the room for manoeuvre of the incoming ANC-dominated administration (Maphunye, 2002), particularly in the arena of ICTs, subject not only to internal pressures for reform, but sorely in need of substantial overhaul to align it with international practice.

The events of the preceding years - in particular, the lack of consultation around the various reports and the unilateral restructuring of the sector, but also the hostility to the CDITP and the NTF - would have shown Ngcaba and the ANC that they faced a bureaucracy antagonistic to their agenda. In the words of Willie Currie, who was to co-ordinate the reform process from the ANC's side: "we had to deal with an unreconstructed Department" (interview, 18 September 2014). The new Minister, Pallo Jordan, is less diplomatic, describing the

Department as a place filled with "lots of mischief", and noting two occasions on which his desktop computer mysteriously 'crashed' (interview, 1 December 2014).

The high levels of antagonism directed towards the ancien policy regime, also spilled over into distrust and suspicion of the agendas and motives of the (almost entirely white) business sector. Elsewhere, Currie refers to the sector as characterised by deep "dislocations" in viewpoint, in particular around "universal service" and the "introduction of competition" (Currie, 1996a, p. 1). He goes on to list some of the profound tensions running through the sector:

> *between management and unions in Telkom, between existing telco's and new entrants whether from local black business or international companies, between network operators and local equipment suppliers, between local equipment suppliers and foreign equipment suppliers, between Telkom and Transtel and Eskom, between Vodacom and MTN and cellular service providers (Currie, 1996a, p. 1)*

Running the telecommunications reform process through the Department was, therefore, not an option. But, more than that, the approach to 'democratising the state' and society outlined in the RDP meant that reform of the telecommunications sector needed to be in line with "publicly-determined priorities" and broadened from the preserve of elite policy-making to ensure that "historically oppressed communities get the resources they need to participate meaningfully in planning processes and decision-making" (ANC, 1994b, p. Section 6.3). The ANC, therefore, needed to ensure the participation of stakeholders, particularly those disadvantaged by *apartheid*'s telecommunications geography, in the process. It was also in line with a more general developing country trend to allow "societal groups a voice in the development process" especially where this "will involve and benefit society at large" (Singh, 2002b, pp. 249-250).

This imperative notwithstanding, the fraught nature of the sector must also have made the ANC wary of attempting to run the process through the NTF, which had been "close to breaking up" over tensions around "universal access" versus the needs of business (FM, 1995a). Its nature as a stakeholder forum meant that most of the contending interest groups were around the table, and, therefore, that it would be central to the process. But the balance of forces was not entirely favourable to the ANC, and its outcomes were not always predictable. The first secretary-general of the NTF, Fikile Khumalo, alludes to the "fear that the NTF might be driven too much by business interests" (Khumalo, 2001, p. 184). Horwitz

also points to an underlying mistrust from the side of the ANC, COSATU and associated stakeholders, who felt out of their depth, despite the capacity-building work of the CDITP, in the face of the complex and technical nature of the issues at stake, which engendered "suspicion and a feeling that malevolent policy provisions would be put in place by white bureaucrats and businessmen under the noses of the black majority" (Horwitz, 2001, p. 213). As a result, it was decided to run the process outside both government and the NTF to create a "point of focus other than the NTF where a full public debate [could] take place" (Currie, 1994). Nonetheless the NTF was to remain an important point of consultation: a draft of the Green Paper was circulated to them "for comment" and the penultimate draft of the White Paper was "tabled for discussion" at an NTF conference (Currie, 1996a, pp. 4-5). What was thus sought was a delicate balance between keeping control of the process and opening it up for stakeholder input.

Speaking some years later, Ngcaba correctly describes South Africa's telecommunications reform process as unique, the development of national policy and legislation outside of government, through what were essentially NGO structures:

> *The history of policy development initiatives in this country is quite unique in the sense that it was not government-led but rather driven by non-governmental organisations championed by the African National Congress (ANC). The 90s could be said to have represented the era of mobilisation of the marginalised to be part of the policy decision-making efforts. This was evidenced by the proliferation of forums and organisations that reared up and participated in telecommunications policy debates. (Ngcaba, Speech by the Director General of Communications, Andile Ngcaba, at the Telecommunications Colloquium, 2001)*

The process was superintended by Willie Currie, formerly Secretary-General of the Film and Allied Workers Organisation (FAWO), who had worked with Pallo Jordan in the Campaign for Independent Broadcasting and in setting up the Independent Broadcasting Authority (IBA), but who had not been involved in the CDITP. Jordan appointed Currie as special adviser in late 1994, with a mandate to carry out the process, and Currie immediately set about approaching Canada's semi-independent development research funding body, the IDRC,

setting out the envisaged process and planned timescales, and identifying areas, which included "universal service", where the IDRC could "assist" (1994)[198].

It is not entirely clear why the ANC turned to the IDRC. Horwitz suggests this was intended to "ensure the independence of the process – from the old government bureaucracy, from IMF / World Bank structures, and from powerful South African interest groups alike" (2001, p. 211). But it was certainly also due to the extensive ties that the IDRC had developed with the ANC during the 'talks about talks' phase preceding the release of Nelson Mandela and extended right through to CODESA (van Ameringen, 2013)[199]. The support of the IDRC for the telecommunications reform initiative was in fact part of a slew of similar assistance programmes by the IDRC and other Canadian entities, including in respect of economic policy, restructuring local government, science and technology[200]. As van Ameringen notes, the IDRC "became intimately involved in the reconstruction efforts and provided support to the new Ministers as they found it difficult to navigate the *apartheid* bureaucracy that they had inherited" (van Ameringen, 2013).

In fact, the involvement of the IDRC predates the 1994 election, initially conceived much more broadly as embracing national information management policy. Telecommunications reform evolved as a key sub-project. A first visit by Kate Wild[201] and Nabil Harfoush[202] in late 1993 had met with what was labelled an "Information Policy Working Committee", which comprised Andile Ngcaba, Devan Naidoo, Mike Muller, all of the ANC, Jeremy Cronin of the SACP, Bernie Fanaroff of NUMSA, Lechesa Tsenoli of SANCO, and the IDRC's Marc van Ameringen (Harfoush & Wild, 1994). This was followed by second visit less than a month after the ANC's 1994 election victory, still aimed at making "recommendations for the creation of a broad framework of a national information policy" - which essentially meant an information and

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[198] One presumes the formal request for assistance was preceded by informal discussions, possibly facilitated by Devan Naidoo. It was made clear that, despite the request for assistance, the process was to remain under South African control.

[199] van Ameringen says that his engagement with the ANC in exile meant that he was denied entry to *apartheid* South Africa at the time.

[200] The Canadian International Development Agency (CIDA) also provided funding for the NTPP, but the IDRC was the implementing agency from the side of Canada.

[201] Originally brought in as a consultant on the broader project, Kate Wild, whose expertise derived from work at the UN and the International Labour Organisation (ILO), was later to act as the lead person from the side of the IDRC on the subsequent development of policy and legislation.

[202] A consultant from RANK Informatics, Canada, later also part of the Technical Task Team.

knowledge management solution to back the implementation of the RDP (Harfoush & Wild, 1994). It was only a third visit, later the same year, involving the IDRC's Shahid Akhtar and renowned telecommunications academic Bill Melody[203], that finally began to turn the focus of attention to the "need for a clear regulatory framework for the telecommunication sector - a framework that is perhaps managed by an independent authority" along the lines of the IBA (Akhtar, Melody, & Naidoo, 1994, p. 8). Interestingly the report envisaged that "as widely a consultative process as possible be activated soon to engage the various players and interest groups, including the private sector, NGO-movement, key parastatals and the labour unions" - although, strangely, it failed to finger the NTF[204] in this role. It also suggested an approach explicitly based on policy diffusion, involving a "review of the policy research literature, on international experience to date, on developments in relevant international agencies, and the current situation in South Africa" (Akhtar, Melody, & Naidoo, 1994, p. 9).

Briefed by Devan Naidoo, this was the context in which Currie wrote to the IDRC's Marc van Ameringen. The response of the IDRC was prompt and favourable, and included a "checklist for developing the terms of reference for the telecommunications sector Green and White Papers" which included "universal service / universal access" (Akhtar, Fax to Willie Currie, 1995). Thus, was created the 'National Telecommunications Policy Project' (NTPP), through which the Green and White Papers were to be drafted, leading to the 1996 Telecommunications Act. From the South African side Currie recommended to Minister Jordan the appointment of three individuals to the "technical task team" which was to undertake the drafting process: Andile Ngcaba and Aki Stavrou from the CDITP, and UCT academic David Kaplan (Currie, 1995)[205]. In the event, Ngcaba and another UCT academic, Robin Braun, were appointed, under Currie's direction, and supplemented by an "Advisory Panel" comprising Kaplan, the CDITP's Felleng Sekha, André van der Westhuizen, and Mike Morris, an academic who had worked with Aki Stavrou on telecommunications access in rural areas (Cape Times,

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[203] Formerly an economist with the FCC, then an academic at the Technical University of Denmark, Melody has written extensively on the subject of telecommunications reform, and was editor of and contributor to the seminal *Telecom Reform: Principles, Policies and Regulatory Practices* (1997).

[204] They had in fact attended a plenary meeting of the NTF on 24-25 November 1994, and did recognise that the NTF should be an "important player" in the process.

[205] It is likely that the drafting was undertaken by a much wider grouping, the composition of which shifted as the process unfolded. The Green Paper does not list its authors. The White Paper, by contrast, contains a full listing of over 60 names under various categories, including a "Technical Task team" and a "Green Paper Advisory Panel" (RSA, 1996b). Stavrou and Kaplan are amongst the 9 names listed for the latter; Ngcaba is listed elsewhere, as are the various international consultants.

1995). Also drafted in shortly thereafter, presumably in response to angry interventions from business (Anonymous, 1995), were Telkom's Dr Gabriel Celli and Koos Klok from the Department, followed a little later by MTN's Michael Stocks and Khumbulani Mkhize from COSATU (DPTB, 1995, pp. 80-86). From the side of the IDRC, Kate Wild played a leading role, not only as co-ordinator but also providing substantive input (Tina James, interview, 27 November 2014; (Ofir, 2003, pp. 38-39), supported by Dr Nabil Harfoush and Roger Valantin. Additional international expertise came via Prof Robert Horwitz from the University of California, San Diego, and Dr Robert Okello from United Nations Economic Commission for Africa (UNECA) (DPTB, 1995, pp. 80-86).

It was this team that set about the task of drafting a Green Paper (formally announced by Minister Jordan at the Telkom 1995 conference (FM, 1995a)), identifying issues and formulating questions, and carrying through the earlier work that Aki Stavrou and others had been engaged on at the CDITP.

Horwitz makes much of the consultative and participatory nature of the reforms hammered out in a series of stakeholder compromises that led to the 1996 Telecommunications Act (2001). Similarly, Currie's public descriptions of the process emphasise this aspect, characterising it as "participatory democracy" rather than "policy-making by Ministerial dictat" (1996a). As such it created a "space for stakeholders and the public to participate", to "iron out [their] dislocations", and to build "confidence" in the process and its outcomes. Certainly, such an approach would have been in keeping with the *zeitgeist* of the times - an ANC returning from exile, unleashing the voice of the majority and engaging in popular consultative processes, from CODESA to the plethora of stakeholder forums. However, it must be recognised that the process was not a fully democratic one. The scope for the very ordinary citizens, deprived of access to telecommunications by the years of *apartheid*, was limited if not non-existent: they would have to rely on the ANC and organised labour for their voice. Horwitz thus seems to overstate the case when he contrasts it to the "fenced-off, elite driven restructurings in most countries" and characterises it as a "democratic process of a unique participatory and deliberative kind" (Horwitz, 2001, p. 256). It was rather a process that was participatory in an elite sense: open to the range of organised stakeholder groupings and vested interests whose exclusion would have been problematic.

But other voices are rather more cynical. According to Stavrou the outcome was "largely pre-determined", even though the process was designed to accommodate and address "very strong alternative views on particular issues" (interview, 17 October 2014). There were

certainly at stages very strong views from some from the business side of the sector that they were being railroaded. Fairly early on in the process an angry fax emanating from "key industry stakeholders" berated the "Willie Currie Team" as lacking the "'trust' of the stakeholders, charging the Minister with bypassing the NTF and his own Postmaster General, and acting without "broader consultation" (Anonymous, 1995).

Running the process through the National Telecommunications Policy Project (NTPP) rather than the national Telecommunications Forum (NTF) no doubt allowed a good deal of behind the scenes manoeuvring and *ex parte* engagement with the full range of stakeholders, from organised labour to business, to address their fears and to accommodate their issues - the "set of politically delicate visits" referred to by Horwitz (2001, p. 212). It meant a careful balance between stakeholder input and keeping control of the process and its outcomes.

5.6.2 The Green Paper: 'Let All Call'

Contretemps like the above notwithstanding, the promised Green Paper was duly released into the public domain on 7 July 1995 to a flurry of public response. Its twin RDP-inspired themes were the need to "redress the historic imbalances [in access] caused by [*apartheid*] policies" and the need to "make our businesses operate more efficiently and help [socio-economic] development to unfold more effectively". Most of the public response centred on the latter, seeing in Jordan's remarks at the launch a refusal on the part of the ANC to privatise Telkom and introduce competition (Herbert, 1995; Lunsche, 1995b; FM, 1995b), although some did focus on the former (Rohan, 1995).

Figure 5.7: "Let All Call"[206]

Source: (DPTB, 1995)

Given its background, it is not surprising that the Green Paper accords the policy "goal of universal service" primary priority, the first South African policy document ever to do so with such strong emphasis. The document is primarily structured around a series of 149 policy

[206] The slogan "All shall call", which appears as the title of the relevant chapter in Horwitz (2001, pp. 178-281), emerged out of the November 1997 Mount Grace colloquium on the Green Paper (Perlman, 1995b). It appears that the original slogan may have been the rather more prosaic "All must call" (DPTB, 1995).

questions, structured into 10 chapters, and in each case contextualised or prefaced with a short background discussion. This is not as unusual a format for a Green Paper as Horwitz suggests (2001, p. 210), but is, interestingly, closer to the Canadian model of an "official document" containing "propositions put before the whole nation for discussion" (Franks C. , 2006), and is consistent with the consultative light in which the process had sought to cast itself. Stakeholder responses to the questions were requested by end of September. The Green Paper also sought to make itself widely accessible to the public at large. Versions were published in four of the country's 11 official languages, and made electronically available via FTP download and Gopher, with submissions accepted by post or fax or email[207].

The Green Paper contextualises itself against "drivers of change", both internal and external. The former largely consist of a restatement of the twin planks of the telecommunications section of the RDP: redressing the "historical imbalances" in access, on the one hand, and the increasingly "sophisticated" needs of business on the other. It is the external drivers that are of interest, since they suggest the degree to which options proposed were informed by policy diffusion. External drivers include: "technological developments" which undermine monopoly provision; "convergence and globalisation"; the "internationalisation of network provision"; the "development of international strategic partnerships"; and the "global liberalisation of trade in telecommunications products and services, and pressures by trading partners on international bodies (such as the World Trade Organization (WTO)) to follow suit". In other words, the document recognises the context of the global telecommunications regime, and the pressures for policy transfer.

Issues related to universal access and service are mainly dealt with in the first two of the document's sections, viz "Telecommunications and Development in South Africa" and "Market Structures in the Telecommunications Sector", and feature explicitly in 5 of its 149 questions (RSA, 1995).

The first such issue to be tested was that of universal service (defined as "putting a telecommunications line in every household wanting the service, at affordable prices") and

[207] FTP (or file transfer protocol) was a pre-Internet protocol designed to download computer files. The Gopher protocol was a pre-Internet forerunner of today's search engines. Together these measures were innovative for their time, and marked the ANC as a pioneer in the sphere of what later came to be called e-government, driven largely by Tim Jenkin, the communications boffin of Operation Vula, and the developer of many Alliance and government websites in this period. Horwitz suggests a degree of sabotage by the government bureaucracy in dissemination of the Green Paper, with infomercials and broadcasts blocked, and translation and distribution of copies delayed (2001, p. 212).

universal access (defined as "placing a telephone within people's reach but not in every household, for example, by installing public or community telephones within walking distance of people's houses") and the relationship between the two (RSA, 1995, pp. Questions 1.1, 1.2 & 2.1). Universal access was canvassed as an "appropriate intermediate stage" en route to achieving universal service, along with appropriate "indicators" and definitions. The "best way" of reaching universal access and of providing "rural telecommunications" were also canvassed (RSA, 1995, pp. Questions 1.1, 2.2 & 2.3).

What is of particular interest here is that this marks both the first formal definition of the two terms, and a clear conceptual and sequential distinction between them. As was shown in the previous chapter, there were some hints in this direction in the early international good practice literature, but nothing predating the ITU's 1998 report. Given the influence of the conceptualisation of the distinction between universal access and universal service upon the subsequent epistemic discourse surrounding universal access and service, particularly in relation to developing countries, it is curious how the model emerged so fully formed and explicitly articulated in the Green Paper. The CDITP's Felleng Sekha attributes it to pressure from business on the grounds that the cost of providing universal service was simply unaffordable (interview, 5 December 2014). It is likely, however, that its outline had emerged within the networks of the ITU where Andile Ngcaba was tightly integrated. He suggests that the access / service dichotomy was something that had been "debated in many fora", pointing out that it reflected the "reality" in Africa where "universal access means in a village there must at least be a means to communicate, whether it's wireless or a fixed phone - rather than to aim for something [universal service] which will take many, many years to achieve" (interview, 28 January 2015). He goes on to say: "I was a firm advocate of the idea, and many people would have heard me speak about it, but it wasn't my idea - I wouldn't take any credit. But I was a big advocate of the idea." It would therefore appear that it was a concept that was diffused and crystallised from a broader epistemic community. It was, however, one that clearly chimed with the South African reality and that offered a practicable path across the deep chasm of South Africa's digital divide.

The Green Paper moved further to pose specific questions relating to concrete interventions to achieve universal access and service, specifically focusing on the two that, as the previous chapter pointed out, were identified within international good practice at the time, the imposition of universal service obligations and the establishment of a universal service fund.

It asks:

- *Should each [telecommunications licensee] have clear-cut universal service obligations (directly, in terms of service provision, or indirectly, in terms of some form of financial contribution) as a condition for obtaining a license [sic]?*
- *Should indirect (financial) contributions be paid into a "universal service fund" which would be used to finance universal service provision directly? (RSA, 1995, p. Question 2.7)*.

Posing the two options clearly shows the policy influence of international good practice, but neither is further explained.

As pointed out above, questions of affordability and accessibility are central to the provision of universal access and service. The Green Paper raises the latter when it asks whether there should be a differential "grade of services" [sic] for universal access provision (RSA, 1995, p. Question 2.1). The former is dealt with most fully in the section entitled "Affordability and Tariff Setting" which raises the question of "special tariffs" for universal access, noting that "closely associated with the formulation of any tariff regime are the notions of universal service and universal access". Specifically, it asks: "How can barriers to entry be lowered by making services more affordable to disadvantaged communities?" (RSA, 1995, p. Question 6.10).

It is worth noting in passing, given the later introduction of under-serviced area licences, that the document does mention the possibility of a "rural telecommunications corporation" (RSA, 1995, p. Question 3.10). The reference, however, is only a passing one, and unlikely to have been the genesis of the later concept.

What can be seen from the above is that the Green Paper gives considerable prominence to universal access and service in the policy and legislative framework it canvasses for the sector, and that there seems to have been a degree of policy diffusion in its comprehension and formulation of the issues.

The Green Paper also deals with the other central concerns of telecommunications reform: liberalisation, privatisation and regulation. It poses an extensive range of options for the market structure of the sector ranging from monopoly (which it presents in various possible

flavours, including a state-owned monopoly, a "commercialised" monopoly[208] and a private monopoly) through to full competition, and including a hybrid of the two. An outlier here is its option which envisages "private sector companies[209] co-opted into Telkom in a "Build, Operate, and Transfer" (BOT) operation, including one specifically for rural and underdeveloped areas". The privatisation of Telkom is also flighted as an option, albeit not very prominently, and largely in relation to securing the necessary investment to achieve the massive rollout of the network. Breaking Telkom up into separate operating companies, as was done with AT&T in the US, is also mooted. Fairly extensive attention is also given to managing the relationship between Telkom and potential competitors. (RSA, 1995, p. Sections 2 & 3)

Regulation of the sector is dealt with in a specific section, along with the question of spectrum management. The necessity of regulation is canvassed, along with both the form and scope of regulation. Options tested include whether to create a single, converged regulator, as well as the extent of regulatory independence and funding models. The content and scope of regulation are also posed, including both standard regulatory competencies such as spectrum, licensing, interconnection, consumer protection and price regulation. Given the importance of universal access and service within the Green Paper, this too is mooted as one of areas of competence for the regulator, through the monitoring of "progress towards achieving universal service". (RSA, 1995, p. Section 5) There does not at this stage appear to have been any consideration given to the creation of a separate institution to oversee universal access and service. This was to come later.

Black economic empowerment also receives specific attention in the Green Paper with an entire section devoted to "Economic Empowerment of Historically Disadvantaged South Africans" which poses options to promote the "economic empowerment of members of historically disadvantaged communities in the telecommunications industry" (RSA, 1995, p. Section 4). The remaining sections of the document cover the "equipment supply industry", "human resources for the sector", "regional and international co-operation", and "legislative reforms".

Predictably it was the questions of market structure, competition and privatisation that elicited the most public debate (Dison & Markovitz, 1995; Johannes & du Plessis, 1995; FM, 1995c),

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[208] The status at the time of Telkom in the fixed-line market.

[209] Presumably it had Transtel and Eskom in mind here, although it may have been considering MTN and Vodacom as well. The Green Paper does not elaborate.

with most responses firmly supporting the privatisation of Telkom, and the (gradual, in most cases) introduction of competition. On the other hand, the ANC seems to have remained steadfast in its adherence to universal access and service as the driving imperative, even with Minister Jordan apparently conceding a preparedness to accede to liberalisation if it were shown as able to deliver universal access and service, when he was quoted as saying: "the objective is universal service. If competition is what we need to get universal service, then we'll have competition" (Perlman, 1995a).

As noted above, the Green Paper process held itself out as one in which stakeholder consultation was both extensive and intensive. Not only was the public given nearly four months to make written submissions on the Green Paper[210] - and they responded in force with "131 submissions… amounting to over 4 000 pages of commentary" (Horwitz, 2001, p. 214)[211]. It does seem, however, the public process notwithstanding, that a "preponderance" of the submissions was unduly skewed in favour of "interested" parties with vested interests in the sector and "large corporate users", all with "predictable" positions, with a concomitant "lack of responses by the general public" (UNDP / ITU, 1995, p. 38). The notice and comment process was followed by an opportunity for online public engagement with the Minister via Internet relay chat (IRC) (FM, 1995d) - itself an elite forum given the level of connectivity of the day - and a three day colloquium for selected stakeholders held at the upmarket Mount Grace resort in November 1995[212]. In preparation for the latter, the stakeholder responses were subjected to careful textual and statistical analysis, and distilled into four alternative scenarios, which were publicly released in early November (Horwitz, 2001, p. 215)[213].

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[210] The original deadline was 30 September 1995 (RSA, 1995), but this was presumably extended by a month. The colloquium was not originally planned, but, according to Horwitz, came at the behest of the NTF (2001, pp. 237-238).

[211] South Africa's recent ICT Policy Review process, by way of some contrast, received 70 submissions in response to its Green Paper, with a combined total of 139 submissions across all three documents it published for public scrutiny and feedback (DTPS, 2015, pp. 9-11).

[212] Formally, the National Colloquium on Telecommunications Policy.

[213] Unfortunately, none of the key stakeholder documents in response to the Green Paper - viz the full text of the various submissions, the narrative analysis of the responses, the statistical analysis of the responses - survives. This means that the discussion of universal access and service has to rely on the report on the colloquium itself (DPTB, 1995).

5.6.3 Seeking Sufficient Consensus: 'All Shall Call'

The Mount Grace Colloquium brought together some 80 delegates from a wide range of stakeholder groupings, including operators, manufacturers and suppliers, civil society groupings and entities, organised labour, business (including BEE bodies), broadcasters, government departments, and the technical task team itself. Divided into seven working groups, they were to focus on five central questions posed by Willie Currie on the basis of the submissions received on the Green Paper. Minister Pallo Jordan's welcoming address set the tone, once again highlighting the "discrepancy" in access to telecommunications, citing as "polar opposites" the affluent suburb of Sandton and the impoverished urban township of Alexandra, the highly urbanised province of Gauteng and the largely rural province of Mpumalanga vs Gauteng. He went on to foreground the question of universal access, which he described not as a second-rate objective, but as a "stepping stone to universal service", a more "immediately recognisable goal (DPTB, 1995, pp. 17-18).

Moving on to some of the more contentious issues, he held out the possibility of CODESA-style "sufficient consensus" - a clearly deliberate allusion. Suggesting that the responses to the Green Paper showed that state-owned monopoly provision and opening up the market international competition were not necessarily "Manichean opposites", he hoped for possible consensus based on "limited deregulation" and the "need to protect Telkom" (DPTB, 1995, p. 18).

Universal access and service featured prominently in the five core questions to be debated in the working groups, viz:

1. *Universal service, economic empowerment and development*
2. *Market structure & competition*
3. *Ownership and finance*
4. *Regulation*
5. *The equipment supply industry (DPTB, 1995, p. 19)*

Presenting the first of these questions, Currie introduced for the first time into the public debate the question of a Universal Service Agency, asking how to "put in place a structure like a universal service agency which does more than merely providing funding" (DPTB, 1995, p. 19).

Given the revolutionary nature of this institutional concept - South Africa was the first country either to moot or establish a structure specifically dedicated to universal access and service, its funding, oversight and implementation - its genesis is unfortunately unclear.

Stavrou (interview, 17 October 2014) suggests that the notion had its roots in the early work of the CDITP in 1990 and 1991. According to him, when the CDITP started to look at policy, a body was mooted to act as a "watchdog" to protect and ensure universal service for the unconnected majority.

If so, it is strange that the idea of a Universal Service Agency was not floated in the Green Paper, nor were any questions included that might prompt discussion in that direction (RSA, 2005). It was therefore clearly a later addition to the discourse. The question surfaced formally for the first time at the National Telecommunications Policy Colloquium at Mount Grace in November 1995, and was later incorporated in the White Paper. The official report on the colloquium describes it as an "idea suggested by Minister Z Pallo Jordan at the sectoral briefing on 7 November" (DPTB, 1995, p. 21). The briefing dealt with the release of the two analysis reports on the stakeholder submissions, and received perfunctory press coverage (Payne, 1995), which means that the significance of the universal service agency proposal may have been missed. Horwitz concurs (presumably based on the same source) that the suggestion first surfaced at the briefing, but suggests that the concept of a universal service agency had been pitched to the Minister by Andile Ngcaba in a private meeting (Horwitz, 2001, p. 241).

Irish consultant and ICT4D activist, Seán Ó Siochrú also claims a close association with the idea, saying that he "had argued for the setting up of a special [universal service] agency, because of the contradictory roles involved in regulation", namely ensuring "as close to 'perfect competition' as possible in the sector" versus the need to "extend the network to less profitable areas" (personal communications, 18 August & 1 September 2014). For Ó Siochrú, thus, a separate universal service entity acts as a counterweight to the possibility of regulatory capture. Although the argument is a sensible one, and likely constitutes one of several rationales for the Universal Service Agency, Ó Siochrú's involvement in the process seems to have been after the White Paper, in the course of 1996 (Ofir, 2003, pp. 40-41)[214]. In addition, there is no documentation to support his claim.

[214] He was brought in by Kate Wild on the basis of a presentation he made to the ITU's Telecom 95 conference in Geneva, which dealt with precisely the set of tensions between universal access and service and telecommunications reform which the South Africans were grappling with. He was subsequently commissioned

The CDITP's Felleng Sekha, who was an active participant at the colloquium, suggests the original idea for the universal service agency may have come from Andile Ngcaba (interview, 5 December 2014). Then Minister Pallo Jordan confirms that the concept was not his, suggesting (incorrectly[215]) that the "seeds of the idea" came from the ANC policy on telecommunications (1994a), for which, as pointed out above, Ngcaba was likely the primary drafter. Andile Ngcaba confirms in fact that the idea was his, although he disarmingly says he does not "want to claim exclusive credit" because there were a number of people involved in a collaborative effort (interview, 28 January 2015). It seems likely, therefore, that the genesis of the Universal Service Agency does come from Andile Ngcaba, either developed in collaboration with others (probably from the CDITP) or honed following feedback from others.

At the time there were no precedents. Stavrou et al describe the Universal Service agency as a "unique body", noting that "at the time there was no similar organisation elsewhere [in the world]" (Stavrou, Whitehead, Wilson, Seloane, & Benjamin, 2001, p. 1)

Whatever its origins, the proposal to establish a universal service agency was firmly on the agenda at the Mount Grace Colloquium, where it dominated discussions relating to universal access and service. The relevant discussion question was phrased as follows:

> *Question 1.1: Should there be a universal service agency to promote and advance telecommunications universal service in South Africa? If so, what should be its structure and functions? (DPTB, 1995, p. 68)*

The remaining universal access and service issues seem to have mustered general consensus. The question of universal access "as an intermediate stage along the road to universal service" seems to have been agreed, as does the need for a universal service fund. A definition of 'universal service' - as the "provision of a telecommunications <u>line</u> and access to <u>services</u> available on that line to every applicant upon request at affordable / equitable <u>prices</u>" ((DPTB, 1995, p. 20) their emphasis) floated by the National Telecommunications Forum seems also to have passed without demur.

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by the IDRC to produce a study on universal service and telecommunications in South Africa (Ó Siochrú, 1996), for which he visited the country in early 1996.

[215] The document does, as we have seen, contain a proposal for a Telecommunications Investment Agency to oversee Telkom's raising and management of its capital requirements, suggesting Ngcaba's penchant for the kind of 'out of the box' thinking with which one interviewee characterised him (interview, Karel Pienaar, 6 February 2015).

The debate around the proposed universal service agency fluctuated over the course of the colloquium, with 5 of the 7 working groups reportedly coming out in support on the concept on the first day (DPTB, 1995, p. 21). In reality the discussion was rather more evenly divided than the official summary suggests: one of the groups reported as being in favour of the agency concept actually had a majority opposed to it albeit with a vocal dissenting view from organised labour; another group wanted the agency to be a sub-structure of the regulator. Opponents of a separate agency argued that it would be an unnecessary "duplication of functions", that it would undermine the work of the regulator, that it "could lead to policy battles between the agency and the regulator", and hence that its functions should best be performed under the regulator through one or other structure or format. Proponents argued that it would provide for a far "more focused" attention on universal access and service from a different perspective than a regulator could, that it could take on a watchdog and co-ordination rule, including that of managing the agreed universal service fund (DPTB, 1995, pp. 21-22). An analysis of the detailed discussions (DPTB, 1995, pp. 40-67) in fact suggests that the line of consensus aligned around the need for a dedicated structure to monitor universal access and service, but one either housed within or reporting to the regulator.

Whether intentionally or not, one thing the debate did achieve was to place the question of universal access and service beyond debate or reproach. BMI-Tech MD Denis Smit, for example, lauds the "genuine political motive to look after the disadvantaged… [via the creation of] one specific entity to look after the under-served" (interview, 20 November 2014).

Different participants have different views on the intensity of the debate. Felleng Sekha suggests the differences between the camps over the universal service agency "bone of contention" were not that "sharp" (interview, 5 December 2014). Denis Smit, by contrast, suggests the debate was rather fiercer: "Industry was adamant that it should be part of the regulator… Andile was adamant that the USA should be a separate entity" (interview, 20 November 2014). The trade union delegates were particularly vocal supporters, arguing the need for a "structural mechanism" to achieve universal access and service (Willie Currie, interview 18 September 2014). The strongly voiced support of organised labour for the universal service agency proposal is interesting in the light of later appointments of trade unionists to the Universal Service Agency when it came to be created. This may not necessarily be sinister, given the social movement unionism nature of COSATU (Hirschsohn, 1998), which consistently advances the needs and interests of a far broader constituency than its immediate membership, including the poor and the unemployed.

It seems likely that the real reason behind the strong arguments in favour of a separate universal service agency was an unspoken concern at the prospect of regulatory capture, a "fear that the future regulator would be captured by white business interests" (Horwitz, 2001, p. 241). Saddled with a hostile, unreformed Department and faced with powerful and vocal business interests, this must have seemed a very real threat to the advancement of universal access and service for the marginalised majority in the eyes of Ngcaba and the 'black' delegates to the Colloquium. Creating an entity to head off regulatory capture and to act as a check on the regulator, is certainly what underpins Ó Siochrú's argument.

A consensus agreement on the question of the universal service agency was reached in the final plenary session, one that accommodated the objections of those who feared duplication and conflict with the regulator. The terms of the consensus raise a number of issues that were to become important as the implementation of universal access and service unfolded in South Africa, and this are worth reproducing almost in full:

> *Established by the Minister, this universal service agency's objectives would be to keep universal service at the centre of public policy concerns and on the public policy agenda. It would also facilitate community involvement in promotion and delivery of universal service-related matters.*
>
> *The requirements for this universal service agency should be as follows:*
>
> - *it should have sufficient visibility and independence to ensure a continuing strong focus on universal service obligations;*
> - *it should have the capacity to link with historically disadvantaged communities;*
> - *it should operate in a pro-active, participatory and innovative manner;*
> - *it should co-ordinate closely with the Regulator to:*
> a. *facilitate a coherent approach to universal service obligations in licensing;*
> b. *ensure adequate information flows and sharing; including the effective use of a common data base for monitoring and decision making;*
> c. *avoid duplication of costly administrative structures and functions;*
> d. *make effective use of scarce skills in the country.*

Consensus was also reached on the following structural aspects of the universal service agency:

- *the universal service agency should be a free-standing statutory body;*
- *the Minister should appoint the director of the universal service agency;*
- *the director of the universal service agency should manage a budget funded by Parliament;*
- *the director should appoint a small staff to deal with substantive matters of the universal service agency;*
- *the universal service agency should share the supporting structure and services of the Regulator, including administration, financial services and information resources:*
- *the director and staff of the universal service agency should interact with the Regulator to ensure effective actions with respect to the achievement of universal service. (DPTB, 1995, pp. 87-88)*

What is confounding in this detailed summary of the role and functions and institutional positioning of the proposed universal service agency is the complete omission of any mention of its role in relation to the universal service fund that had been agreed to on the first day of the Colloquium, and which had been discussed in a number of the working groups[216]. Nonetheless a number of key issues run through the summary. The first of these is the role of the proposed agency in ensuring the primacy of the goal universal access and service and measuring the commitment of the ANC government to ensuring its achievement. This rationale is still cited today by many in the sector. The second issue is the close relationship, both politically and organisationally, envisaged between the agency and the regulator. It is in fact envisaged here to share institutional infrastructure with the regulator. But close liaison is also envisaged in respect of licensing, its associated universal service obligations, and other regulatory interventions, and in respect of information sharing.

It is worth noting that there was an underlying assumption, both in the structure of the Colloquium, and in the responses of the delegates, that universal service would be provided via Telkom. A specific question focused on this issue, with only one working group suggesting

[216] There were suggestions that contributions to such a Fund be extended more widely and also levied on VANS licensees.

that Telkom's role was "primary but not exclusive" (DPTB, 1995, p. 26). The focus on fixed-line services as the route to universal access and service may not have been particular to South Africa[217], but it was to remain a policy assumption for a number of years.

The degree of consensus varied in relation to the other three key areas of international telecommunications policy good practice: regulation, competition and privatisation. As Horwitz remarks, "the colloquium thus came to agreement in several areas except the most important ones" (2001, p. 241). The question of a sector regulator seems to have produced the greatest degree of consensus that an "independent regulatory authority along the lines of the IBA should be established to regulate all telecommunications-related activities within the sector", and that in the "medium term" this regulator be merged with the IBA (DPTB, 1995, p. 90). On the question of competition, there was "sufficient consensus" that this was "inevitable"[218], with a strong dissenting voice from organised labour. On the question of privatisation, with the exception of organised labour, there was agreement on the partial privatisation of Telkom, either through a "strategic equity partnership" or via "private equity participation". There also appears to have been sufficient consensus that Telkom be afforded the protection of a period of "exclusivity" in the medium term[219] in order to deal with the issues of universal access and universal service - although, once again, organised labour remained adamantly opposed to any abrogation of Telkom's monopoly, even in the medium term. The need for black economic empowerment was also discussed - and agreed to. (DPTB, 1995, pp. 88-90)

At the conclusion of the Colloquium a five-person task team (the so-called 'Eminent Persons Group') was appointed to "advise and oversee" the drafting of both the White Paper and the ensuing legislation to ensure that the "policy framework" agreed to was carried through (DPTB, 1995, p. 92). The central issues on which there was "lack of unanimity" - the question of Telkom's exclusivity, the introduction of competition, Telkom's role in the provision of universal service, the role of other parastatals - were referred to the Eminent Persons Group for resolution (DPTB, 1995, p. 88). The question of privatisation was instead referred to the Minister on account of a parallel and highly disputatious process around the

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[217] Tim Kelly suggests that the potential role of mobile in respect of universal access and service only began to dawn on the ITU a few years later (interview, 27 October 2014).

[218] Strong views in favour of competition were advanced in a number of the working groups. There seems to have been a degree of consensus that any new licensees be slapped with universal access and service requirements.

[219] The magic figure of 5 years was bandied about.

euphemistically-phrased issue of the 'restructuring of state assets'[220]. The five appointees selected by the Minister from the 10 nominations were: POTWA President Lefty Monyokolo, Telkom's Head of Regulatory Affairs Pinky Moholi, National Black Business Caucus (NBBC) Chairperson Dupree Vilakazi, Sentech MD Neel Smuts and the Electronic Industries Federation's President Dawid Botha (DPTB, 1995, p. 97)[221].

The official press release at the end of the Colloquium highlighted, under the slogan "All Shall Call", the commitment to universal access and service and the creation of a universal service agency and an independent regulator (with an envisaged merger with the IBA in the "medium term"). Areas of disagreement - "Telkom's exclusivity and the introduction of a strategic equity partner" - were downplayed (DPTB, 1995, pp. 96-97). This was met with a surprisingly muted response from a media anxious to see the anticipated legislation, and still concerned about Minister Jordan's reported antipathy to competition (Perlman, 1995b).

The process and sequence of events sketched out above begs the question of the extent to which diffusion of policies from the international telecommunications regime informed the Green Paper and the outputs from the Mount Grace Colloquium. The resultant policy framework is clearly informed and influenced by the precepts of international good practice. But it is equally clearly tailored to deal with the realities of the South African situation. Questions of market structure, of regulation of the sector, of the introduction of competition

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[220] The flames of the issue had been stoked by an October 1994 assertion by Deputy President Thabo Mbeki that the government would "consider full and partial privatisation of state assets and enterprises where appropriate to release funds for the reduction of debt and for use in the RDP Fund" (Mbeki, 1994). This provoked a flurry of hostile responses from COSATU in the early part of 1995 (Makgetla, 1995; Gomomo, 1995). A number of equivocal and contradictory utterances by Minister Pallo Jordan and Telkom Chair Dikgang Moseneke on a possible equity partner for Telkom (Argus, 1995; Lunsche, 1995a; Lunsche, 1995b) had further fanned the distrust of labour. The outcomes of the Colloquium confirmed the worst fears of COSATU and POTWA, which together mounted a fierce fight back, that included a national two-hour work stoppage and a national one-day strike and culminated in the setback signing of the National Framework Agreement (RSA, 1996a) in which organised labour effectively conceded the possibility of privatization in selected cases. Horwitz places the gradual accommodation of the privatisation of Telkom in the context of a larger set of shifts of position within the ANC relating to economic policy and privatisation as it moved towards a *modus vivendi* with the Washington consensus (Horwitz, 2001, pp. 215-237). It is tempting to construe the mixed messages around privatisation as double talk, with different messages for different constituencies, but it likely reflects the ongoing contestation within the Alliance that was raging beneath the surface and which was to erupt in the furore around macro-economic policy with the advent of GEAR around the time that the final legislation was being drafted.

[221] Nominated but not appointed were Felleng Sekha from the CDITP, Carvel Webb from Transnet, Dikgang Moseneke from MTN, Dieter Lochner from the Department of Posts and Telecommunications, and Mike van der Bergh from Firstnet but representing the NTF (DPTB, 1995, p. 93).

and of the possible privatisation of Telkom - all reflect the issues and questions under consideration at international level, in fora such as the EC, the OECD, the ITU and the WTO. And many of those involved in the formulation of the document and the questions it posed, as well as in the consolidation of responses at the Colloquium, were either directly aware of how the same focal issues were being conceptualised and developed internationally, or, like Andile Ngcaba, were themselves directly embedded in that environment. South Africa had re-joined the ITU in June 1994 after the advent of democracy, and had participated in a number of key ITU events and activities since then[222]. South Africa was also a founder member of the WTO, although its initial set of commitments in respect of telecommunications were of a very sparse, boilerplate nature (WTO, 1994, p. 14)[223]. The structural and epistemic factors enabling policy diffusion were clearly therefore present.

From the discussion above, it can be seen, both in the Green Paper itself, and through the manoeuvrings at the Colloquium, how policies and positions either explicitly or implicitly cast themselves in relation to international good practice. However, South Africa was certainly not engaged in the kind of copy and paste policy formulation that has been criticised in other jurisdictions (Muriu, 2002). President Mandela himself, no less, had gone so far as to defend South Africa's reluctance to liberalise to the ITU itself. Speaking in Geneva at the opening of the ITU's Telecom 95 conference in October 1995, he noted the international telecommunications reform "pressure on governments to throw open their doors to international competition" (Mandela, 1995). His speech then went on to defend South Africa's reluctance to adopt the liberalisation agenda, arguing that "telecommunications cannot simply be treated as one commercial sector of the economy, to be left to the forces of the free market" and calling for "global universal service in telephony and global universal access to the information superhighway" (Mandela, 1995). The emphasis on the digital divide harks back to the famous earlier observation by then Deputy President Thabo Mbeki to the G7 Information Society Conference:

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[222] Including the series of colloquiums under the umbrella of 'The Changing Role of Government in an Era of Telecom Deregulation', and the ITU's 1994 Plenipotentiary Conference, held in Kyoto from 19 September to 14 October, at which Minister Pallo Jordan had represented South Africa.

[223] A much more complex and substantial set of commitments was filed in 1997 (WTO, 1997a), reflecting the status quo after the promulgation of the 1996 Telecommunications Act.

More than half of humanity has never made a telephone call. There are more telephone lines in Manhattan than in all of sub-Saharan Africa. (1995)[224]

In part this was driven a desire to ensure a path to telecommunications reform that was explicitly South African. As Minister Jordan had noted at the Colloquium, the "policy framework we come up with must be distinctly South African, rooted here" (DPTB, 1995, p. 19). Grounding South Africa's policy framework in *apartheid*'s digital donga, and profiling primarily the need to provide universal access and service, and, to a lesser extent, the need to promote 'black' economic empowerment (in both cases together with the consideration of explicit measures to achieve these objectives) give the policy an inescapable South African flavour and slant. None of the documentation underpinning the Green Paper survives, and the memories of the participants have been dimmed by the intervening years, making judgement on the degree of policy learning difficult to gauge. It seems that the broad policy areas - including the creation of an independent regulator, and the specific measures relating to universal access and service, universal service obligations and the universal service fund in particular - were clearly diffused into the process and adopted in the resulting content. But, as pointed out above, there was equally clearly a critical engagement with international good practice. The prioritisation of universal access and service and the attempt to balance this against the demands from business for advanced telecommunications services and for the rapid introduction of competition and privatisation, shows policy learning at play. In fact, the very process towards a White Paper - the methodology of questions via the Green Paper, the engagement with stakeholders, the participatory nature of the Mount Grace Colloquium, the attempts to broker a deal with the labour unions - all predispose a route of policy learning. Certainly, the creative and ground-breaking policy innovation of a universal service agency shows policy learning at work.

It is worth pointing out, however, that the ANC's adoption of universal access and service as a defence against privatisation and the introduction of competition was very different from the response of those recalcitrant countries in the European Union and the OECD, and at the ITU and the WTO, when faced by demands to liberalise their telecommunications sector. In part it shows an ANC bounded by its own historical allegiance to the concept of nationalisation of the economy, as well as the ongoing antipathy of its Alliance partners, the SACP and COSATU, to privatisation and competition. But it also seems to reflect a genuine concern that

[224] As ITU staffer, Tim Kelly, was later to point out, these two claims form part of a cluster of "factoid" sound-bites, allegedly derived from the 1985 Maitland report (Kelly, 2005). Neither were true at the time of the Mbeki speech.

opening up the market to the private sector would undermine the goals of universal access and service. Hence the adoption of the policy trajectory that would later become known as 'managed liberalisation'[225] became the logical compromise outcome.

5.7 Towards a Telecommunications Act

The process of drafting the White Paper by the Technical Task Team under the oversight of the Eminent Persons Group (EPG) remained a fraught process. Rather than acting as the wise arbiter perhaps envisaged, the EPG became yet another negotiating forum, functioning, in the words of Horwitz, "as one more instance wherein the key stakeholder representatives could negotiate on behalf of their constituencies". Horwitz goes on to point to attempts by EPG members to make their own imprint on the White Paper: Telkom's Pinky Moholi[226] tried to roll back the fixed timescales for exclusivity, while the NBBC's Dupree Vilakazi sought to insert wording on black economic empowerment at every available opportunity. Horwitz also reports an intervention from Cabinet to keep Transtel and Eskom out of the market (2001, pp. 246-250). At the same time there was considerable external pressure from organised labour in the form of strikes and sit-ins to protest plans for the privatisation and restructuring of Telkom (Sowetan, 1995; Grawitzky & Soggott, 1995; FM, 1996a), while Telkom itself steamed ahead with plans to secure a strategic equity partner (Cavill, 1996).

A second draft of the white paper was tabled for discussion at the start of a two-day NTF plenary conference on 5 February 1996. No copy of this draft survives, but it appears from press reports (Golding-Duffy, 1996; FM, 1996b)[227] that it was largely the same as the final public version, which will be discussed below. The NTF plenary is interesting, however, for several reasons. Firstly, it indicates that the ANC remained committed to a degree of consultation and public participation in the process of policy-making. Secondly, it threw up again the sharp divisions between organised labour, who again vociferously protested privatisation and the introduction of competition, and the business representatives on the NTF

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[225] The term first surfaced at the 2000 Colloquium to review ICT policy. ICASA Councillor William Stucke (interview, 1 September 2014) ascribes it to the author, who was leading the COSATU delegation that initially refused to accede to the pro-competitive final declaration (Vegter, 2001), before being mollified by wording that dealt with 'managed liberalisation'. However, the term had already been used in the opening speech by Director General Andile Ngcaba to the Colloquium (Ngcaba, 2001).

[226] Formerly associated with the CDITP, Moholi acted as a fierce lobbyist for her employer, Telkom.

[227] The sadly anonymous Financial Mail leading article represents a swingeing right-wing attack on the White Paper.

(Sergeant, 1996). Creating a space for these tensions to flare up again may in fact have served the Minister well, helping to frame the phased approach to liberalisation in the document as a middle path. Perhaps most interesting, however, was Minister Jordan's finessing defence of the privatisation of Telkom, which was indicative not only of the ongoing shifts on the question of privatisation within the ANC, but also of a shift in his own position. In his opening address to the conference he asked: "Is it not time we arrived at new conceptions of the public interest and of public services? Should we not seriously explore if and how competition can enhance the delivery of service?" (Leshilo, 1996). He went on to defend the acquisition of a strategic equity partner in Telkom, claiming that "equity restructuring is not a euphemism for privatisation" and pointing out that government was only "contemplating placing only a minority of Telkom on the market". The first argument suggests a concession to international pressure to introduce competition, justified by arguing that the larger goal of service delivery to the majority of the population remains intact. The second involves a rather more disingenuous piece of linguistic camouflage, essentially arguing that, if privatisation is only partial, it is not really privatisation at all. Jordan was in fact engaged in bandying about exactly the euphemism he denied using, and mirrored the ANC's approach to the whole conflict with the unions over state-owned entities, which was characterised as the 'restructuring of state assets' in a conscious linguistic fudge.

The final version of the White Paper was approved by Cabinet on 6 March 1996 and launched of 15 March. Its structure follows that of the Green Paper, meaning that universal access and service again enjoys pride of place. Like its predecessor, it contextualises itself against an international telecommunications environment marked by "changes in technology, trade liberalisation and globalisation" and seeks to balance the "provision of basic universal service to disadvantaged rural and urban communities with the delivery of high-level services capable of meeting the needs of a growing South African economy" (RSA, 1996b, p. Foreword & 1.2).

The White Paper formally adopts the three central planks on universal access and service policy that emerged from the Mount Grace Colloquium: the establishment of a universal service agency, the creation of a universal service fund, and the imposition of universal service obligations upon licensees.

Once again, the rationale for establishing a universal service agency is rooted in the "unique context" created by *apartheid*, since "nowhere else are both access and ownership concentrated so heavily in one population group" (RSA, 1996b, p. 1.14). Its justification as an innovative universal access and service intervention rests on the argument that "classic

approaches to managing the implementation of telecommunications policy would not be sufficient to keep the focus on the goal of universal service long enough to redress the existing imbalances" (RSA, 1996b, p. 1.13). Interestingly, the agency is conceived potentially as a temporary institutional arrangement, subject to review in consultation with stakeholders after five years, with possible absorption into the regulator on the cards (RSA, 1996b, p. 1.24).

The White Paper does display an awareness of the potential problems of concurrent jurisdiction between the regulator and the universal service agency, and attempts to come to grips with the difficult task of defining and distinguishing the overlapping and complementary roles of the two institutions, noting the need to "ensure minimum overlap and maximum synergy" (RSA, 1996b, p. 1.18) between "different but closely linked activities" (RSA, 1996b, p. 1.15). It again suggests that the two bodies be housed together within a shared institutional framework, sharing "common administrative and financial systems and information infrastructure" (RSA, 1996b, p. 1.17). From a legal and regulatory point of view, the White Paper notes that the regulator enjoys the "sole power of enforcement" (RSA, 1996b, p. 1.16) and that the agency will "operate within the legal and regulatory framework administered by the Regulator and will be accountable to the Regulator in that sense" (RSA, 1996b, p. 1.18). The role envisaged for the universal service agency is thus explicitly a developmental one, working with "community-based… [and] development organisations" (RSA, 1996b, p. 1.20), and fulfilling a "promotional and catalytic" role by keeping "universal service at the heart of telecommunications policy" (RSA, 1996b, p. 1.19). This entails, amongst other things, "building national consensus on the meaning of affordable and accessible universal service", "establishing goals, objectives, timetables, indicators and monitoring mechanisms", and "regular reporting to the Minister" (RSA, 1996b, p. 1.22).

The structural difficulties, however, of having two entities with mandates both overlapping and complementary are not properly addressed. The complex and intertwined structure of this section of the White Paper suggests some of the difficulties faced by the drafting team in defining and distinguishing the roles of the two bodies, and underpins the "bizarre regulatory space" (Limpitlaw, 2014, p. 5265) that the agency came to occupy. It also suggests some of the challenges that policymakers face when innovating outside the precepts of international good practice. It is a set of issues which we be revisited in Chapter 9.

The universal service fund is also provided for in the White Paper, managed by the universal service agency, subject to monitoring by the regulator, and with contributions to the fund "defined by legislation and implemented by the regulator" (RSA, 1996b, p. 1.21). The White

Paper suggests such contributions should be calculated as a "fixed percentage of [licensees'] revenues", but that they be "levied on all market segments in which there is competition" and thus only applicable once resale is permitted in year 4 (RSA, 1996b, p. 2.12). The White Paper also suggests a trade-off between interconnection charges (which it envisages as being low) and the universal service levy (which it envisages as being high) on the unexplained grounds that this "combination presumably has the effect of encouraging the growth and variety of services while at the same time indirectly protecting the revenues of the universal service provider [Telkom" (RSA, 1996b, p. 2.12). It is further not clear why the White Paper does not envisage imposing a universal service levy on the existing mobile licensees, Vodacom and MTN. VANS (which were already providing e-mail) and PTN licensees would only become eligible once they were permitted resale. This suggests that the focus of the universal service fund and its associated levy was viewed as very tightly circumscribed to fixed-line voice telephony services, rather than as encompassing the full range of ICT infrastructure and services as is the norm today. Additional inflow to the universal service fund is also envisaged via a "telecommunications fund" to be established to fund the regulator and the universal service agency from income derived from licence fees, *inter alia* (RSA, 1996b, p. 5.15).

Expenditure from the universal service fund is envisaged as being divided between poor users, paid "directly to existing targeted end-users, subsidising them to promote affordability of telephone take-up and use", and infrastructure rollout, paid "directly to fund network expansion in areas where there is no infrastructure". The split between to two sets of interventions would be "according to a formula devised by the regulator" (RSA, 1996b, p. 2.12). Subsidies for poor users were only envisaged to kick in once Telkom began to rebalance its tariffs (in year 4), presumably to offset the resultant increase in the price of local calls - although affordability had clearly already been identified as an obstacle to access under current conditions (Morris & Stavrou, 1993).

As regards the imposition of universal service obligations, the White Paper sees Telkom as fulfilling the "primary role" here, notwithstanding the community service obligations agreed with Vodacom and MTN as part of their licensing. Envisaging a "rough" teledensity target of 20% by the year 2000, the White Paper empowers the regulator to "set reasonable targets for annual percentage growth of network penetration", as well as to "set [assisted by the universal service agency this time] specific targets for public telephones depending on geographical area, type of settlement, and so on" (RSA, 1996b, p. 2.9 & 2.10). The regulator thus plays an important enforcement role in relation to universal access and service goals, targets and obligations (RSA, 1996b, p. 5.9), subject to the co-jurisdictional qualifications

outlined above. The central focus of the imposition of universal service obligations thus is on the rollout of fixed-line telephones and payphones, with no active consideration of mobile.

Beyond universal access and service, the White Paper also takes positions on most of the other key features of telecommunications reform: regulation, competition and privatisation. Most of these are very much in line with the positions emerging from the Mount Grace Colloquium. The most unequivocal of these is the White Paper's position on the question of regulation, where it comes out firmly in favour of an "independent statutory telecommunications regulatory authority" (RSA, 1996b, p. 5.4), structurally separate from both operators and suppliers, and from government itself, accountable to Parliament via the Minister, subject to the law and to the "general framework of telecommunications policy" as set by the Minister (RSA, 1996b, p. 5.7). The regulator is envisaged to consist of a full-time five-member collegial council appointed by the Minister on the advice of a "panel" (after public hearings) and funded via the "telecommunications fund" referred to above (RSA, 1996b, p. 5.10). It is therefore a structure very much in line with international good practice.

When it comes to market structure and the introduction of competition, recognising the pressures bearing down on South Africa from the international telecommunications regime, the White Paper maintains the phased liberalisation approach that emanated from the Mount Grace Colloquium. In order to protect Telkom while it addresses the universal access and service backlogs in fixed voice telephony, the White Paper sets a "period of exclusivity… after which various telecommunications market segments are to be liberalised in a phased process put into motion and overseen by an independent regulator" (RSA, 1996b, p. 2.1). Although the white paper provides for a review of phased liberalisation by the regulator after three years, full exclusivity for Telkom is pegged to four years, after which resale is to be permitted, with further liberalisation to be introduced two years later (RSA, 1996b, pp. 2.6-2.25). The roles of Transtel and Eskom are reduced to that of "complementarity" (subject to the ongoing process to restructure state assets), by which is meant that they can retain their private networks and lease spare capacity to Telkom, but not provide services to end users (RSA, 1996b, p. 2.16 & 2.17). The one exception to the tight exclusivity provisions in the White Paper is the possible licensing of a third mobile cellular operator within two year, subject to a market feasibility study by the regulator (RSA, 1996b, p. 2.10.4). In essence, therefore, the White Paper reproduces the very gradual introduction of competition that emerged from the Colloquium, over a fixed six-year timetable.

The White Paper dodges the issue of privatisation, noting the divergent views emerging from the Colloquium, and referring the question to the ongoing process around the 'restructuring of state assets' (RSA, 1996b, p. 3.1 & 3.2). It does, however, make its envisaged new market structure "largely contingent on the assumption that Telkom will be able to access sufficient capital" (RSA, 1996b, p. 2.2), likely a coded reference to the introduction of a strategic equity partner that had featured so strongly in Pallo Jordan's address to the NTF plenary.

Other issues that feature prominently in the White Paper include black economic empowerment and the regulation of tariffs, again in order to ensure the affordability so necessary to achieve universal access and service.

The White Paper is a good deal more explicit about the pressures being brought to bear by the international telecommunications regime to accede to policy transfer. It explicitly refers to the "forces at work in the international arena pushing for liberalisation", citing the ITU's rate rebalancing, South Africa's commitments under GATS to the WTO, and technological change including convergence. It goes on to state that "these global forces cannot be ignored, and this policy must be realistic in accommodating them" (RSA, 1996b, p. 2.4).

Behind the public acknowledgement of the pressures for ICT sector reform, there was a more direct involvement in the substance of the White Paper. This involved an unreported mission to South Africa in late 1995 by a team of experts[228] from the ITU, which resulted in a set of recommendations which were tabled in November of that year (UNDP / ITU, 1995). It is not clear, from the information available, who commissioned the report and to whom its recommendations were tabled, but, given that it positions itself explicitly in the context of the Green Paper / White Paper process (it suggests that it "outlines a wide variety of Policy Options… which will lead to a 'White Paper'" (UNDP / ITU, 1995, p. 6)) and that it was funded by the UNDP, it is likely that the mission was undertaken either at the request of the Minister or the Technical Task Team, and that its recommendations were fed into the process. The report thus appears to have an explicit policy diffusion agenda.

The contents of the report, which covers both telecommunications and broadcasting[229], are relatively unremarkable, other than that it makes no substantive mention of universal access

[228] The members of the team are not named, save Kevin Morgan, who, as we may recall, had been associated with the CDITP.

[229] The broadcasting section is relatively perfunctory and much shorter (a mere 14 pages) than the section of telecommunications (a much bulkier 76 pages), and is contextualised against the IBA's Triple Enquiry Report.

and service at all[230]. Interestingly, although the team was able to meet with a number of senior officials and executives, both Telkom and Vodacom refused to co-operate with the team or share any information with them. Their recommendations were, understandably considering whence they came, considerably more pro-liberalisation than the positions of either the Green Paper or the White Paper. For instance, they recommended the "immediate introduction of competition into the market for national long-distance and international services" and the "break-up of Telkom" into a series of monopoly "local service operators" and one "national and international carrier" - a model very much along the lines of the court-ordered AT&T divestiture in the US (UNDP / ITU, 1995, p. 2). Seemingly somewhat enamoured of US models, the report goes on to recommend a federal regulatory structure with "regulatory agencies on both local and national levels" (UNDP / ITU, 1995, p. 2). Of more importance from the perspective of policy diffusion, the report also "urges the Ministry to consider the continuation of co-operation with the ITU". Whilst none of the report's recommendations (save those that were already in line with the content of the existing process) were adopted, the work of the mission indicates a willingness of the UNDP and the ITU to seek to influence the policy process in South Africa, and a preparedness on the part of the Minister to receive policy advice from the international telecommunications regime.

Certainly, South Africa adopted the international good practice model of independent sector regulation; equally they acceded to rate rebalancing. But equally the White Paper does not represent a unilateral transfer of policies and practices developed elsewhere. The commitment to universal access and service remains the centrepiece of the policy that was adopted. And, for the complex set reasons discussed above - including an historical ideological aversion to the notions of privatisation and the free reign of competition, but tempered with an approach grounded in the realities of *apartheid*'s legacy of telecommunications deprivation, and guided by a perception that the only viable route to universal access and service lay via a fixed-line rollout that meant protecting and resourcing Telkom in the short term followed by a timetabled introduction of competition in the medium term - South Africa held firm to the process of managed and gradual liberalisation that had underpinned the Green Paper. Horwitz notes that the outcome "replicated in its own specifically local fashion many of the policies put in place by many other countries in both the developed and developing world" and characterises the outcome as a carefully crafted "set of

[230] This may have been due to the terms of reference for the mission, which are not available. The telecommunications section of the report looks at network planning, policy and regulation, and manpower [sic] and training.

compromises" which were "considered a triumph be almost everyone" (2001, p. 255). As suggested previously, this implies a process more akin to policy learning, perhaps bounded by ideological predispositions and the nature of the South African reality, than to straightforward unidirectional policy transfer.

5.8 From Policy to Legislation

Translating the universal access and service policies adopted and promulgated as part of the overall ICT sector policy framework in the White Paper into the legislation that finally emerged as the 1996 Telecommunications Act proved to be far more of a rollercoaster ride than any had anticipated. Once again, Horwitz has charted the events in great detail (Horwitz, 2001, pp. 258-281). Our concern here, however, is to focus on those that are of particular importance for universal access and service, and, to a lesser extent international good practice in respect of sector reform.

5.8.1 The Changing Political Context

The process of drafting the legislation was overshadowed and influenced by a number of fairly substantial events affecting the sector and the South African polity as a whole. The first of these was a reshuffle of his cabinet by President Mandela on 28 March (possibly under the hidden hand of Deputy President Thabo Mbeki). The reshuffle saw Pallo Jordan unceremoniously dumped, and replaced by former COSATU General Secretary Jay Naidoo, whose own troubled RDP ministry was to be closed down. The reshuffle followed fairly shortly after the successful launch of the White Paper, and was officially prompted by the resignation of Finance Minister Chris Liebenberg. There has been considerable speculation as to why Jordan was axed. It is true that the reshuffle came shortly after Jordan's budget had been sent back to be rewritten by Parliament's Joint Standing Committee on Finance, and after a parliamentary ruckus over excessive expenditure by the Independent Broadcasting Authority, as well as while Parliament was debating the White Paper (FM, 1996c) - but these are unlikely on their own to have been the reasons. The usually well-informed Mail & Guardian attributed the sacking to a variety of clashes with ANC leadership, including spats with both Mandela and Mbeki over language and programming issues at the SABC, as well as a perceived softness towards the unions and a reluctance to accede to privatisation (Davis, 1996). Jordan's long history as an independent thinker willing to challenge the party line may also have made him more of a candidate for being dumped than Jay Naidoo, who was perceived as more malleable

and whose COSATU roots may have made him more likely to be able to convince the unions to accede to competition and privatisation (Horwitz, 2001, p. 261). Elsewhere Horwitz and Currie suggest that Jordan's failure to "get the unions on board" with privatisation was likely instrumental, although they report Jordan as attributing it to larger political differences with Mandela over decision-making processes in the National Executive Committee of the ANC and the Cabinet (Horwitz & Currie, 2007, p. 458). Whatever the reason, the sacking of Minister Jordan deprived the White Paper and the carefully crafted consensus it embodied of its champion at the critical juncture.

The second such major event took place at a national level, with the announcement on 9 May, immediately following the formal adoption of the new constitution, that FW de Klerk's National Party was to withdraw from the Government of National Unity (NP, 1996). Although not directly related to the telecommunications legislative process, it did signal the end of the era of co-operation and compromise with the forces of the old regime, and may have led the ANC to wish to stamp more strongly its own imprint on governance and policy, and thus paved the way for the formulation and implementation of a new macro-economic strategy, GEAR[231]. While it did not have a direct impact on the passage into law of the White Paper, it did mark the beginning of important shifts in ANC policy, perhaps even a move towards greater centralisation of decision-making authority.

In May South Africa found itself under renewed pressure from the international telecommunications regime at the Information Society and Development (ISAD) conference which it hosted in Midrand[232]. In an address by satellite link to the opening plenary session of the conference, US Vice President Al Gore strongly urged that the delegates adopt the eight G7 information society principles, prominent amongst which were "promoting dynamic competition", "encouraging private investment" and "providing open access to networks"

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[231] 'Growth, Employment and Redistribution – A Macroeconomic Strategy' (ANC, 1996).

[232] South Africa's hosting of the ISAD conference, which It took place at Gallagher Estate from 13-15 May 1996, and was chaired by Deputy President Mbeki, was the result of a call from Mbeki at the February 1995 G-7 Ministerial Conference in Brussels. The author was one of the drafters of the South African theme paper for the conference, and was a member of the support team at the event. It was immediately followed by an IDRC-sponsored civil society conference entitled 'Empowering communities in the information society', which focused on developmental issues such as telecentres and universal access and service (and at which the author was not present).

(Blake, 1996)[233]. The conference was marked by strong tension between developed countries (some of whom threatened a walk-out) and the developing world, which proposed a counter set of principles. As a result, the conference did not accept either set of principles, resolving instead to continue the "dialogue between the developed and developing worlds" in order to "define a shared vision of the [Global Information Society]" (Blake, 1996). Attempts by developing countries to get agreement on concrete project implementation were side-lined into a marginal document with an extraordinarily elliptical title: 'Chairperson's Views Concerning Ideas Emerging from the Fora Discussions on Global Information Society and Development Themes and Projects ISAD, May 1996' (Blake, 1996). What the ISAD conference shows is the ongoing policy transfer pressure exerted on South Africa (and other developing countries) through a range of fora and structures to accede to the pillars of global international best practice, and the resultant push-back from South Africa as it sought to ensure a more social development face and content to sector reform[234].

Another event of a very different nature was to have an important effect of the opposition to privatisation from the trade unions. On 16 May the COSATU-affiliated Communications' Workers Union (CWU) was launched as a result of a carefully choreographed merger of COSATU's POTWA, which had all along been one of the vocal voices from the left in the policy process, with the smaller racially-based ('Coloured') Post Office Employees Association (PEASA) and ('Indian') South African Post Telecommunication Employees Association (SAPTEA) (Shopsteward, 1996). What was notable about the merger congress was the unexpected unseating of POTWA President 'Lefty' Monyokolo and General Secretary Vo Tybilika by an internal POTWA slate led by Tlhalefang Sekano, reportedly described by one analyst as "federal coup" (Lamont, 1996). Given that positions in merger congresses are usually the result of prior agreement pre-allocated (Shopsteward, 1996), Horwitz is correct to respond with raised eyebrows (2001, p. 262). Whether the unseating of the recalcitrant incumbent leadership was due to political machinations on the part of the ANC, as Horwitz speculates, it certainly left the majority union at Telkom with an inexperienced and less effectual leadership. The results of this took a little while to show, but led to the new CWU President Sekano soft-pedalling on the question of a strategic equity partner, saying "If we

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[233] The G7 principles were closely aligned to the agenda of international telecommunications reform, viz: regulation, competition, privatisation. Universal access and service did feature, but as the first of the four qualifying (and thus second tier) principles: "ensuring universal provision of and access to services".

[234] As evidenced in the South African position paper, 'The Information Society and the Developing World: A South African Perspective', as developed by the National IT Forum. Unfortunately, the final version of this document has disappeared from the public record: the author does, however, have a copy of Draft 5.1 in his possession (NITF, 1996).

agree that bringing in a strategic equity partner is going to be enhancing, then we would have to relook into the whole thing" (Lamont, 1996). Currie and Horwitz were later to note that Sekano was amongst a group of "union leaders whom SBC brought to San Antonio and Mexico City in 1996–97[235]" and to point to a series of directorships and lucrative contracts of which he was the beneficiary in subsequent years (Horwitz & Currie, 2007, p. 458).

The unveiling of the ANC's economic policy document, 'Growth, Employment and Redistribution – A Macroeconomic Strategy' (ANC, 1996) on 14 June marked a major shift away from both the substance and style of the RDP. The document appears to have been in covert preparation since late 1995 by a small team sworn to secrecy, and led by South Africa's Iraj Abedian, with World Bank macroeconomic modeller Richard Ketley[236] a prominent member of the team (Gumede, 2005, p. 105). It was launched as 'non-negotiable', without any consultation within the ANC or its Alliance partners, let alone any public debate. In substance GEAR was remarkably close to a Washington Consensus structural adjustment programme. Gumede goes on to quote former ANC economist Joel Netshitenzhe's assessment of GEAR as a "structural adjustment policy, self-imposed, to stabilise the macro-economic situation" (2005, p. 106). Both the close alignment of GEAR to the precepts of the Washington Consensus and the presence of a World Bank macro-economist suggest that this was a clear case of policy diffusion. Gumede reports the assessments of team members as differing on the extent to which policy prescriptions from the World Bank and the IMF were simply adopted, but is clear that there was substantial external policy pressure (2005, p. 106). Both the process and the content of GEAR also marked the decisive side-lining of the ANC's own Macro-economic Research Group, whose Keynesian perspectives were much more closely aligned to the RDP (MERG, 1993). Predictably, GEAR evoked bitter opposition from the ANC's Alliance partners, COSATU and the SACP, who were privately incensed both at the lack of consultation and at the neo-liberal content of the package (kaNkosi, 1997). Public condemnation was rather more restrained, as, taken aback by the sudden policy shift, the SACP and COSATU sought to negotiate its moderation (Marais, 1996; COSATU, 1996).

The adoption of GEAR was significant for the telecommunications policy process in two respects. Firstly, the adoption of a macroeconomic policy framework closely aligned to the

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[235] It is likely this visit was later than Sekano's initial June 1996 pronouncement quoted here, but there was likely other lobbying on the go prior to the visit.

[236] Officially the two co-ordinators were Iraj Abedian, then a UCT academic, and André Roux. Gumede assets that Ketley, who had been seconded by the World Bank, was in "close attendance".

Washington consensus created a climate in which privatisation was not only acceptable but desirable, and within which competition was more readily acceptable. Secondly, GEAR epitomised top-down, elite policy-making, and marked a sharp shift towards an authoritarian approach within the ANC, one often associated with the ascendancy of Thabo Mbeki.

The period was also marked by increasingly vocal pro-privatisation pronouncements from ANC leaders. Minister Naidoo had begun to speak with some urgency of the need to secure a strategic equity partner for Telkom (Leney, 1996; Boyle, 1996) with stress again being laid on the shortage of the necessary capital to fund the required rollout (Lunsche, 1996a). But perhaps the most forthright statement came from President Mandela in June, when he declared in Germany, and again on his return, that "privatisation is the fundamental policy of the ANC and it will be implemented" (Reuter, 1996).

5.8.2 Enacting the Policy

The drafting of the legislation[237] based on the White Paper at first proceeded relatively straightforwardly, despite the firing of Pallo Jordan. Incoming Minister Jay Naidoo initially committed himself to carrying through the work of his predecessor. Praising the "consultation" of the process thus far which had ensured that "policy enjoys the widest possible support", he stated that he would "not divert from the White Paper" (Volschenk, 1996). He went on to restate the twin principles that had underpinned both the RDP and the White Paper: "The goal is still to strike a balance between providing services for all and providing a service modern enough to serve the needs of our growing economy" (Volschenk, 1996).

Naidoo released a draft of the Bill on 7 May, a few days ahead of the ISAD conference[238]. Reportedly, it "reflected the White Paper regarding universal service, phased liberalisation and regulation… [and] provided for the establishment of the SA Telecommunications Regulatory Authority and the Universal Service Agency" (Chalmers, 1996a).

The central and most prominent feature of the Draft Bill is its very detailed liberalisation timetable to protect Telkom's exclusivity and to phase in competition over the medium term.

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[237] The bill was drafted by a private Johannesburg firm, Tonkin Clacey Attorneys.

[238] This would likely have been the 12th draft, which Horwitz also refers to, and which is dated 3 May 1996 (DPTB, 1996a). This was succeeded by a 13th draft, dated 31 May 1996, which has not survived, and the notorious 14th draft, dated 5 June (DPTB, 1996c), which has, and about which more later.

Competition in a number of areas, including PSTN, is blocked for a period of six years, with long-distance, local access and payphone services opened up a year earlier, and resale opened up after three years. Subject to an enquiry to be undertaken in year two, the regulator may initiate the licensing of one or more mobile operators. The timescale is based on the date of commencement of the Act, but the Minister may vary this date, either unilaterally or based on a mandatory enquiry by the regulator in year three to ascertain the "extent to which universal access and universal service have been attained". Importantly, the Minister may make the benchmark date either earlier or later than the commencement date, giving great flexibility over the liberalisation timetable as a whole, although not the relationship between its various elements (DPTB, 1996a, p. Section 36). Further Eskom and Transtel are effectively blocked from extending their networks in competition to Telkom providing services to end users for five years, although they may lease capacity to Telkom.

The Draft Bill contains extensive provisions relating to universal access and service, starting with listing as the prime objective of regulation the need to "promote the universal and affordable provision of telecommunication services" (DPTB, 1996a, p. Section 2 (a))[239]. It contains specific chapters covering the establishment of the universal service agency and the establishment and operations of the universal service fund. The agency is conceptualised largely as having an advisory and advocacy role: words and phrases like "promote", "encourage, facilitate and guide", "stimulate public awareness", "conduct research", "survey and evaluate", "advise" feature prominently under its functions (DPTB, 1996a, p. Section 60). Aside from its role in relation to the universal service fund, its only substantive role involves running a public, participatory process to make recommendations to the Minister on what constitutes universal access and universal service, but with the gazetting of the final determination the prerogative of the Minister (DPTB, 1996a, p. Section 60 (2)). The financing of the agency is via the existing "Telecommunications Fund", into which licence and other fees are paid, and which is also used to finance the regulator (DPTB, 1996a, p. Section 62 & Chapter XIII). It is important to note that the universal service agency was conceived from the outset as a short-lived entity, to be absorbed into the regulator in the medium term (DPTB, 1996a, p. Section 65).

[239] In line with the trend going all the way back to the RDP, it does balance this with the more business-oriented need to "promote the provision of a wide range of telecommunication services in the interest of the economic growth and development" (DPTB, 1996a, p. Section 2 (b)).

The Draft Bill establishes a universal service fund (DPTB, 1996a, p. Chapter VIII), but only with effect from year four - presumably on the assumption of Telkom's exclusivity and its own concomitant rollout obligations[240]. The agency administers the fund subject to an annual budget and "in accordance with the instructions" of the regulator, which in turn prescribes the contributions to the fund. Payments from the fund are exclusively for "subsidies", divided in accordance with a "prescribed formula", between "needy persons" (as determined by the regulator) and Telkom for network rollout in the first six years[241].

Universal service obligations are only specifically provided for in relation to PSTN services, for at least until year six, essentially requiring Telkom (or any other PSTN licensee) to "comply with conditions specified in the licence concerned relating to the extension of its public switched telecommunication network service to areas and communities which are not served or not adequately served by telecommunication services, with a view to the achievement of universal service" (DPTB, 1996a, p. Section 37 (3)). This requirement is not extended to mobile licensees, although, as noted above, both Vodacom and MTN had already made commitments in this regard in their existing licences.

The Draft Bill also provides for the establishment of the South African Telecommunications Regulatory Authority as the regulator, with some entrenched degree of independence, noting that it is "independent and separate from the State and the government and its administration" (DPTB, 1996a, p. Section 5 (3)). The Minister remains, however, the appointing and accounting officer[242] for the regulator, retains the ability to issue "policy directions", and is involved in a number of regulatory processes, notably licensing and the setting of the liberalisation timetable.

Oddly, there is very limited mention of black economic empowerment, despite this being one of the objects of the Draft Bill, save in relation to the possible granting of one or more additional mobile licences, and the staffing of the regulator. Finally, the Act makes extensive

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[240] Again, it is not clear why the existing mobile and VANS licensees were not considered worthy targets for contributions to the fund. Again, this is likely because the fund was conceptualized at this point exclusively in relation to fixed-line telephony.

[241] The assumption here seems to be that full competition will be introduced at this point, by which time Telkom is expected to have met its rollout obligations.

[242] The Minister appoints Councillors on the recommendation of a selection panel, and tables the regulator's annual report to Parliament.

provision for the funding of human resource development via the regulator (DPTB, 1996a, p. Chapter X).

Public response to the Draft Bill was muted, perhaps because it was relatively closely aligned to the preceding White Paper, but also because the focus of attention swung to the mobile operators, Vodacom and MTN, who had signed an agreement covering interconnection and a number of other issues at a secret meeting in London in 1994. The agreement was labelled by the Chair of the Competition Board as "prima facie evidence of collusion" (De Ionno, 1996).

Behind the scenes, the Department of State Expenditure had reviewed the Draft Bill, and found it wanting on a number of grounds, not all of them strictly financial. Citing Cabinet decisions, the Director General sent a terse memo to Postmaster General Andile Ngcaba, in which he objected to the earmarked ("'own' revenue") nature of the proposed Telecommunications Fund, and argued that the Department and its budget be brought under the Public Service Act, which would bring licence fees and universal access and service funding under the National Revenue Fund (DSE, 1996). They also went on to query why a new regulator, separate from the existing Independent Broadcasting Authority was being created. The memo must have come as a considerable shock to Ngcaba and Naidoo: it was a vitiation of some of the fundamental underpinnings of the Draft Bill.

A hastily-convened meeting between the Eminent Persons Group and the legislative team met to consider the memo, and agreed a number of far-reaching changes to be incorporated into the 13th draft of the Bill[243]. These included the reincorporation of the Department into the public service, and the rearrangement of the structural and financial arrangements governing the regulator, the universal service agency and the IBA, for all of which the Department would now act as an "umbrella structure". The Telecommunications Fund was to be "dropped" and licence fee and related income would now be paid into the National Revenue Fund. Funding from the various entities was to be via normal budgetary allocation, with the universal service fund and the human resource development fund to be "funded by allocations from levies on licensees and donations" (DPTB, 1996b).

It was the next draft of the Bill (the 14th draft) that was to provoke a public furore. It contained a slew of changes at the instruction of Naidoo and Ngcaba, affecting over 50 clauses - an extraordinary number for a last round of changes, ordered and effected within the space

[243] This draft of the Bill was never made public, but already have contained some of the changes governing the structure of the relationship between the Minister and the regulator.

of a few days. Approved by Cabinet on 19 June, almost immediately rumours began to circulate of last minute "secret changes" (Chalmers, 1996b) leading "furious" (Brummer, 1996) industry players to charge the Minster with "destroying the consensus developed by his predecessor" (Lunsche, 1996b) and to a call from the NTF to meet the Minister to "ask for an explanation" (Brummer, 1996).

The extent of the changes was such that Willie Currie, whom Jay Naidoo had retained as special adviser in order to see the legislative process through, felt compelled to resign. In a fax to Minister Naidoo on 24 June, he stated "the changes that you have made to the Telecommunications Bill have made my position as co-ordinator of the national telecommunications policy process untenable… Accordingly, I have no option but to tender my resignation as your adviser" (Currie, 1996b).

Initially the Department attempted to downplay the import of the changes, insisting there were "no radical changes" and harping on the "inclusive process", with spokesperson Connie Molusi insisting that ""changes made to the draft Bill have been done in full consultation" (Chalmers, 1996b). However, the changes were substantial, and the Eminent Persons Group initially refused to certify them as being in line with the White Paper, but later being persuaded to toe the line (Brummer, 1996; Horwitz, 2001, p. 265).

Central amongst the changes were those relating to Telkom's exclusivity and the liberalisation timetable (Lunsche, 1996b; Brummer, 1996), removing the fixed, sliding timetable of the 12th draft and placing it at the sole discretion of the Minister. A number of clauses provide for exclusivity for Telkom "until after a date to be fixed by the Minister by notice in the Gazette" (DPTB, 1996b). It is difficult in hindsight to understand why they provoked such an uproar. The provisions are little different from those contained in the 12th draft other than that they provide more flexibility in respect of differing licence categories and avoid the rather clumsy formulation of the 12th draft. One wonders if the outrage was not provoked more by the unilateral nature of the changes rather than their actual content.

It seems likely that the greater degree of flexibility was introduced because it had become an issue in negotiations with a possible strategic equity partner. There are a number of instances in which it was defended in terms of Ngcaba and Naidoo not having their 'hands tied' in negotiations (Horwitz, 2001, p. 265; Brummer, 1996; Lunsche, 1996b). Indeed, Andile Ngcaba once suggested to the author that having a legislated fixed liberalisation timetable was not unlike being asked to negotiate with one hand tied behind his back.

The other major area of the changes affected the independence of the regulator, "greatly increasing the power of the Minister" (Horwitz, 2001, p. 264). For example, the clause explicitly requiring the regulator to be independent and separate from government is substantially watered down, only requiring the regulator to be "impartial" and "autonomous" (DPTB, 1996b, p. Section 5 (3)). The Minister is given a far greater degree of involvement in the substance or regulation (FM, 1996d), extending to the prerogative to issue regulations "on the recommendation of or after consultation with the Authority" (DPTB, 1996b, p. Section 96 (1)), with the subsequent notice and comment procedure taking place via submission to the Minister. Ngcaba defended the changes saying "We merely said Satra's regulations should be published by the minister" (Lunsche, 1996b). Many of these changes were likely occasioned by the memo from the Department of State Expenditure referred to above, but Horwitz suggests they were also occasioned by the Minister's disquiet at his own lack of control over the substance of regulation and a change of heart from Postmaster General Ngcaba now that he was at the helm of the Department and potentially able to control the direction of regulatory intervention (Horwitz, 2001, p. 266). Horwitz also, probably correctly, links the assertion of Ministerial control under Jay Naidoo to the changes in the ANC's attitude to governance and the centralisation of power that had been ushered in through the imposition of GEAR (Horwitz, 2001, p. 269) and which were discussed above, as well as to the accession to power of Thabo Mbeki.

There were also substantial changes to the structure of the human resources fund, which was taken away from the regulator and placed under the control of Ngcaba. This too may well have resulted from the changes instituted in consequence of the Department of State Expenditure's memo, but they created the suspicion that Ngcaba would be able to use the fund as a source of patronage (Horwitz, 2001, p. 272).

Universal access and service was less substantially affected by the changes in the 14th draft of the Bill. The universal service fund became fully self-standing, with any relation to the now excised telecommunications fund being of course removed. Contributions to the fund including the "basis and manner of determination of such contributions", as well as their effective date, became the prerogative of the Minister rather than that of the regulator (DPTB, 1996b, p. Section 67). The Minister also took over from the regulator the prerogative to prescribe all issues relating to subsidies to be paid to 'needy persons' (DPTB, 1996b, p. Section 66 (4)).

The Draft Bill (in its 16th draft by then) thus moved into Parliament in early October with a degree of acrimony and distrust whose scars were to be felt in the sector for years to come (West, 1996). As suggested above, it was less the substance of the changes that Naidoo had introduced than the undermining of the consultative stakeholder process with its carefully contrived consensus that was the issue. It left a bitter taste that continues to characterise the mistrust felt by business in particular towards government and its motives.

Horwitz suggests that Naidoo's insistence on the changes, especially the discretionary liberalisation timetable, softened after a visit to the US (accompanied by CWU president Tlhalefang Sekano) to court potential strategic equity investors, who ultimately preferred regulatory certainty over ministerial discretion (Horwitz, 2001, pp. 269-270). But Naidoo's position may also have been tempered by the need to finalise South Africa's submission to the WTO, which had been rejected earlier in the year because the timetable it proposed was too indeterminate and too subject to ministerial discretion (FM, 1996e)[244].

The Bill then proceeded to the parliamentary hearings process, amidst a welter of stakeholder submissions and a flurry of public hearings, and under pressure from the ANC to have it enacted before Parliament went into recess in November[245]. The submissions are no longer a matter of public record, and thus one can only rely on Horwitz's account of their substance (Horwitz, 2001, pp. 270-277)[246]. Support for the main provisions of the Bill came predictably from Telkom, and a number of 'black' business and civic groupings (it was also supported by COSATU (Cohen, 1996)), some of whom called for stronger black economic empowerment provisions, including in relation to the mooted third mobile licence. A predictably large number of submissions came from business and industry groupings. Aside from raising specific issues based on their particular commercial interests, there was overall condemnation of the diminution of the independence of the regulator (including in a detailed submission from the IBA), and of the protection by the Department of Telkom's exclusivity. MTN and Vodacom, unsurprisingly, opposed the imposition of levies on them to finance the universal service and human resources funds. The Ministry's submission defended the degree of independence accorded to the regulator, contending it was aligned with international best practice, and

[244] A revised offer was finally accepted in February 1997 (Salgado, 1997), on the eve of the agreement with SBC and Telekom Malaysia to privatise a 30% stake in Telkom.

[245] The unseemly haste of the process had everything to do with the need to finalise negotiations for a foreign strategic equity partner.

[246] Horwitz's specific focus means that there is little coverage of universal access and service issues in his account.

supported ministerial flexibility on Telkom's exclusivity. A late submission from the Department suggested a number of wording changes designed to give the Minister an even greater role in regulatory issues, some of them, to be fair, designed to address the regulatory lacuna in the interregnum while the regulator was established.

The parliamentary hearings appear to have been acrimonious, characterised by "struggle rhetoric" from Minister Naidoo, who reportedly characterised objections from business as "smooth talk from the privileged classes" (Horwitz, 2001, p. 273). It was pushed through and adopted just before the end of October, with few opposition amendments incorporated.

Ministerial discretion in respect of Telkom's exclusivity and the liberalisation timetable was retained, with many exclusivity clauses containing an "until a date to be fixed by the Minister by notice in the Gazette" proviso (RSA, 1996b). Ministerial involvement in substantive regulatory issues was largely retained, and even extended in some cases, such as licensing (RSA, 1996b, pp. Section 35, 36 & 37) and interconnection (RSA, 1996b, p. Section 43 (1) (b)). There was, however, some softening on the appointments process for the Council of SATRA, who were now to be "appointed by the President on the advice of the Parliamentary committees on communications" (RSA, 1996b, p. Section 9 (1)) - providing for a greater degree of independence, and essentially a mirror image of the appointments process for the IBA Council.

In respect of universal access and service there was also minimal change. For example, universal service obligations remained applicable only to PSTS licensees (RSA, 1996b, p. Section 36 (2)). The provisions governing the establishment of the USA, along with its role, functions and envisaged life-span, remained unchanged (RSA, 1996b, p. Chapter VII). The provisions in respect of the USF were largely unchanged. Greater clarity was provided in respect of financial flows pertaining to the USF, with licensee contributions to be paid into the National Revenue Fund and appropriated into the USF by Parliament (RSA, 1996b, p. Section 65 (2) & (3))[247]. There had been an attempt in the 14th draft of the Bill to ring-fence the contributions (DPTB, 1996b, p. Section 67 (3)), but this was now dropped, presumably because it was contrary to Department of State Expenditure rules. The determination of the universal service levy, which remained applicable to all licensees, was now returned to the control of the regulator, with only the inception date remaining in the hands of the Minister

[247] As we shall see in the next chapter, this provision was effectively to hamstring the USA in tracking and expending the funds theoretically at its disposal.

(RSA, 1996b, p. Section 67). The USF was to remain a source of subsidies for network extension and for 'needy persons', with the responsibility for the latter now also returned to the control of the regulator (RSA, 1996b, p. Section 66 (4)). The discontinuation of a subsidy to Telkom for network rollout was now made contingent on Telkom having completed its rate rebalancing commitments (RSA, 1996b, p. Section 66 (3)).

The provisions in respect of universal access and service thus remained largely those of international good practice. South Africa's major good practice innovation was the creation of the Universal Service Agency, a world first. Other countries were to follow suit to some degree. Guatemala[248] (1996), France[249] (1997) and the USA[250] (1997) were amongst the first to put their USFs under independent control (ITU, 2013, pp. 90, 106 & 111), but this was almost entirely of an administrative and accountability nature, without any of the advocacy and quasi-regulatory functions assigned to South Africa's USA. The imposition of universal service obligations on the fixed-line operator was in accordance with existing international good practice, albeit that the legislators did not recognise that such USOs had already been extended de facto to the mobile operators as per their licences issued in 1993. The creation of the USF, its source of funding and its envisaged areas of expenditure were likewise in accordance with international good practice.

The envisaged strategic equity stake in Telkom was finally settled at 30%, valued at R 5,5 billion, and was awarded to a consortium of SBC[251] and Telekom Malaysia under the umbrella of Thintana Communications in March 1997 (Chalmers, 1997a). The envisaged 10% stake for black economic empowerment dragged on for years, eventually shrinking to 3%, which was awarded to Ucingo Investments in early 2001, shortly before Telkom's IPO (News24, 2001).

5.9 Conclusion

A number of features can be identified over the course of the process charted above.

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[248] Guatemala's USF is administered by FONDETEL (Fondo para el Desarrollo de la Telefonía).

[249] France's USF is administered by Caisse des Depots et Consignations, an independent financial institution of long standing that falls under the Ministry of the Economy.

[250] The USA's USF is administered by the Universal Service Administrative Company (USAC).

[251] SBC Communications, formerly Southwestern Bell Corporation, was one of the 'Baby Bells" created via the court-ordered divestiture of AT&T. SBC had earlier (in August 1995) acquired a substantial share in MTN, which it subsequently sold off under pressure from the competition authorities.

The first of these is the primacy of universal access and service within the process of telecommunications reform. From the outset and throughout, the preoccupation of the ANC lay with addressing the legacy of *apartheid's* telecommunications deprivation inflicted upon the majority of the country's population, the circumstance characterised here as the 'digital *donga'*. Universal access and service was never absent from the policy discourse. No analysis of the sector could fail to identify and chart the starkly racialised gap in access to telecommunications services that had been created by the legacy of *apartheid*. From the outset of the ANC and its ICT policy think-tank, Andile Ngcaba's CDITP, had drawn attention to questions of universal access and service in the sector. As a result, in the words of Horwitz, "the political culture was such that the sectoral stakeholders had to address questions of redistribution or risk illegitimacy" (2001, p. 258).

The second major feature of the period is a partially unresolved question, namely the extent to which policy diffusion took place. There was certainly a degree of unacknowledged policy emulation in the early reform forays of the *apartheid* government as it neared the end of its lifespan. The uniquely embedded position of the ANC's head of ICT policy, Andile Ngcaba, with the global ICT policy regime and its epistemic community, meant that any policy reforms had to be consciously framed in relation to global telecommunications reform good practice, thereby ensuring a degree of policy diffusion. As a result, Ngcaba and the CDITP set out systematically to engage with the international telecommunications regime and its epistemic community, and to interrogate global good practice through an examination of telecommunications reform in a range of jurisdictions.

But, equally, the ANC sought a model of telecommunications reform that was rooted in and tailored to the specific circumstances of South Africa. There was thus a substantial degree of policy learning as Ngcaba and his cohorts sought to adapt the precepts of reform in order to ensure the achievement of universal access and service. Their fixation, however, on fixed-line telecommunications as the path to universal access and service, ironically at the very point in history at which mobile services were beginning to change the rules of the game, resulted in a blinkered vision towards that utopia of universal access and service. As a result, South Africa's reform of the sector embraced the protection of Telkom's state-owned exclusivity, and ended up sheltering behind the same monopoly fig-leaf that the proponents of telecommunications reform had attacked internationally.

The course of reform in South Africa was also marked by substantive shifts in the policy and culture of the ANC, as the organisation shifted its position from the radicalism of liberation

politics to the embrace of neo-liberal positions and the Washington Consensus, and from the relatively egalitarian and participatory culture of the mass democratic movement to the top-down neo-authoritarianism of a political bureaucracy. It is indeed ironic that ANC and its Alliance partners ended up embracing the very privatisation (albeit under the euphemistic rubric of strategic equity partnership) that they had attacked so vociferously when it came from the hand of the National Party government. Equally ironic is how the reform process veered from a participatory, consultative engagement towards the very same unilateral restructuring that had been attacked when driven by the National Party regime. Some of that is accounted for by the ideological shift within the ANC that was outlined above. But partly it is also due to the changed position of many of the protagonists within the structures of governance: policy and legislative reform looks very different from within the confines of a civil service office than it does from behind the protesting placards in the streets below.

By the middle of November 1996, however, a new Telecommunications Act was in place. It represented the stamp of the new, democratically-elected ANC government upon the face of the ICT sector, and was to govern the regulation of the sector for nigh on ten years. It had been the outcome of a uniquely participatory process, one that had its limitations and one that had become beset by controversy and contestation towards its end. But it was nonetheless a piece of legislation that embodied many of the major components of the global telecommunications regime. It created an independent regulator. It embodied a structured transition towards a competitive ICT market structure, albeit a very tightly controlled one with extensive medium term protections for the incumbent monopoly provider of fixed-line telecommunications services. And, importantly, it contained extensive provisions intended to ensure universal access and service. Horwitz, as always, sums up the process aptly: "In telecommunications the attainment of universal service, rhetorically, if not always actually, was the fundamental focus of the telecommunications White Paper, the bottom line of any possible reform" (2001, p. 258).

If the provision of universal and affordable access to telecommunications services was the heartbeat of ICT sector reform in South Africa and the primary objective of the new Telecommunications Act promulgated in late 1996, its cardiograph must surely lie in monitoring the performance of the various initiatives and interventions it set in motion. The 1993 licences of Vodacom and MTN had decreed both network rollout requirements and a series of community service obligation commitments. Telkom had been committed to extending its network and services to areas and communities that were either unserved or under-served. A Universal Service Agency had been created to champion and oversee

progress towards universal access. A Universal Service Fund had been established, funded through contributions from licensees and designed to underwrite the extension of the PSTS network and to assist needy persons with the acquisition of telecommunications service. Later a series of small-scale telecommunications licences were to be issued to provide services in areas with minimal access to Telkom's network, and an e-rate for Internet access was to be introduced.

Important lessons are to be learned from those initiatives, in terms of their relative success and failure, and the reasons for whatever outcomes that were achieved. This chapter charts the implementation of each of those initiatives, and attempts to account for success and failure in each case. From the narrative account of each initiative an assessment will be attempted, broadly following the framework of McConnell (2010) as set out in Chapter 3, in respect particularly of the effectiveness each of the programmatic interventions in terms of achieving their stated objectives, as well as in terms of their political or reputational outcomes. Limited consideration will also be given to quality of the process around their formalisation, since it can be argued that their very appearance in legislation represents a successful outcome of the policy process.

How those universal access and service provisions played themselves out, the extent to which universal access and service was achieved, the degree of success and failure of that policy framework, is the subject of the next four chapters.

6 Universal Service Obligations

The imposition of universal service obligations upon licensees is widely considered a standard component of international good practice (Intven, 2000b, pp. 6-19; infoDev, 2009, p. 37; Maddens, 2009, p. 6), either as a trade-off for a period of exclusivity (possibly combined with privatisation), or as a quid quo pro for the award of a licence following the introduction of competition. In both cases this is likely to involve the extension of the network, the installation of payphones or telecentres, and the provision of services to targeted groups of customers. The protection from competitive market dynamics that is afforded by exclusivity allows cross-subsidisation from lucrative market segments to non-profitable areas and customers. When privatisation or competition are involved, universal service obligations serve as a check against a narrow focus by operators on low-cost, high-revenue segments of the market - the practice colloquially known as 'cherry-picking'.

In the case of South Africa, all three dynamics were at work in the telephony sector. As shown above, the discretionary period of exclusivity afforded by Telkom was designed to allow the company to rebalance its tariffs and to roll out connectivity and services to those areas and customers historically ignored under *apartheid*. In the years leading up to the 1996 Telecommunications Act, Telkom had unveiled a number of ambitious plans to do just that. In May 1995 Telkom had put out a so-called 'Megaline tender' to "provide 1 million lines in various rural areas where telephone density was below 5 percent" (Horwitz, 1999, p. 233)[252]. By November, the Megaline project had evolved into a far more comprehensive Vision 2000 network expansion project with five of the original bidders shortlisted as possible "turnkey contractors" to cover up to three areas (Cokayne, 1995). The revised plan foresaw the replacement of one million "obsolete lines", together with the addition of two million lines in "rural and urban underserved areas" and the digitisation of all exchanges (FM, 1995e). The Vision 2000 project was never finalised, and may indeed have been kite-flying. It certainly demonstrated the need for an equity injection to fund a rollout of that magnitude, with estimated costs of between R 16 and R 30 billion (Horwitz, 1999, p. 233).

Once a strategic equity partner was in place universal service obligations would be needed to ensure the provision of service to the kind of areas referred to above. Such areas, where the cost of extending the network was high and where the likely returns on investment from call

[252] Hortwitz gives the date as June, which is slightly inaccurate. The original tender was issued in March 1995 (Business Day, 1995), and it was reissued, slightly controversially, in May (Malunga, 1995).

traffic would be low, would be a very unattractive to a foreign investor seeking a high return on capital.

Equally, in the mobile sector, which had been envisaged as a luxury service with a limited subscriber uptake, universal service obligations were a reasonable *quid pro quo* for allowing the new licensees to focus on areas already served by Telkom and to target a customer base at the upper end of the income spectrum.

The attention of the policy-makers, however, as pointed out in the previous chapter, was concentrated on Telkom and on a fixed-line approach to addressing the access gap, with the imposition of universal service obligations only applicable to PSTS licensees (ie Telkom in the short to medium term), who would be required to

> *comply with conditions specified in the licence in question relating to the extension of its public switched telecommunication service to areas and communities which are not served or not adequately served by telecommunication services, with a view to the achievement of universal service. (RSA, 1996b, p. Section 36 (2))*

The Act makes no corresponding universal service obligation provision for mobile services, nor indeed for any other of the six licence categories. The oversight in respect of mobile is somewhat surprising in view of the mooted introduction of one or more additional competitors in this sub-sector, and given that Vodacom and MTN already had coverage and community service telephone obligations in their licences[253]. But what it does again suggest is that government's approach to UAS was largely limited to fixed-line telephony, with mobile seen as a luxury service with a small potential market uptake and negligible universal access role.

It is further worth pointing out that the universal service obligations were to be specified in the licence (as they had been done for Vodacom and MTN) rather than by regulation. This is in accordance with general practice at the time[254], as codified a few years later (Intven, 2000b,

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[253] The omission did have the effect of leaving the USOs in the existing mobile licences without formal legal foundation.

[254] The introduction of licensing in telecommunications was a relatively recent phenomenon in most jurisdictions (Intven, 2000a, pp. 2-1), usually consequent on the introduction of sector reform, and often in the absence of or along with the creation of a sector regulator. This process, in turn, usually involved the issuing of a limited number of individual licences based on either a competitive bidding process or the 'grandfathering' of incumbents or both. Individual licences, therefore, contained a range of terms and conditions, detailed and customised in accordance with the nature of the licence, and containing both more general provisions (including with respect to scope and fees, allocation of numbers and spectrum, pricing, consumer protection, quality of service and reporting

pp. 6-11). However, because a licence is a long-term (typically in the order of 25 years) legal contract, subject only to bilaterally negotiated changes, this provides very limited scope for the regulator to adjust universal service obligations in accordance with changing circumstances and market trends[255]. In the case of the mobile licensees, this was to hamstring the regulator, who was largely locked into the limited original universal service obligations specified in their licences, even as the uptake of their services burgeoned and overtook Telkom's customer base[256].

Although not specifically mandated in the Act, the licences issued to both the fixed and mobile operators did require, in line with international good practice at the time, free calling access to emergency services be provided to both fixed and mobile subscribers and from payphones[257]. Similarly, all three licences contained mandatory provisions for directory enquiry services[258] and the distribution of printed telephone directories[259].

This was in line with contemporary international good practice. For example, the 1991 OECD report, *inter alia,* points to conditions within the licence of British Telecom, requiring it to provide free emergency calls and directory enquiry services (OECD, 1991, pp. 89-90). A number of subsequent reports consider access to free emergency calls and directory services to be integral to universal access and service (Blackman, 1995, p. 173; Analysys, 1997, p. x; ITU, 1998, p. 84; Bauer, 1999, p. 335) (Intven, 2000b, p. 6~37; EU, 2002, pp. L108/59-L108/60).

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requirements) and conditions embodying commitments made in the bid submission of the licensee (Intven, 2000a, pp. 2-23 - 2-30).

[255] The European Union addresses the rapidly changing nature of the sector by requiring the scope of universal service to be reviewed every three years "in the light of social, economic and technological developments" (EU, 2002).

[256] ICASA appears also to have been constrained by its own lack of vision in respect of universal service obligations. A limited number of additional obligations were, as we shall see, imposed on MTN and Vodacom in return for access to spectrum in the 2 100 MHz band, but these were limited in scope and poorly thought through.

[257] Free emergency calling was specified under the section of the licence dealing with the 'Provision of Universal Access and Service' in the case of Telkom (DoC, 1997, p. Section 5), but dealt with in a separate section in the case of Vodacom (ICASA, 2002d, p. Section 8) and MTN (ICASA, 2002c, p. Section 8).

[258] Toll-free from public payphones, and with operators required to provide mutual access to subscriber information.

[259] These were, and remain, under the aegis of Telkom, including fixed-line subscribers with an opt-out proviso, and mobile subscribers on an opt-in basis (although this latter provision does not appear to have been implemented for mobile-only subscribers).

In essence what this boiled down to ensuring the provision to all users of telephone services of at least a single "comprehensive directory… whether printed or electronic, or both, and… updated… at least once a year" supplemented by at least a single "comprehensive telephone directory enquiry service… available to all end-users" (EU, 2002, pp. L108/59-L108/60). This was to be balanced against "subscribers' right to privacy with regard to the inclusion of their personal information in a public directory" (EU, 2002, p. L108/52), meaning that subscribers had the right to 'go ex-directory', in other words, not to be listed in the directory.

One commentator suggests that "what the SA licences are doing is creating the obligation on Telkom, which was the exclusive provider of [telephone] directories, to include numbers provided by the two [mobile] operators [in] a non-discriminatory manner" (Sutherland, E, personal communication, 10 November 2015). However, despite the provision in the Multiparty Implementation Agreement requiring Telkom to include mobile subscribers in its printed directories (RSA, 1993a, p. 47), as well as the fact that this was provided for in the licences of the mobile operators (ICASA, 2002d, p. 22), the corresponding provision in Telkom's own licence, when this was finally issued some years later, extended only to directory enquiry services, since the licence obliged it only to list those its own "customers [unless they have] have specifically asked not to be included" (DoC, 1997, p. 31). The provision of "directory information" was retaining in the licence issued to Neotel, the second fixed-line licensee, in 2005, subject to regulations envisaged to be promulgated by ICASA (ICASA, 2006a, pp. 18-19)[260]. Similar provisions were carried through into the licensing framework introduced via the 2005 Electronic Communications Act, applying also to mobile licensees (ICASA, 2009b, pp. 4-5).

South Africa's universal service obligations with respect to free emergency calls, mandatory access to directory services, and provision of printed telephone directories was thus largely in accordance with international good practice[261]. The regulations envisaged to govern this seem, however, never to have been implemented. While directory enquiries seem to be effectively in place in South Africa, it is likely that the provision of comprehensive printed directories was overtaken by the advent of handsets with the ability to store and access all

[260] The shift in wording is significant, since it allows for telephonic directory enquiries. The formulation of the relevant section in the licence appears to envisage regulations for a single national printed directory containing entries for multiple licensees.

[261] Similar provisions exist in other jurisdictions. Ofcom undertook a review of its directory requirements in 2008, but appears to have made no change to the requirements (Ofcom, 2008).

numbers required by the user, along with the proliferation of company websites providing all necessary contact details.

6.1 Telkom's Targets

Given the emphasis on fixed-line services in achieving universal access and service, it is useful to start off by examining the universal service rollout obligations imposed upon Telkom.

Telkom itself had originally envisaged in its Vision 2000 strategy an "ambitious network expansion and modernisation programme" which aimed at installing 3 million lines, 2 million of them in "underserviced areas" (Telkom, 1996, p. 21). Horwitz suggests there was considerable back-pedalling on these ambitious targets to those contained in the draft licence published for public comment in early 1997, which provided for a "much more modest 1.8 million lines in five years" (Horwitz, 2001, p. 277). This was likely due to pressure from potential strategic equity partnership bidders seeking to trade off universal service obligations against the price of their stake (Lunsche, 1997).

By the time the strategic equity partnership agreement was concluded with SBC and Telekom Malaysia[262], South Africa's preferred bidders, the universal service targets had been revised back upwards again. Chalmers reports the agreement, worth R 5,5 billion[263], as envisaging a rollout target of 2,8 million new lines, 120 000 payphones and the digitisation of 1,25 million analogue lines (Chalmers, 1997a). Minister Naidoo reportedly described the rollout plan as follows:

> *priority areas would be underserviced provinces, with KwaZulu-Natal and the Eastern Cape receiving more than half the new lines in the first year. Northern Province would see the greatest increase in telephone density over five years. Other priority customers were educational and medical establishments, libraries, local authorities and 3 200 villages. (Chalmers, 1997a)*

[262] Of the other potential bidders, Deutsche Telekom did not submit a final bid, and France Telecom was excluded from the final negotiations (Argus, 1997).

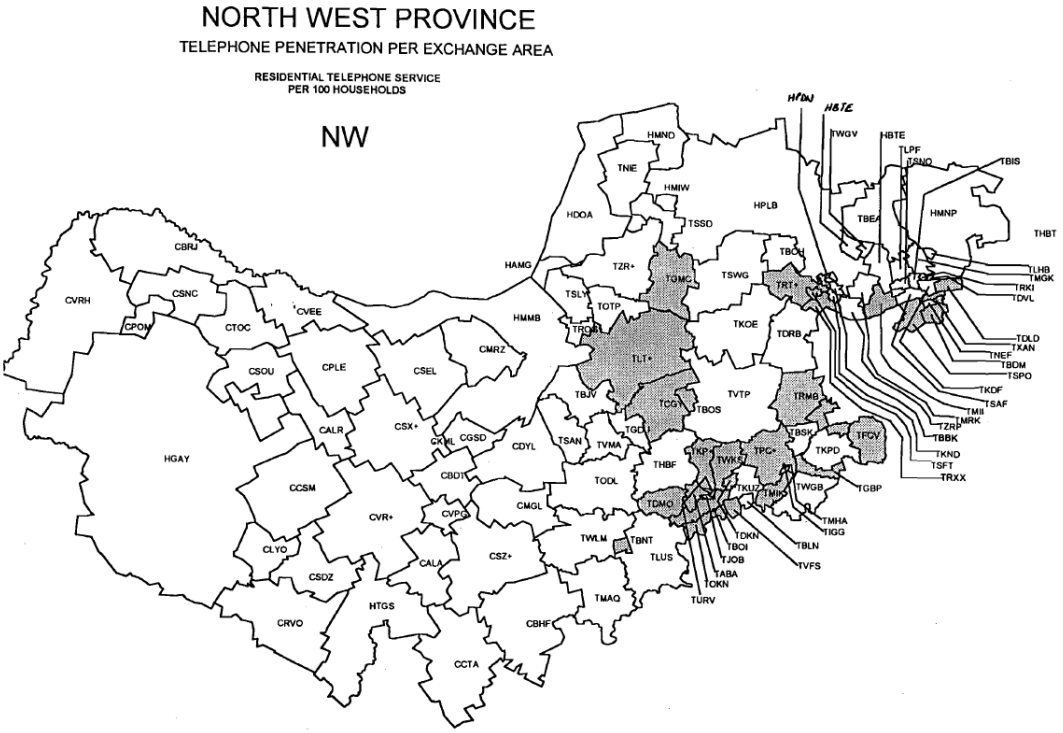
[263] This is in the ballpark for prior estimates, suggesting no significant discount in return for more aggressive rollout targets.

Telkom's final PSTS / VANS licence was issued by the Minister in May 1997 (DoC, 1997)[264], and sets down rollout targets very close to the numbers reported by Chalmers. Telkom's universal service obligations are listed in great detail, taking up just over half of the PSTS licence's 126 pages[265].

The licence specifies a total universal service obligation of 2,69 million new lines over the five year period of guaranteed exclusivity, of which somewhat under two-thirds were required to be in "under-serviced areas", as well as 120 000 payphones. Included in the line rollout totals were a number of "priority customers", mostly schools[266], and just over 3 200 villages (DoC, 1997, p. Schedule A) as summarised in Table 6.1 below.

The licence also includes a series of detailed maps (see Figure 6.1 below for an example) showing under-serviced areas, defined as exchange areas with household penetration of telephony below 50%, and which are also painstakingly listed (DoC, 1997, Schedule F).

Figure 6.1: Sample Under-serviced Area Map (North-West Province)[267]



(DoC, 1997, p. Schedule F)

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[264] The Department of Posts, Telecommunications and Broadcasting had been renamed the Department of Communications earlier that year.

[265] The Act, you may recall, only specified USOs in respect of a PSTS licence.

[266] 19 270 schools to be precise, plus 627 hospitals, 268 libraries and 81 local authorities (DoC, 1997, p. Schedule D).

[267] Underserviced areas shaded white, areas with teledensity greater than 50% shaded grey.

The maps are interesting in themselves as a telephonic representation of *apartheid's* geography, showing penetration heavily skewed in favour 'white' urban areas and 'white' farming communities.

A list of the schools, hospitals, libraries, local authorities and villages to be covered is, thankfully, not included.

It is worth noting that - with the important exception of its payphone targets - Telkom's rollout obligations (see Table 6.1 below) were essentially aimed at boosting the level of universal service (telephony service direct to the household or premises) rather than impacting specifically on universal access (shared or public access)[268]. The licence also makes no reference to anything other than a market-orientated approach to these rollout targets: although subsidised service provision is not specifically excluded, the approach appears to assume pent-up demand would be sufficient to sustain uptake at market prices.

Table 6.1: Telkom's Rollout Targets[269]

CATEGORY	**1997/8**	**1998/9**	**1999/0**	**2000/1**	**2001/2**	**Total**	
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 1 - 5**	
1. Total number of new access lines (000) brought into service (excluding public phone lines)	340 000	435 000	575 000	675 000	665 000	2 690 000	Total Line Target
2. Total number of new access lines (000) In Under-serviced Areas (included in 1)	265 000	318 000	359 000	357 000	378 000	1 676 000 [1 677 000][270]	Under-serviced Line Target
3. Number of new access lines for Priority Customers (included in 1 and 2)	3 240	3 845	4 055	5 060	4 046	20 246	Priority Customer Target

[268] We are reminded, in this context, that any increase in the level of 'service' (eg via increased household penetration) also de facto constitutes an increase in 'access', whereas increases in 'access' via public or shared facilities (eg via payphone or CST rollout), by contrast, have absolutely no effect on individual 'service' levels.

[269] Source: (DoC, 1997, p. 52ff)

[270] There is an error of arithmetic in the original licence. The correct total is 1 677 000.

CATEGORY	1997/8	1998/9	1999/0	2000/1	2001/2	Total	
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 1 - 5**	
4. Number of villages served in Under-serviced Areas (included in 1 and 2)	510	610	640	800	644	3 204	Village Target
5. Total number of Public Payphones (000) (not included in 1 and 2)	20	25	25	25	25	120	Public Payphone Target
6. Number of Replacement Lines (000) (not included in 1)	20	13	65	551	603	1 252	Replacement Line Target

6.2 Mobile Coverage and Community Service

The imposition of universal service obligations on the new mobile licensees, whether intentionally or not, constituted far more of a universal access approach. It comprised two aspects, namely geographic coverage and community service obligations. As noted in the previous chapter, the imposition of these requirements on the mobile licensees had its origins in the furore surrounding the tender and the award of the licences. Specifically the initial, rather more vague USO aspects to the tender, requiring that a "certain percentage of phones [be] earmarked for underserved communities" (Horwitz, 2001, p. 202) was concretised in the compromise agreement that was struck between the National Party government and the ANC that allowed the licensing of Vodacom and MTN to proceed (RSA, 1993a). This Multiparty Implementation Agreement also specified network rollout obligations for each of the licensees, in addition to a broader Joint Economic Development Plan Agreement to "assist in the development of the South African economy and in particular the telecommunications industry" (RSA, 1993a, p. 5). Pienaar suggests that MTN's bid had already contained specific proposals for the provision of community service telephones in disadvantaged areas, and that this notion was incorporated into Vodacom's licence bid (Karel Pienaar, interview, 6 February 2015), although it is not clear at which point this occurred.

The rollout obligations for the new mobile licensees were specified both in general and in great detail in a "Network Implementation Timetable" attached to the Multiparty Implementation Agreement (RSA, 1993a, p. 32). The general requirement specified that 60%

of the country's population should have network coverage at a signal strength of at least 2 watts within 2 years, increasing to 70% by the end of four years (RSA, 1993a, p. 11)[271]. The network implementation timetable was for more detailed and specific, and differed slightly between Vodacom and MTN.

Vodacom was required to provide coverage, starting with the major urban centres of "Johannesburg, Pretoria, Durban and Cape Town core areas" at commercial launch (ICASA, 2002d, p. 36ff)[272]. It included a list of some 19 localities, and required coverage within a specified radius, either 20 km or 40 km, at signal strengths ranging between 2 and 8 watts. Within 5 months this was required to be extended to the "Greater PWV[273] area, Cape Peninsula, Durban, Pietermaritzburg and Port Elizabeth-Uitenhage metropolitan areas", comprising an additional 59 defined localities and 9 sections of the road network, similarly specified. Subsequent coverage increments, ranging up to with 48 months of commercial launch were largely defined in terms of some 14 routes along the road network, including 68 adjacent towns (sample: "N2 Cape Town-Hermanus including: Grabouw; Hermanus; other areas within 15 km radius of road").

In the case of MTN, the coverage obligations comprised a detailed list of 261 towns and 146 townships[274], with an additional 54 towns and 56 townships added in annual increments over the following four years (ICASA, 2002c, p. 78ff). Although wattage requirements were included, roads and coverage radius were not.

Vodacom's rollout requirements seem to be heavily weighted in favour of the country's major urban and industrial centres and the road links between them (see Figure 6.2 below), in other

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[271] As noted previously, the Multiparty Implementation Agreement (and the subsequent licences) included the requirement that licensees provide free emergency calls, referred to as the "Emergency Services Obligation", and, on a chargeable basis, access to directory enquiries and a copy of Telkom's telephone directory years (RSA, 1993a, pp. 16-17). Further, Telkom was required to include "free of charge" an entry in its telephone directory for any mobile customer requesting this (RSA, 1993a, p. 47).

[272] The Schedules appended to the Multiparty Implementation Agreement were not included in the relevant Government Gazette, and are no longer publicly available. They are, however, reproduced in the licences gazetted by ICASA in 2002.

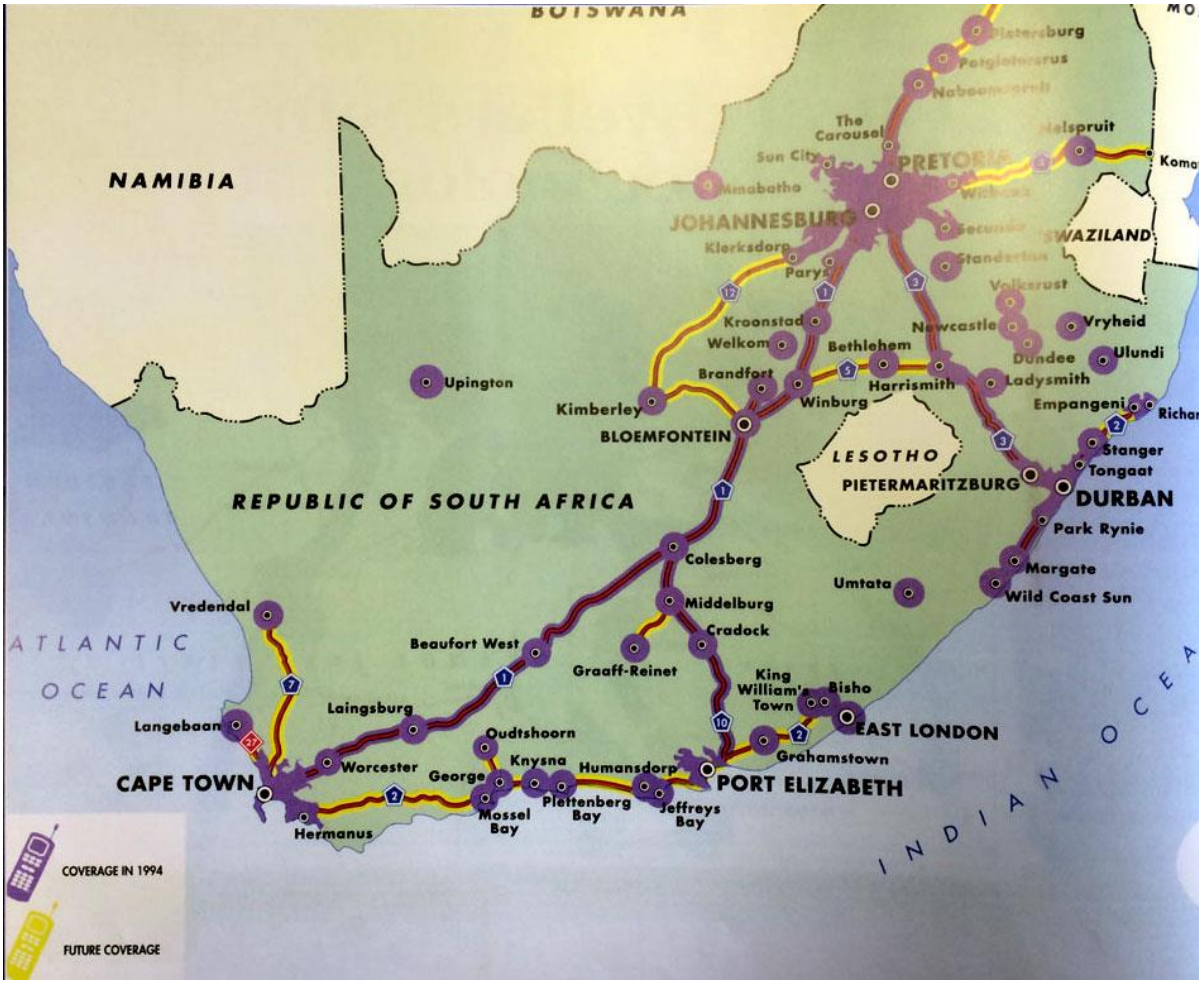
[273] Pretoria-Witwatersrand-Vaal, South Africa's economic heartland, substantially the same area that today comprises the province of Gauteng.

[274] In South Africa, the term 'township' usually refers to a peri-urban dormitory settlement, often under-developed and poverty-stricken, set aside under *apartheid*'s racially segregated strictures, for 'Africans', or 'Coloureds', or 'Indians'.

words centred around affluent, 'white' communities. In the light of the emphasis on major roads, it is both interesting and ironic that then Vodacom CEO, Alan Knott-Craig has gone on with no small degree of hubris to claim personal credit for the innovative "idea of extending network coverage to include thousands of kilometres of national highways", describing what was in fact a licence requirement as "an idea that had 'Knott-Craig' written all over it" (Knott-Craig & Afonso, 2009, p. 85).

It is more than likely that this Vodacom licence requirement would have been derived from the original bid itself, as too was likely in the case of MTN. Such a carry through from bid to licence is usually the case. However, Knott-Craig makes no mention of this as a feature of Vodacom's bid (Knott-Craig & Afonso, 2009, pp. 53-54). This is all a trifle puzzling, and may perhaps be ascribed to a combination of fading memories and authorial embellishment.

Figure 6.2: Vodacom Network Rollout 1994



(My Broadband, nd)

MTN's requirements also include urban and industrial centres, but comprise in addition a large number of poor, 'black' townships.

This "Community Service Telephone" (CST) was also specified in the Schedules appended to the Multiparty Implementation Agreement, albeit in far more generalised terms (RSA, 1993a, p. 4). A CST was defined as a handset (item of "Terminal Equipment"), available for use and "freely accessible" by the "general public", and "located in an Under-serviced Area or in a Community Centre", with calls priced in accordance with a specified "Community Service Telephone Tariff" (RSA, 1993a, p. 4). Interestingly, through the legalese shine the concepts of availability, accessibility and affordability that were already central to the notion of universal access and service (OECD, 1991, p. 26). An under-serviced area was, in turn, defined as a "city, town, township, shantytown, location, village or human settlement… as prescribed by the Postmaster General", and community centres were defined as including "schools [and] railway stations" (RSA, 1993a, p. 8 & 4).

Vodacom's community service telephone obligations were specified in rather less detail than had its coverage obligations been. The definitions were carried through from the Multiparty Implementation Agreement. From 500 community service telephones at commercial launch, the obligation increased in annual increments to a total of 22 000 such handsets at the end of five years (ICASA, 2002d, p. 42). Distribution of the phones was specified via a breakdown by South Africa's then provinces, with 50% earmarked for the Transvaal, 30% for Natal and the remaining 20% for the Cape and the Orange Free State[275]. In addition, the schedule listed some 62 underserviced areas, ranging from Johannesburg's Alexandra township to Zwide township in Port Elizabeth (ICASA, 2002d, pp. 42-43).

MTN's community service telephone obligations required 300 such handsets at commercial launch, increasing to 7 500 by the end of 5 years, but without any earmarked provincial breakdown or specification of under-serviced areas (ICASA, 2002c, p. 85). There has been some speculation over the years as to why MTN's CST obligation was lesser than that imposed on Vodacom. Matthysen suggests that this differential treatment was due to a greater level of offset commitments made by MTN under its Joint Economic Development Plan (Open University, 2002, p. 5). MTN's Karel Pienaar offers a rather more prosaic interpretation,

[275] Under the subsequent 1994 Interim Constitution, the Transvaal was split into Gauteng, North-West, what is now Mpumalanga and what is now Limpopo. The Cape was similarly split into Western Cape, Eastern Cape and Northern Cape.

suggesting Vodacom simply copied the idea from MTN's bid and "just upped the numbers" (interview, 6 February 2015).

When Cell C was awarded its licence in 2001, given the extent of the rollout already achieved by Vodacom and MTN, lesser, rather different universal service obligations were imposed on it. These provided for the possibility of a roaming agreement[276], and required, in the absence of a roaming agreement (ie via its own network), 8% geographic coverage and 60% population coverage of the country within 5 years, and, if a roaming agreement were signed, 40% geographic coverage and 80% population coverage within one year, in either case subject to a roll-out plan agreed with the regulator (ICASA, 2001a). It is unclear why geographic coverage was introduced into Cell C's universal service obligations, except perhaps presumably to counterbalance the absence of a detailed list of required locations.

Cell C was also required to roll out 52 000 community service telephones to underserviced areas within 7 years (ICASA, 2001a). The definitions covering this universal service obligation were largely the same as those for Vodacom and MTN, with the addition of clinics and police stations to the definition of community centres, together with the additional requirement that an under-serviced area should have less than 10% fixed line penetration and be an area "where it is necessary to roll out Community Service" (ICASA, 2001a).

In 2003 additional universal service obligations were announced by Minister Ivy Matsepe-Casaburri to be imposed on both Vodacom and MTN in return for access to spectrum in the more desirable 1800 MHz frequency band (Weidemann, 2003b), something that had been enjoyed by the third mobile licensee, Cell C, from its launch. These obligations were reflected in the updated licences issued to Vodacom and MTN in 2004 (ICASA, 2004f; ICASA, 2004g) and comprised:

1. The provision and delivery of 2 500 000 "SIM Card Connection Packages" by each of the licensees, subject to an "Implementation Plan" targeting "under-serviced /un-served areas", with usage (beyond access to emergency calls, voicemail, directory

[276] Such an agreement, providing access for Cell C subscribers via Vodacom's network, in areas where Cell C does not have network coverage, was struck on 9 July 2001, and remains in force today. On 9 June 2015, it was extended to include 3G roaming.

services and three free SMSs daily) priced at "non-competitive pre-paid" rates (ICASA, 2004, pp. 49-50)[277];

2. The provision and delivery of 125 000 items of "Terminal Equipment"[278], again according to an "implementation time-table approved by [ICASA]", with the explicit requirement that this assist in the "promotion of Universal Service and Universal Access" (ICASA, 2004, pp. 52-54)[279].

The updated licences, however, went further than the original announcement by Minister Matsepe-Casaburri, and gave the mobile licensees access to 3G spectrum - in return for further universal service obligations. These comprised:

1. The provision of "Internet Access[280]" plus a "minimum" of 10 handsets to each of 140 learning "Institutions for Persons with Disabilities" within 3 years;
2. The provision of "Internet access" to 5 000 "public schools" within 8 years " (ICASA, 2004, pp. 57-64)[281].

In both cases, Internet was to be discounted by 50%, with rollout in accordance with and implementation timetable specified in the licence and in accordance with a "roll-out plan" to be agreed with ICASA (ICASA, 2004, pp. 57-64).

The above set of provisions was subsequently extended to Cell C (ICASA, 2009c), at the licensee's own request, because Cell C was concerned about the market share, and, hence, competitive, implications of an additional two and a half million subscribers to each of its two larger rivals (Leona Mentz, former Cell C regulatory staffer, personal communication 2015-

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[277] USAASA's recent UAS strategy oddly claims that the SIM-card recipients were to be "public sector employees" (2014b, pp. 1v1-35). The licences themselves contain no such specification, and, despite a bloated civil service, the country still has considerably fewer than 5 million civil servants.

[278] Effectively a handset, formally defined as a "GSM terminal" (ICASA, 2004g, p. 11). In the case of Internet access, this could also be construed to be a USB GSM adapter, commonly referred to as a 'dongle'.

[279] Again, without citing a source, USAASA suggests that the "handsets were targeted at recipients related to government work and special projects such as CDW, CHW and e-cadres" (2014b, pp. 1v1-35). The licences themselves contain no such specification.

[280] Defined fairly narrowly as just the "telecommunications access link and bandwidth", thus excluding any end-user infrastructure and equipment " (ICASA, 2004g, p. 56).

[281] This figure was, some 10 years later, as we shall see, to be substantially revised - downwards – to 1 500 schools per licensee (750 for Neotel) and specified in far greater detail (ICASA, 2014b), presumably as a result of the serious problems, as we shall see below) with this USO.

12-04). In addition, this obligation would effectively have allowed the smallest of the three operators overnight to nearly double its then subscriber base of some 3 million (2014b, pp. 1v1-35). This suggests that the market impact and market dynamics of USOs needs to be given more careful consideration.

The universal service obligations for the mobile licensees are summarised in Table 6.2 below.

Table 6.2: Mobile Licensees' Rollout Targets[282]

Operator	Coverage	Community Service Telephones	Additional USOs
Vodacom	- 146 localities and 23 arterial roads over 4 years - 60% of population within 2 years - 70% of population within 4 years	- 22 000 community service telephones in 62 specified areas over 5 years - 50% earmarked for the Transvaal, 30% for Natal and the remaining 20% for the Cape and the Orange Free State	- 2 500 000 SIM card connection packages - 125 000 handsets - 140 institutions for people with disabilities provided with Internet access (10 terminals each) over 3 years - 5 000[283] public schools provided with Internet access over 8 years - (subject to approval of implementation plan)
MTN (Mobile)	- 315 towns and 202 'townships' over 4 years - 60% of population within 2 years - 70% of population within 4 years	- 7 500 community service telephones over 5 years	- 2 500 000 SIM card connection packages - 125 000 handsets - 140 institutions for people with disabilities provided with Internet access (10 terminals each) over 3 years - 5 000 public schools provided with Internet access over 8 years - (subject to approval of implementation plan)

[282] Sources: various - see citations in this section above.

[283] Reduced in 2014 to 1 500 schools, as were the figures for MTN and Cell C.

Cell C (Mobile)	- Own network only:
	  - 8% of country within 5 years
	  - 60% of population within 5 years
	- With roaming agreement:
	  - 40% of area within 1 year
	  - 80% of population within 1 year
		- 52 000 community service telephones in under-serviced areas (with less than 10% fixed teledensity)	- 2 500 000 SIM card connection packages
			- 125 000 handsets
			- 140 institutions for people with disabilities provided with Internet access (10 terminals each) over 3 years
			- 5 000 public schools provided with Internet access over 8 years
			- (subject to approval of implementation plan)

6.3 Neotel's USO Targets

When Neotel was licensed as the 'second network operator' at the end of 2005[284], the universal service obligations set out in its licence had more in common with those of the mobile operators than with those of the fixed-line incumbent. This may have been motivated by a recognition on the part of the regulator that, in a market dominated by Telkom, a 'cherry-picking' approach, using high return customers as a springboard, was, in the words of Hodge, the "only viable entry strategy" (2004, p. 208). Neotel's licence replaces the access line and payphone targets (along with the targets for schools, hospitals, libraries, local authorities and villages) visited on Telkom with a rather broader target to "make available PSTS" to 50% of the population of its required "Network Service Area" (which comprised 14 defined metropolitan areas) within 5 years, and 80% of the population within 10 years, subject to an ill-defined "equitable distribution of access" proviso (ICASA, 2006a, p. 30) and in accordance with a specified "Rollout Timetable" (ICASA, 2006a, p. 13). The 'equitable access' stipulation seems clearly intended to ensure the provision of access to underserved communities.

Neotel's more explicitly stated universal access "Community Service Obligations" required it to "establish and maintain high speed Internet connectivity" to 2 500[285] "public schools" or "public further education and training institutions" and to 2 500 "public rural clinics" (ICASA, 2006a, p. 15). In neither case is 'public' explicitly defined, although the threshold for 'high-speed Internet connectivity' is set at 256 kbps and access is narrowly stipulated so as to exclude any customer premises equipment or "support infrastructure" (ICASA, 2006a, p. 15).

[284] The licence was signed in December 2005 but only gazetted in February 2006 (ICASA, 2006a).

[285] Later reduced to 750 (ICASA, 2014b).

These community service obligations are subject to a detailed "Implementation Plan", subject to the approval of the regulator (ICASA, 2006a, p. 16).

In both cases, however, and strangely in the light of the public interest importance of achieving universal access and service, the "Rollout Timetable" and the "Implementation Plan are both explicitly stipulated as being "confidential" between Neotel, the regulator and the Minister (ICASA, 2006a, p. 13 & 16).

It is also necessary to mention at this point that Sentech and iBurst / WBS received "Internet access" connectivity obligations to smaller numbers of schools[286] - 1 500 rural public schools over 9 years in the case of Sentech (ICASA, 2005b, p. 11), and 1 000 urban and rural public schools within 7 years in the case of iBurst (ICASA, 2009)[287].

These then, taken together, were the set of universal service obligations that remained in force until ICASA's 2010 review of its universal service obligation regime.

Given the overarching priority attached to universal access and service in South Africa's telecommunications reform strategy, and in the light of the emphasis placed on universal service obligations in their various forms as described above, it is important to consider their implementation. To what extent were these obligations complied with? What strategies did the various licensees adopt in meeting them? And to what extent and how effectively did the regulator ensure they were complied with. It is important to consider these issues next.

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[286] The obligations for Sentech were the subject of some contestation. Their original multimedia licence required them to establish 500 "School Internet Laboratories" (specified in very precise detail) within six years (ICASA, 2002b). Sentech subsequently argued that much of the detailed specification (such as the provision of furniture and training) took it into areas "unrelated to its licensed activities" and requested that its obligation be reduced to the "provision of bandwidth and/or connectivity" to 500 schools within 6 years (ICASA, 2003e, p. 20). Sentech's licence was subsequently revised somewhat less leniently - they were required to provide "Internet access" to "1 500 rural public schools" over 9 years (ICASA, 2005b, p. 11).

[287] ICASA incorrectly puts the number at 1 500 schools in the case of iBurst (2008b, p. 25). These figures were not amended in 2014, presumably because of the failure of Sentech's MyWireless initiative and the impending takeover of iBurst.

6.4 Telkom's Access Lines

As noted above, and pointed out by a number of commentators (Lewis, 2013, p. 99) (Mandla Msimang, interview, 7 November 2014), the primary burden of universal service obligations, both as envisaged in the 1996 Telecommunications Act and as specified in the licences of the various operators, fell to Telkom. Initially the company moved aggressively to meet its obligations, as can be seen in the dramatic increase in penetration over the first three years of the set of obligations. During this period (1997 – 2000) the number of mainlines in operation increased from 4,3 million to 5,5 million (Telkom, 2000, p. 73)[288]. Whilst the growth in access represents an increase in penetration of just on 30% over the period, an impressive 1 234 199 lines, it is still considerably short of the total line target of 1,47 million lines required by Telkom's licence.

The following year seems to have seen a reappraisal of Telkom's hitherto gung-ho attitude towards rolling out new lines in order to meet its USO targets. Conventional wisdom (Benjamin, 2001, p. 109; Hodge, 2004, p. 209), along with Telkom's own assessment (it reported undertaking a "complete review of non-paying customers and a crackdown on commercial fraud" (Telkom, 2001, p. 8)), suggests that this was largely due to the inability of Telkom's financial bottom line to sustain the unanticipated failure of large numbers of customers to pay their bills[289]. The disconnection of these defaulting customers led to a nett shrinkage of Telkom's installed customer base by a total of 531 095 main lines, a drop of 9,7%.

In fact, the actual rate of disconnections seems to have been even more dramatic, and substantially masked by ongoing new connections. Hodge, for example, reports that the total number of disconnections in 2001 was in fact 1,16 million (offset by 630 000 new connections) (2004, p. 209)[290]. Of course, the totals do not indicate which disconnections were carried out in respect of lines that had previously been installed under Telkom's USO commitment. Nevertheless, the number of lines disconnected in the single year up to 31 March 2001

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[288] The actual figures were 4 258 639 (31 March 1997) and 5 492 838 (31 March 2000).

[289] Telkom was later to report bad debt expenses to the tune of R 560 million in 2000 (rising to R 671 million the following year and R 965 million in 2002) (2003, p. 18).

[290] Hodge goes on to report the disconnection of a further 606 000 lines in 2002, once again largely offset by the installation of 570 000 new lines, leading to a "more modest decline of 36 000 lines in total" (2004, p. 209). It is not clear where Hodge gets his figures from, since they are, perhaps understandably, not set out in the annual reports.

amounted to almost 93% of the lines Telkom had so painstakingly connected as part of its total line target. Benjamin makes a similar point, reporting that in "some rural areas the rates of churn [was] between 50% and 70%, meaning most lines were disconnected" (Benjamin, 2001, p. 109). Telkom's change in strategy was, therefore, one that vitiated the impact on universal access and service intended by its universal service obligations.

Former ICASA Councillor Willie Currie suggests that Telkom may have "tried to conceal [the extent of the disconnections] for as long as possible", suggesting that, when his term ended in 2002, ICASA, distracted by the focus on Telkom's IPO and pressure from the Minister to preserve Telkom's pricing margins, was not yet aware of the scale of the disconnections (personal communication, 20 February 2015). However, the figures are clear. In addition, it seems likely that others were aware of the likely extent of the problem. The 1998 study into 'needy persons' undertaken by Stavrou and Mkhize for the regulator was already recommending 'staggered disconnection' (blocking of out-going (ie billable) calls) for households unable to pay their monthly bills (1998, p. 22 & 35).

Telkom's rollout of the necessary access lines to meet its target had been, it must be conceded, beset by a number of countervailing factors. Anecdotally there was been much criticism voiced of the cavalier attitude of Telkom's foreign investment partners, SBC in particular, for not understanding the South African economic and cultural context into which the new lines were being rolled out[291]. The levels of poverty, along with the gap between rich and poor, are dire. Coupled with a 'culture of non-payment' for the delivery of services that had its origins in the anti-*apartheid* rent and rates boycotts of the late 1980s (Fjeldstad, 2004), and the lack of experience in managing accounts - getting a Telkom line was once described as the "only unlimited credit poor people get" (Benjamin, 2003) - this led to a situation where the non-payment of telephone bills was, for a number of reasons, rife, particularly in under-serviced areas (Telkom, 2003, p. 18). Further, the DECT wireless local loop system introduced by Telkom into rural areas, at least in part as an antidote to the prevalence of copper cable theft, and targeted to cover some 420 000 customers, ran into a number of problems (Baker, 1999, p. 1), amongst which was the unanticipated theft of solar panels (Dyani, nd)[292].

[291] A more academic source, for example, makes a related point when they label SBC's approach to how billing was managed under the rollout as being "sociologically inappropriate" (Horwitz & Currie, 2007, p. 446).

[292] Anecdotal accounts suggest they made excellent and attractive table-tops.

The point at which Telkom decided to embark on its campaign of subscriber disconnections also coincided at the very point in time at which the number of mainlines was overtaken by the number of mobile subscribers (at 31 March 2000 the combined subscriber base of Vodacom and MTN amounted to 5 369 000 and was nipping at the heels of Telkom's 5 492 838 mainlines - by 31 March 2001 the number of mobile subscribers had topped 8 million[293]). This was a likely consequence of a number of factors, notability the introduction of prepaid mobile (Melody, 2001, p. 5; ITU, 2003a, p. 35ff), which dramatically reduced the barriers to entry into the telephony market for consumers. Primarily this was via a substantial reconfiguration of affordability thresholds (Barrantes & Galperin, 2008; Hodge, 2005). Hodge's analysis is of particular relevance to the South Africa market, providing robust and specific evidence that for low-volume users (below a monthly call volume of around 35 minutes) it was actually *cheaper* to be on prepaid mobile as opposed to Telkom's post-paid fixed-line service (2005). But there were likely factors other than affordability - including lack of the need for a credit record or a permanent fixed abode, the ability to exploit cheaper communications options such as missed calls[294] or the use of SMS services - that added further impetus to the ongoing swing to mobile[295].

Telkom's response to this encroachment on its customer base from the mobile operators was both tardy and clumsy. It finally launched its own 'prepaid' offering, PrepaidFone, towards the end of 1999, close to a year after announcing its plans in this direction (ITWeb, 1999). By March 2001 Telkom was claiming some 480 000 users of the service (2001, pp. 19-20). But the service lacked crucial features which might have enabled it to compete with the offerings of the mobile operators: for example, it still required a monthly rental (mobile

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[293] The comparison is a pyrrhic one, since mainlines and mobile subscribers are not comparable statistics. A single fixed mainline may serve multiple end users, whether it terminates in a household occupied by a family of several members or in an office PABX. A mobile subscriber is in effect an 'active' SIM card, of which a single user may have several, and may indeed be resident in an M2M device such as a least-cost router, a vehicle tracking device, a point-of-sales device to name a few. The number of active SIMs therefore overstates the number mobile users, albeit by a debatable margin.

[294] Because of readily available calling line identification (CLI) on mobile, a call that is made but not answered can be used to send an agreed signal to the recipient, such as 'I have arrived home safely' or 'Please call me back'. Knott-Craig claims, falsely in all likelihood, as has been shown, that this type of behaviour was the inspiration for the 'Please Call Me' SMS service (MyBroadband, 2013b; Omarjee, 2014).

[295] Prepaid mobile was not only a boon to consumers. Mobile operators benefitted from termination revenue via incoming calls from wealthier contract or fixed-line subscribers (so much so that they offered a daily allocation of free 'Please Call Me' SMSs to prepaid subscribers). Operators also saved on the cost of issuing monthly accounts and on the expense of debt collections.

prepaid users paid only for actual usage) and it offered limited value-added services such as voicemail - which was charged for (it was a free mobile service) (ITWeb, 2001b). And, when it disconnected customers, it did so completely, cutting off incoming, revenue-generating calls[296] along with the unpaid outgoing calls that were presumably the cause of the disconnection in the first place.

It was only very belatedly that Telkom adopted a policy of partial disconnection that pundits had been urging for some time[297], when then CEO Sizwe Nxasana said that "from July 2002, Telkom would be introducing a system whereby defaulting customers could still receive incoming calls and make outgoing calls to emergency numbers if they chose to do so" (News24, 2002).

In fact, proposals for how to deal with affordability-related disconnections had been around for some time, even if the proposals appear to have been ignored. In 1999, drawing on earlier work by the Benton Foundation in the US (1996), the Universal Service Agency was already floating the idea of "lifelong connection" linked to three grades of service based on affordability, the lowest of which provided only for incoming calls and access to operator and emergency services (USA, 1998, p. Section 6.5; USA, 1999a, p. 20; USA, 1999b, pp. 10,11).

As a result, many former, disconnected Telkom customers were lost from fixed-line services forever, becoming instead prepaid customers of MTN and Vodacom. The nett result of the disconnections, therefore, together with the upsurge in uptake of mobile services, was that the number of Telkom mainlines in service continued to fall from 2001, a trend that has continued to the present day, as the graph below (Figure 6.3) shows.

It may have taken another 10 years before the number of mainlines in service fell below the number at the start of its universal service rollout obligation, but the trend from 2001 has been irreversible.

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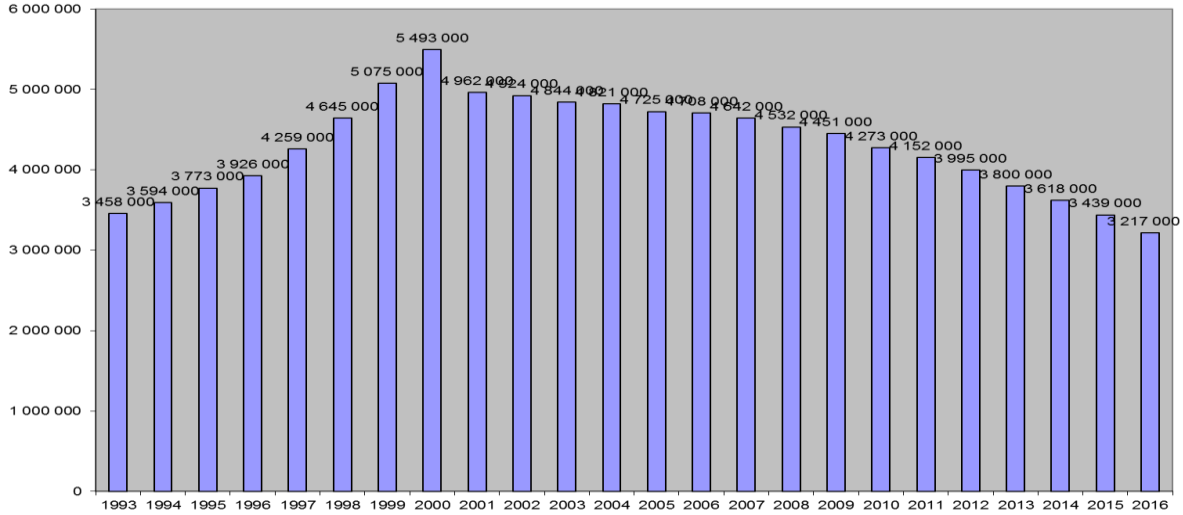
[296] At the time, in 2000, Telkom was charging the mobile operators R 0,80 per minute (R 0,45 during off-peak) to terminate their traffic on its network. Telkom was seemingly oblivious to the fact that calls originating from either the mobile operators or from its own customers in good standing represented a considerable source of revenue.

[297] ICASA, for example, had been "saying [Telkom] needed to maintain at least an emergency service" (Willie Currie, personal communication, 20 February 2015).

Figure 6.3: Telkom mainlines in service (1993 – 2016)



Source: Author's spreadsheet, compiled from Telkom annual reports

Critically, despite Telkom's campaign of disconnecting defaulting customers, coupled with the move to mobile, and the consequent significant negative impact on the number of lines, Telkom continued to claim that it was meeting its licence USOs. Witness its 2001 annual report:

> *It is extremely pleasing to report that Telkom has met or exceeded all line rollouts for the first four years of its licence. During this period, Telkom has installed over 2.1 million lines taking the total to 4.9 million. Of these, 1.4 million were installed in under-serviced areas. We have quite literally connected whole communities to the network with 2,692 villages "wired-up" and over 108,874 payphones installed. (2001, p. 11)*

It is clear from the assertion above that Telkom was, at least from this point onwards, counting towards its USO obligation, lines that had been installed but subsequently disconnected for one or other reason. The figure of 2,1 million lines cited above implies connections in excess of the 2,025 million required by the licence by the end of year four (DoC, 1997, p. Schedule A).

Conventional wisdom suggests that the wording in respect of the USO lines in the licence was faulty in that it required Telkom to meet its USOs but did not legally oblige the company to maintain them (cf Mandla Msimang, interview, 7 November 2014). Similarly, former ICASA Councillor Willie Currie notes that Telkom "didn't have to deduct the disconnected lines from their obligation account" (personal communication, 20 February 2015).

This does not, however, appear to have an entirely firm legal basis. The drafters of the licence appear in fact to have given considerable thought to this very question. In the first place, the wording of the relevant 'Universal Access and Service' section (Section 4) of the licence (DoC, 1997, pp. 24-30) is excessively long (it runs to over 4 pages) and exceedingly complex. It requires Telkom to provide "to every person in the Republic who requests it" and who meets credit checking requirements set out elsewhere (in Schedule C of the licence) a "Basic Telephone Service" along with the "installation and connection" and "maintenance or repair" of the necessary "Customer Premises Equipment" (ie a handset). Whilst it is true that maintenance and repair are not specified in respect of the 'Basic Telephone Service' itself, both the choice of the term 'service' and its definition as "comprising technical features which are the minimum necessary to allow the establishment of a telephony channel… to convey voice grade signals" imply that the line has to remain in working order.

Under Schedule A, where the annual rollout targets are set out, there is a provision, again with complex and opaque wording, which states that

> *for the avoidance of doubt, any new Exchange Line brought into service in a relevant financial year in respect of the Roll-out Targets and the New Line Roll-out Targets, if disconnected in accordance with condition 13.4.3* [which deals with breach of contract, failure to pay, illegal usage etc]*, shall be discounted from the measurement referred to (DoC, 1997, p. 52)*

The wording above seems clearly designed to prevent phones disconnected for non-payment or breach of contract being counted towards Telkom's USO rollout targets. Yet Telkom unapologetically did just this, stating as much in its final report on its licence obligations: "lines disconnected because of non-payment are also counted in the totals, as provided for in clause A.1 of Schedule A of the PSTS Licence" (Telkom, 2002b, p. 6).

It is possible that a lawyer might be able argue for a legal loophole in the labyrinthine formulations of the licence by arguing that lines disconnected in a financial year subsequent to the one in which they were originally installed could still be counted. ICASA seems to have been aware of and complaisant with this interpretation. Former Councillor Willie Currie noted that the "tricky part [was] the timing of the disconnections and also that they didn't have to deduct the disconnected lines from their obligation account" (personal communication, 20 February 2015).

But Telkom's wording above makes no reference to this interpretation, and is surely disingenuous to say the least. It seems clear that the intention behind clause A.1 was that the universal access and service rollout targets were intended to cover only those lines that had been installed and maintained in service. And it was only by arguing that disconnected lines could be included in the totals that Telkom could argue that it fell a mere 16 448 lines short (a variance of 6%) of its overall target of 2,69 million new access lines (Telkom, 2002b, p. 6) - whereas in fact the total number of access lines only grew by a mere 665 000 (see Table 6.3 below).

Table 6.3: Telkom's Access Line Targets vs Rollout

Year	1996/97	1997/98	1998/99	1999/2000	2000/1	2001/2
New Access Line Target		340 000	435 000	575 000	675 000	665 000
Total Lines Intended		4 598 639	5 033 639	5 608 639	6 283 639	6 948 639
Actual Net Line Growth		386 426	430 352	417 421	-531 095	-37 285
Total Lines Actual	4 258 639	4 645 065	5 075 417	5 492 838	4 961 743	4 924 458

New Access Line Target as per Telkom's licence (DoC, 1997)
All other figures calculated from Telkom's annual reports

Perhaps equally strange is that there seems to have been no attempt on the part of the regulator, by then ICASA, to challenge this report, or indeed any previous compliance reports[298], where Telkom's line of argument must have already been apparent. Andries Matthysen, then ICASA's Head of Licensing, is quoted as confirming this failure on the part of the regulator, stating that "while the regulator was tasked with such monitoring, it failed to do so and relied on annual accounting for targets by Telkom" (Hodge, 2004, p. 218). This despite the fact that ICASA's annual reports for the period note the regulator's function to "check compliance of licensees against [*inter alia*]… their respective telecommunications service licence conditions [including]… delivery on universal service obligations" (ICASA, 2003g, p. 17) but make no mention of Telkom's compliance reporting.

6.5 Telkom's Payphones

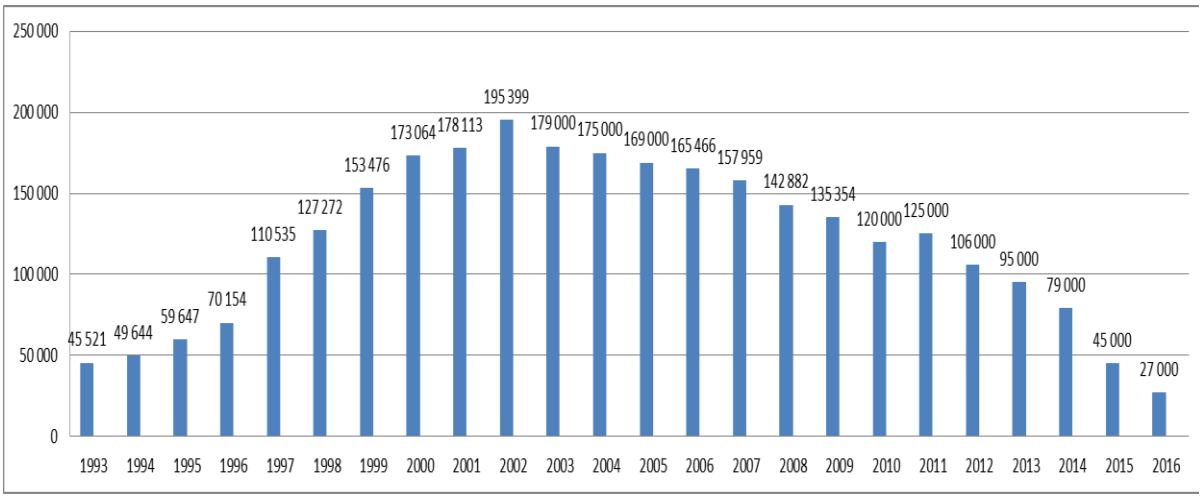
Telkom's rollout of the 120 000 payphone US) set out in its licence proceeded in similar gung-ho fashion to the access line rollout, as can be seen in Figure 6.4 below. Their licence required

[298] The report is marked as report no 7, but is the only one the author has been able to source.

them to install payphones at a rate of 25 000 per year (except for 20 000 in the first year) (DoC, 1997, p. 59).

Within a year of Telkom being licensed it was already clear that the operation to roll out payphones was in trouble. Theft of cash from coin-operated payphones was rife, vandalism was prevalent, and there were even counterfeit cards for card-operated phones in circulation (Steenkamp, 1998a; Steenkamp, 1998b). However, Telkom pressed on, "continuing to install payphones in areas defined in [its] licence, including underserviced communities, schools, hospitals, as well as to mass transport routes such as taxi ranks, train stations and airports" (Telkom, 2001, p. 9).

Figure 6.4: Telkom Payphones (1993 – 2016)



Source: Author's spreadsheet, compiled from Telkom annual reports[299] & (ITU, 1998c)

However, the nett increase in the number of payphones in operation fell well short of rollout targets. Only in 1998 / 1999, when the payphone rollout grew by 26 204, was the USO target breached. However, over the same period Telkom claimed to have installed more than 27 000 new payphones (Chalmers, 1999), suggesting that numbers of vandalised or stolen payphones were not being replaced. By 2001, when the number of payphones in operation had grown by some 66 000, Telkom was claiming to have rolled out 108 874 payphones "as per license [sic] requirements' (2001, p. 20)[300]. Although, Telkom has continued to allude to the problem on vandalism, stating that it "frequently repairs or replaces a large number of

[299] The precision of reporting varies from time to time. As of 2014, Telkom no longer itemises payphones in its annual reports, but they are still specified in the interim results statements.

[300] Curiously, the same annual report gives the target as 93 027 as opposed to the 95 000 specified in the licence.

vandalised payphones" (2001, p. 20), it never stated that large numbers of payphones were being decommissioned for these or other reasons.

It appears that Telkom payphones were destroyed for reasons other than raw vandalism. Benjamin reports at least one instance of a Telkom payphone being vandalised because it provided competition to community service telephone operators (2001, p. 151) whose call rates, albeit discounted, were more expensive than Telkom's. Telkom's Andries Matthysen makes a similar point about the economics behind public payphones versus community service telephones, and the consequent high levels of vandalism perpetrated on Telkom payphones: "At a certain point the minutes stopped flowing. Individuals vandalised Telkom's payphones so they could offer calls at R 2,80 a minute" (interview 9 January 2015)[301]. It was perhaps as a consequence of this that Telkom moved from July 2010 to introduce its first 500 "containerised semi-public fixed-line telephones", and embarked on a campaign of consultation with rural communities designed to reduce vandalism (Telkom, 2002a, p. 25). It is indeed bitterly ironic that Telkom's payphone USO was so vitiated by the arbitrage gap and economic disparities between its model and the CST USOs imposed on the mobile licensees. The problem would have been exacerbated by the rise of mobile, which overtook fixed in 2000, and by the entrance of Cell C with its 52 000 CSTs into the market. Its dynamic and the outcome seems, however, never to have been picked up by either the regulator or the USA.

Once Telkom had met its payphone USO, or so it claimed, the rollout of payphones rapidly gave way to a programme of disconnection and decommissioning. Between 2002 and 2003, the number of payphones in operation fell by over 16 000, and has continued to decline ever since. By 2016, Telkom was itching to do away with payphones entirely (McLeod, 2016b).

6.6 Assessing Telkom's USO Compliance

As indicated above, there seems to have been no independent attempt whatsoever on the part of the regulator to assess Telkom's compliance with its USOs. There does seem to have been some attempt on the part of the then Universal Service Agency to monitor rollout in respect of the USOs, but they lacked the legal authority to compel operator compliance

[301] Matthysen's figure is incorrect. Reck and Wood make the discrepancy R 0,60 versus R 0,85 (2003, p. 11) but hint at the same economic sabotage motive.

(Ngubane, 1999; Stavrou, Whitehead, Wilson, Seloane, & Benjamin, 2001) and were thus unable to compile the necessary data (Katharina Pillay, interview, 13 January 2015).

As a result, there exists no independent, third-party assessment of Telkom's compliance with the USOs in its licence. There only exists some measure of query with respect the total number of access lines, since the headline figures and contained in Telkom's audited financial statements and set out in the annual reports. However, as regards figures for new access lines and disconnections the analysis remains dependent on commentators such as Hodge (2004, p. 209).

As regards Telkom's compliance with the remaining access line USO targets, the assessment is, therefore, entirely reliant on its own reporting to the regulator (see Figure 6.5 below).

Figure 6.5: Telkom's own Assessment of its Access Line Compliance (1997–2002)

Table II – Basic services provision: summary 1997/2002

Category	Target	Actual	Variance
Total lines	2 690 000	2 673 552	(0,6%)
Under-serviced lines	1 677 000	1 787 968	6,6%
Priority customers:	20 246	25 577	26,3%
• schools[1]	17 272	18 294	5,9%
• other	2 974	7 283	144,9%
Villages	3 204	2 699	(15,8%)

(1) Sub-target for schools as calculated

(Telkom, 2002b, p. 6)

Whilst Telkom claimed to have met almost all of its other targets, it is more than likely that similar qualifications regarding access line disconnections apply to the other totals. The claim to have installed 1 787 968 new lines in under-serviced areas is, therefore, to be tempered with the recognition that a very large percentage of these were almost certainly subsequently disconnected. Affordability and, therefore, non-payment would likely apply disproportionately in under-serviced areas, predominantly rural and impoverished. Similar qualifications must also apply in respect of Telkom's claim to have exceeded its 'Priority customers' targets. It is further unclear why and on what basis Telkom decided to recalculate its 'schools' target, since the figure - 19 270 (DoC, 1997, p. 67)[302] - not the considerably lower calculated figure of

[302] Telkom, completely incorrectly, claims that "no specific target is set in the licence for schools, but only an overall target for priority customers" (Telkom, 2002b, p. 18).

17 272 given above - was clearly set out on the licence. The recalculation did, however, allow Telkom to claim the target as having been met, when in fact it was 976 schools short[303] - and thereby avoid the associated financial penalty.

Telkom also reported that it fell short of the targeted number of replacement (digitised) lines, achieving only 1 159 668 instead of the required 1 252 000 (Telkom, 2002b, p. 7).

Telkom went on to state that it had exceeded its payphone rollout target of 120 000 new payphones, claiming that it had achieved 132 990 new payphones (Telkom, 2002b, p. 18). It is unclear on what possible basis it was able to make this claim, since the number of payphones in 2002 was only some 85 000 more than the figure reported for 1997 (see Figure 6.5 above). Telkom offered no explanation for its calculation, which surprisingly again appears never to have been challenged by the regulator. As noted above, Telkom's claim to have installed 132 990 payphones is only sustainable if substantial numbers of payphones (nearly 50 000) had been decommissioned over the period. ICASA's failure to challenge Telkom's calculation is all the more surprising given that it had access to Telkom's annual payphone figures, and given that the penalty per payphone was R 2 250 (DoC, 1997, p. 53).

The question does arise as to whether Telkom falsified its submissions to the regulator. This would have been possible, given the manifest inability of ICASA to audit and verify its submissions. Outright falsification seems unlikely, however, given the public scrutiny of its figures as provided in annual reports coupled with audited financial statements. Such falsification as there was seems to have been limited to the definitional sleight of hand described above that allowed Telkom to claim that it met its overall rollout target. Had the company been disallowed from counting any of the disconnected lines, it could have been liable for a fine of as much as R 1,8 billion[304]. In practice, given the lack of clarity as to exactly how long a line had to be in place in order to be counted, the fine is likely to have been considerably less, albeit still substantial. Telkom nevertheless had a clear and compelling financial motive for arguing that it had largely met its overall line target. There were similar problems with the specification of the payphone target. It was never stated how long a payphone had to be in place before it could be counted. Nor was it stated that the 110 000

[303] The penalty for schools (R 900) was lower than for other priority customers, with the shortfall adding R 878 400 to Telkom's USO shortfall fine.

[304] A fine of R 225 for each of the first 100 000 lines in the shortfall, plus a fine of R 900 for each of the remaining lines (DoC, 1997, p. 53). Significantly, the number by which Telkom conceded having missed its overall rollout target fell within the former bracket.

payphones already in place in 1997 had to remain operational. By being able to count decommissioned payphones, Telkom was able to avoid being fined a further nearly R 110 million. The figures for the under-serviced line targets, along with those for schools and villages, are not subject to anything like the same public scrutiny and hence more readily amenable to manipulation. The cardinal failure, however, remains that on the part of the regulator to either query or challenge Telkom's claims.

As a result of the failure to achieve its USO targets, Telkom conceded that it was subject to a fine of R 10 183 285, the overwhelming majority (93%) of which was due to the shortfall in the overall number of access lines (Telkom, 2002b, p. 6). A proper audit on the part of the regulator, backed by a far clearer specification of those USOs and of what constituted compliance, might have increased this fine by several orders of magnitude.

6.7 Rolling out Mobile CSTs

The initial phases of the rollout of the mobile community service telephones have not been adequately publicly documented. The definition of what comprises a community service telephone, as discussed above, offers a less than clear indication to the operators as to how to proceed in meeting their obligation. Rolling out handsets "freely accessible" to the "general public" and "located in an Under-serviced Area or in a Community Centre" (RSA, 1993a, p. 4) would appear to imply some form of payphone rollout. Under-serviced areas in turn were defined to include any "city, town, township, shantytown, location, village or human settlement… as prescribed by the Postmaster General from time to time", specifically including the coverage areas listed in each licence under the "Implementation Timetable" (RSA, 1993a, p. 4). As the analysis will show, this was a definition that left considerable leeway for creative application by the licensees, covering as it did both major urban centres and the disadvantaged 'black' townships nearby, with no rural areas specified at all. Likely some form of community-based telecentre approach was envisaged, with a focus on disadvantaged communities, including those in rural areas, but the parameters remained vague, and the precise modality of rollout was not specified.

In the event Vodacom adopted both approaches. The company implemented a two-pronged strategy, involving both mobile phones issued to individuals ("transportables") and mobile phones housed in refurbished shipping containers ("phone shops") (SATRA, 1998a, p. 24). It would appear that the former was Vodacom's primary initial strategy towards meeting its universal service obligations (Karel Pienaar, interview, 6 February 2015). It involved the

distribution of standard mobile handsets to "faculty and administrators at universities and technical colleges in disadvantaged areas" (Kaul, Ati, Janakiram, & Wattenstrom, 2008, p. 19) with the intention that they be made available to students to make and receive phone calls (Andries Matthysen, interview, 6 January 2015). It seems clear that this approach was, hardly surprisingly, ineffective, as the lecturers simply appropriated the handsets for personal use and did not give access to their students (Kaul, Ati, Janakiram, & Wattenstrom, 2008, p. 19; Open University, 2002, p. 6; SATRA, 1998a, pp. 264-265)[305] despite signed agreements to the contrary (SATRA, 1998a, p. 134).

Despite its manifest shortcomings, Vodacom persisted with these "transportable" community service telephones for a number of years. At the time of the 1998 audit by the regulator of the community service obligations of the mobile operators, Vodacom reported that it had nearly 11 000 such phones in place, predominantly in the poorer provinces of the Eastern Cape and Northern Province (now Limpopo), but with the curious exception of Mpumalanga (see Table 6.4 below). The geographic spread also failed to meet the requirements specified in the licence, with a mere 32,5% in the former Transvaal[306] as opposed to the required 50%, and a mere 11% in KwaZulu-Natal as opposed to the required 30%. The Cape[307] and Free State, by contrast, are heavily over-represented at 56,5% as opposed to the required 20%.

Table 6.4: Vodacom's "Transportable" CST Rollout (1998)

Province	Transportable Phones	% of Total
Kwa Zulu Natal	1 217	11%
Gauteng	705	6,5%
Eastern Cape	2 713	25%
Northern Province	2 196	20%
Western Cape	1 805	16,5%
North West	685	6%
Mpumalanga	0	0%
Free State	1 396	13%
Northern Cape	180	2%
Total	**10 897**	**100%**

Source: (SATRA, 1998a, p. 239)

[305] The SATRA audit lists numerous quotations from interviews attesting to the frequent appropriation of these 'transportables' for personal use.

[306] Now split into Gauteng, Mpumalanga, Northern Province (now Limpopo) and North West Province.

[307] Now Western Cape, Eastern Cape and Northern Cape.

Despite the obvious built-in shortcomings of the 'transportables' model, it was "easier and faster to roll out", with the result that Vodacom only phased the initiative out in late 2003 (Kaul, Ati, Janakiram, & Wattenstrom, 2008, p. 19).

Although Vodacom's other model, the fixed-location containerised 'phone shops', seems to have been implemented from the outset, with some 2 000 claimed to be in place by early 1995 (Hack, 1995), its rollout seems to have proceeded far more slowly by comparison with the company's 'transportables', as can be seen from Table 6.5 below. The phone shops were initially housed in Vodacom-branded refurbished shipping containers, franchised out to local entrepreneurs, each containing between 5 and 10 SiGI phones, providing call billing and airtime recharge facilities (Chonco, 2002).

Figure 6.6: Vodacom Rural Phone Shop

Source: (Bloomberg, nd)

By the time of the 1998 CST audit only some 700 of these containers, housing just under 5 000 such phones had been rolled out. By early 2001, however, Benjamin was reporting over 2 000 such phone shops as having been rolled out (2001, p. 143), with Vodacom itself officially reporting "27 884 payphone units" in place by March 2002 (Telkom, 2002a, p. 14),

and claiming 4 102 phone shops later the same year (Chonco, 2002), with Reck and Wood suggesting there were 30 000 community service lines in service by late 2003 (2003, p. 5)[308].

The picture that emerges suggests a gradual shift to the phone shop model, more than likely in response to the failures of the transportables model that have been identified above and which were highlighted in the SATRA CST audit (Katharina Pillay, interview, 13 January 2015). By the time of ICASA's 2010 review of the universal service obligations of the operators, Vodacom's community service line portfolio had grown to 115 713 lines (BMI-T, 2010, p. 6) and to "over" 118 000 a year or two later (ICASA, 2014d, p. 4). The geographical distribution of these phone shops was far from equitable, with a heavy concentration in the populous but richer Gauteng province, and relatively fewer located in the poorer, more under-served Mpumalanga. Again, the geographic spread fails to meet the requirements of the licence with only 23,7% in the former Transvaal (required to be 50%), 7,5 % for KwaZulu-Natal (30% required), and once again the former Cape and the Free State over represented at 37,4% (20% required).

Table 6.5: Vodacom's "Phone Shop" CST Rollout (1998)

Province	Phone Shops	% of Total	Phones	Avg Phones / Shop
Kwa Zulu Natal	122	17,5%	915	7,5
Gauteng	171	24,5%	1 101	6,4
Eastern Cape	67	9,5%	424	6,3
Northern Province	91	13%	434	4,8
Western Cape	38	5,5%	263	6,9
North West	109	15,5%	611	5,6
Mpumalanga	39	5,5%	268	6,9
Free State	50	7%	824	16,5
Northern Cape	11	1,5%	85	7,7
Total	**698**	100%	**4 925**	7,1

Source: (SATRA, 1998a, p. 240)

It seems clear that the phone shop approach represented a greatly superior model, based on sound entrepreneurial principles and a clear business model, rather than one that flew in the face of self-interest. Benjamin points to "clear business plans", and repeatedly refers to the success of the model, citing "stories of these people buying Mercedes cars within a few

[308] The figures are not exactly comparable. Benjamin incorrectly asserts that the phone shops were Vodacom's sole community service strategy, and his unsourced figure of 2 000 phone shops would translate to some 21 000 phone shop lines, which seems rather high for the time, given that the transportable model was still in place, albeit likely on the decline. The figures from Telkom clearly still include numbers of transportables, with the numbers from Reck and Wood probably including few if any, given that the model was about to be phased out.

months of starting operation" (2001, p. 143). It is not hard to see why. Vodacom itself began to punt the model, citing traffic figures of 124 million minutes a month, and monthly revenue of R 86,9 million, generating monthly commission of R 28,5 million or an average of R 17 818 per phone shop (Chonco, 2002, pp. 5-6). Some of the accounts verge on the hagiographic (Reck & Wood, 2003), but the success of the community phone shop model seems clear and undeniable (Hamilton, 2003; Coetzer, 2008).

MTN took a different approach to meeting its community service telephone commitments, rolling out card-operated GSM payphones (Open University, 2002, pp. 6-7; Hack, 1995; SATRA, 1998a)[309], presumably based on the payphone model favoured by Telkom at the time. Based on a partnership with a local payphone manufacturer which resulted in the development of the "first fully integrated GSM pay phone in Africa", the model was first unveiled in the poor urban township of Alexandra, Johannesburg in June 1994 (Gregson, 2000). These GSM call boxes were of "rugged" design, operating on a "debit-card system", and are described as follows:

> *[They] resemble conventional pay phones and run off any 12-volt power source, [and] are set up on the outside walls of existing businesses. The cost and duration of each call are displayed on the phone's display screen. The adjacent businesses sell the… debit cards, with a pre-paid number of minutes, at a small profit (Hack, 1995)*

By early 1995, some 500 of these units had reportedly been installed in 32 townships around the country (Hack, 1995). By the time of the SATRA CST audit some three years later, this number had increased tenfold, as

[309] MTN's Karel Pienaar claims that MTN's model involved entrepreneurs and containers from the outset (interview, 6 February 2015), but is surely the product of hindsight.

Table 6.6 below shows.

As in the case of Vodacom discussed above, the distribution of these CSTs reveals a far from even focus on those disadvantaged areas most in need of connectivity: MTN's GSM payphones are disproportionally located in the more advantaged Gauteng, with almost none in the provinces of Free State and Northern Cape.

Table 6.6: MTN's GSM Payphone Rollout (1998)

Province	GSM Payphones	% of Total
Kwa Zulu Natal	691	12,5%
Gauteng	1 171	21,5%
Eastern Cape	587	11%
Northern Province	731	13,5%
Western Cape	478	9%
North West	1 121	20,5%
Mpumalanga	654	12%
Free State	3	0%
Northern Cape	5	0%
Total	**5 441**	**100%**

Source: (SATRA, 1998a, p. 178)

The GSM payphone model had considerable advantages. In particular, these community service telephones offered 24-hour availability, in contrast to being dependent on the opening hours of Vodacom's phone shops and the whims of the owners of its 'transportables'. However, mounting them in public spaces exposed them to "substantial vandalism" with criminal elements prepared to "actually break these phones open, hoping to get hold of a handset" (Open University, 2002, p. 6). MTN's Karel Pienaar reports vandalism to get hold of the SIM cards, and has one in his office with a bullet hole in it (interview, 6 February 2015). Vandalism of these phones is widely reported (M-Cell, 2002, p. 48; Gregson, 2000; SATRA, 1998a, p. 61)[310]. To combat these problems, the payphone was redesigned to make it more secure, with the handset and SIM card removed, and many were relocated to be housed inside spaza shops (thus reducing their accessibility quite dramatically) (SATRA, 1998a, p. 61). This in turn created a new challenge of winning the trust of spaza shop owners, since MTN was "still often viewed with suspicion" as a 'white' company out to exploit 'blacks' (Hack, 1995).

There were other problems. Both Pienaar and Matthysen report a high incidence (up to 20% of emergency calls (SATRA, 1998a, p. 65))) of prank emergency service calls (interview, 6 February 2015; (Open University, 2002, p. 6)), leading to a decision to make emergency calls dependent on the insertion of a phone card (Open University, 2002, p. 6), which created obvious accessibility problems. There were also considerable supply chain problems, rendering many such payphones effectively unusable to many users because there were no phone card outlets nearby, or because outlets (typically spaza shops, for whom the cards

[310] SATRA reports around 900 of MTN's over 5 000 phones as having been vandalised.

were low profit margin items (SATRA, 1998a, p. 62).) were out of stock (SATRA, 1998a, p. 75 & 81; Open University, 2002, pp. 6-7).

As a consequence of the problematic nature of the payphone model, I particular the rate of vandalism, which impacted financially on it in a way that the other problems did not, MTN opted to move away from this model towards the much more viable phone shop model that had been adopted by Vodacom. Former USA researcher Katharina Pillay suggests that a 2000 report commissioned by MTN was pivotal in prompting the change (interview, 13 January 2015), which was formally announced somewhat later:

> *As a result of vandalism, MTN is currently replacing in the order of 3 000 of these phones under a revised business model. This model includes the installation of phoneshops / telecentres, each equipped with six to eight phones, in underserviced areas and forms the basis of stimulating rural entrepreneurship (M-Cell, 2002, p. 48).*

Because of the viability issues with the model, it has been less widely reported, and so the extent of its rollout has been less accurately tracked. Up from the 5 441 community service payphones of the 1998 SATRA audit, MTN itself in 2002 reported having rolled out more than 8 500 such payphones (M-Cell, 2002, p. 48). No further figures are available, although MTN did report 22 000 community service lines at the time of ICASA's USO audit (BMI-T, 2010, p. 6), presumably mostly housed in phone shops by then. The model has, however, been continued, with modifications based on the lessons learned in South Africa, in other jurisdictions where MTN operates, including Nigeria, Rwanda and Uganda.

6.8 Monitoring the Mobile CSTs

There were a number of attempts over the years to monitor the universal service obligations of the mobile operators, only the most recent of which formally saw the light of day, leading the authors to conclude - incorrectly - that "it does not appear that monitoring and evaluation of the operators' compliance with the [USOs] was ever done" (BMI-T, 2010, p. 4).

The first such attempted audit appears to have been conducted by the Department[311] in around 1996. This is referred to in a number of other reports (Stavrou, Whitehead, Wilson,

[311] Then still the Department of Posts and Telecommunications.

Seloane, & Benjamin, 2001, p. 2; SATRA, 1998a), but the details of what it found are not known, as it was never released and it is not part of the publicly available record.

It was a six-month long audit which appears to have been commissioned within the Department of Posts and Telecommunications in February 1996[312] (Joffe, 1996), presumably by Minister Pallo Jordan shortly before his axing. Its findings were leaked by one of the members of the audit team, Sudheer Sukumaran, in a conference paper towards the end of the year, and make damning reading. Sukumaran is quoted as alleging that "many of the community phones installed by the operators [70% of them in the case of MTN] were no longer functional" and that "many of the phones installed by the two operators were outside the designated rural [sic] areas" (Rosenthal & Volschenk, 1996) and hence did not qualify.

It was an audit predictably roundly rejected by the operators. MTN, for example, criticised the report for "inconsistency, vagueness and faulted methodology" and accused the Department of acting as "policeman, judge, jury and hangman" (cited in (SATRA, 1998a, pp. 67-8)).

Sukumaran is further quoted as alleging that numbers of Vodacom's 'transportables' were simply "distributed in bulk, to lecturers at the universities of Fort Hare and Grahamstown - both outside the rural [sic] areas defined in the licence agreement" and that again these did not meet the CST criteria.

6.8.1 Under-serviced Areas

The assumption that the CSTs were intended for rural areas seems common, at least in the popular press (Rosenthal & Volschenk, 1996; Gregson, 2000; Senne & Mawson, 2007). Geography (urban vs rural) and income (rich vs poor) have long been, as previously noted, the accepted axes along which access to telecommunications is fractured, and almost certainly underpinned the definition of under-serviced areas in the 1993 Multiparty Implementation Agreement. But, until recently, it remained a definition without effective prescription in either law or regulation. As the Universal Service Agency itself noted, "there was no clear definition of what constitutes under-serviced areas, which were not part of the two license conditions" (USA, 2005, p. 32). There was no list of 'designated' areas, whether rural or not, beyond the

[312] The audit preceded the 1996 Telecommunications Act and the consequent creation of SATRA, and may have been commissioned as input into the Green and White Paper process.

coverage areas required in the mobile licences - which largely comprised cities, towns, townships and arterial routes.

It is true that there was a definition of under-serviced areas in Telkom's fixed-line licence, which included all 'townships', together with all local exchange areas with less than 50% fixed-line teledensity as at June 1996, as well as any area "inhabited by communities historically discriminated against on the basis of race", and which was, as pointed out above, supported by an extensive series of coverage maps (DoC, 1997, p. 18 & Schedule F). This, however, was a definition clearly specific to Telkom, and was never replicated for mobile services, which were, in any event, greenfield operations.

In fact, the first attempt at developing a single, comprehensive definition of what constituted under-serviced areas seems to have been undertaken by the Universal Service Agency in 1998 (USA, 1998). The USA's subsequent recommendation suggested that any area with a teledensity of less than 12% (the national average) be regarded as under-serviced (USA, 1999b, p. 4) seems to have vanished into bureaucratic obscurity, duly submitted to the Minister, but ignored and unreported.

This may have been because of the imminent (2001) amendment of the 1996 Telecommunications Act to introduce an under-serviced licensing category, which led to a Ministerial determination of 27 such districts (DoC, 2001d) "based on fixed line teledensity figures from the 1996 Population Census" (USAASA, 2008d, p. 19).

The bureaucratic demise of this set of recommendations may also have been influenced by the imminent licensing of a third mobile operator, Cell C, whose licence contains yet another definition of under-serviced areas, again based solely on fixed line penetration, being "any city, town, township, shanty town, location, village or human settlement or any part thereof" with less than 10% "PSTS" teledensity (ICASA, 2001a).

Shaun Pather - the Board member at the by then renamed Universal Access and Service Agency of South Africa who spearheaded the second attempt, nearly ten years later, to develop a determination of under-serviced areas under the new 2005 Electronic Communications Act - reports being unaware of the prior initiative (interview, 27 March 2015). Draft definitions were gazetted towards the end of 2008 (USAASA, 2008d), and recommendations tabled to ICASA (under the 2005 Electronic Communications Act,

responsibility for defining under-serviced areas had been assigned to the regulator[313]) and the Minister (USAASA, 2009e).

An approach almost identical was proposed, labelling as 'under-serviced' those areas "where the average electronic communication network service penetration rate of a particular service type is below the national average penetration rate" for that service (USAASA, 2008d, p. 22). An accompanying breakdown at district municipality level, drawn from the 2007 Stats SA Household Survey, pegged 65% of the country's 52 district municipalities below the national average on a combined slew of 6 telecommunications and broadcasting indicators. For reasons, however, that are not clear in the official documentation, USAASA's final recommendation to ICASA adopted a quite different approach, based on whether or not there was network availability, and setting a series of fixed criteria for determining an under-serviced area. The availability criteria, beyond the base case of no network having been constructed, or no services being provided, were substantially at the discretion of the regulator, as to whether the network did not "adequately" cover the area or that "limited" services were being provided (USAASA, 2009e, pp. 6-7). More specific criteria followed, specifically of a universal access shared usage nature, setting benchmarks for minimum distance from a telephony (1 km) or data (2 km) "public access point" and a minimum provision per population quantum of such telephony (1 per 2 000 persons) and data (1 per 10 000) public access points. The proposal seems arbitrary and unresearched, and requiring of data not readily at the disposal of ICASA. A definition for under-serviced areas was not included in the regulations subsequently issued (DoC, 2010), most likely because the ECA assigns the prerogative directly to USAASA.

It took ICASA just over two years further to react (ICASA, 2011e) to USAASA's final recommendation, and a further year to finalise the regulations. These return without explanation to the original USAASA draft framework, and list and rank all 251 municipalities in respect of telecommunications infrastructure and services. Referring to the gazetted definitions for universal access (DoC, 2010), the list declares under-serviced the 199 municipalities which fall below the national average (ICASA, 2012b)[314]. South Africa thus

[313] Prior to the 2005 Act, under-serviced areas only existed in terms of the various licences and in relation to the category of under-serviced area licensees, which had been introduced via the 2001 amendment.

[314] This is done on the basis of a raw average between fixed, mobile, internet and computer penetration, drawn from the 2007 Household Survey by Stats SA, and ranging between 12,7% for Engcobo Local Municipality in the Eastern Cape at the bottom and 52,0% for Enhlazeni District Municipality in Mpumalanga. The national average

finally had an official list of under-serviced areas - shockingly, nearly twenty years after the creation of such a list was first prescribed.

Having been found sorely wanting by the 1996 departmental audit, the operators reportedly in response "questioned the methodology" claiming that the audit team were "unable to distinguish between phones which were busy, switched off by the operators, or not operational" (Rosenthal & Volschenk, 1996). In much later subsequent correspondence with SATRA, MTN continued to attack both methodology and findings of this 1996 Community Services Audit Report (SATRA, 1998a, pp. 67-8). As noted above, no fuller official details of this first audit, either in respect of methodology or findings were ever released into the public record, and the documentation appears to have disappeared.

6.8.2 SATRA Community Service Obligations Audit

Findings equally damaging, if not more so, emerged from a different source in 1998, when the new regulator, SATRA, commissioned a second audit of the community services licence obligations of the mobile operators as part of the process of reissuing their licences under the 1996 Telecommunications Act (SATRA, 1998a). It appears that this second audit may well have been far more comprehensive and methodologically robust than its predecessor, employing a comprehensive mix of both qualitative and quantitative methodologies, including random sampling of operator-supplied databases in the latter case (SATRA, 1998a, pp. 14-19).

The 1998 SATRA audit was a damning indictment of the rollout of the CSTs, describing what it found in respect of both MTN and Vodacom as "disastrous" and a "catastrophe of deprivation" for needy persons (SATRA, 1998a, p. 198 & 273).

The audit was undertaken as part of the process of reissuing the licences of MTN and Vodacom in terms of the 1996 Telecommunications Act and consequent upon the establishment of SATRA as the regulatory and licensing authority (SATRA, 1998a, p. 6). It sought to verify that:

- The "Mobile Telephone Operators have achieved the deployment of the required number of Community Service phones";

sits at 28,5%. A similar list covers the 51 district municipalities, and declares 23 of them under-serviced in respect of television and radio broadcasting services.

- These CST phones are all located in "Under-Serviced areas";
- These CST phones "fundamentally operate";
- The "community has ready access to the phones";
- The CSTs "operate under the approved tariffs";
- "Phone Cards [in the case of MTN] are readily available" authority (SATRA, 1998a, p. 17).

In the first instance a random sample of phones from the databases supplied by the operators was tested to see if the phones could be located (the 'locational integrity' test). A probability sampling approach was used, segmented by service type ('transportables', phone shops, GSM payphones) and by province, and with the actual sample size in each of the 27 segments adjusted in order to ensure 95% accuracy (SATRA, 1998a, pp. 27-30).

Those phones that were located in each of the samples were then tested for 'fundamental operation' (ability to make and receive calls of "conversation quality"), for 'public accessibility' (whether the "general community has access"), in relation to 'service tariffs' ("whether the approved Community Service tariffs" were being applied), and, in the case of the MTN payphones, for 'card availability' ("whether phone cards could be readily purchased, in the general locality of the Community Service phone") (SATRA, 1998a, pp. 24-25).

The audit team recognised that in the absence of a gazetted list of under-serviced areas, a "more usable definition of 'under-serviced areas'" was needed, but resolved "in the interim… without prejudice to any future audits" to use the definition from Telkom's licence[315] (SATRA, 1998a, p. 24).

Although the licences also specified quality of service parameters - requiring services to be "available… [across] 90% (ninety percent) of their [required] area of coverage at least 95% (ninety-five percent) of the time and… to achieve a grade of service standard of at least 2% (two percent)" (ICASA, 2002c, p. 61) - the SATRA team[316] elected not to audit these "at this time, without prejudice to future audits" (SATRA, 1998a, p. 16).

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[315] As noted above, this comprised all local exchange areas with less than 50% fixed-line teledensity as at June 1996, as well as any area "inhabited by communities historically discriminated against on the basis of race".

[316] The project ran under the overall direction of Councillor Noluthando Gosa, but was led by newly-appointed SATRA staffer Andries Matthysen, supported by international consultant Doug Rowell.

The audit was particularly harsh on Vodacom's rollout of its so-called 'transportables'. Only 24% of the 'transportable' phones in Vodacom's database could be traced, and a further 10% of those that could be traced did not work properly (SATRA, 1998a, pp. 275-276). The report further notes the skewed distribution of 'transportables', querying in particular why there were none in Mpumalanga, and going on to suggest that the educational institutions chosen did not qualify as 'under-serviced areas' (SATRA, 1998a, p. 283). As regards accessibility, it finds that a mere 10% of 'transportable' phones (some 44% of the phones that were located) were accessible for 8 or more hours a day (SATRA, 1998a, p. 254) and goes on to suggest that the choice of "professors[317], who are rarely available" as holders of such phones was a fundamental problem (SATRA, 1998a, p. 283). Coupled with the fact that the 'transportable' phone service was not properly advertised, these findings lead the report to conclude that there are "little [sic], if any, redeeming features" in the 'transportable' "delivery mode, which does not work" (SATRA, 1998a, p. 283).

Vodacom's phone shop model fared rather better. In this case 51% of those listed on the database could be located, and, with some 15% of those not working, only 43% of phone shop phones could be considered to be operational (SATRA, 1998a, pp. 275-276). The accessibility of phone shops was far higher, with 48% (or 94% of those located) being open 8 or more hours a day (SATRA, 1998a, p. 255).

Overall only 2% of Vodacom's community service phones passed all the tests (SATRA, 1998a, p. 278). Some, but by no means all, of the problem can be traced to Vodacom's own database, particularly the difficulties in determining the locations of the CST phones, which in turn affects all the subsequent tests. SATRA comments that "it is difficult to determine how Vodacom efficiently maintains and manages these phones, when they don't know where they are" (1998a, p. 133). The problems Vodacom seems to have been experiencing with regards its community service telephones is evidenced by a subsequent attempt by Vodacom to secure CST credits for the "provision of info-communication services" such as "fax and data (e-mail and Internet) services" - a request rejected by SATRA (1999).

MTN's payphone model came in for similarly stinging criticism (SATRA, 1998a, pp. 199-202). As with Vodacom's two categories of CSTs, a high proportion of MTN's GSM payphones (41%) could not be located. The report singles out the fact that only 29% of the payphones located

[317] These phones had been handed out to lecturers at Rhodes University and the University of Fort Hare, with the proviso that they should be made available for use by students - something that was clearly at best an annoyance for the lecturers concerned.

were in working order for specific comment, calling for a "more concerted approach to maintenance". The report further notes that the "bulk" (60%) of MTN's payphones are accessible for 8 or more hours per day. The nature on the GSM payphone model does, however, mean that there was complete compliance as regards to community service tariffs. A second major cause for concern raised by the audit was the lack of availability of the phone cards necessary for the payphones to be accessible to the general public, with a mere 29% of located phones having a nearby source of phone cards. Overall, only 1,5% of MTN's community service phones passed all the tests.

A summary of the audit results is given in Table 6.7 below.

Table 6.7: Community Service Telephone Audit Summary

	Vodacom			Vodacom			MTN		
	Transportables	% of Claimed	%[318] of Located	Phone Shops	% of Claimed	% of Located	Pay-phones	% of Claimed	% of Located
Claimed	10 897			4 925			5 441		
Located[319]	2 618	24%		2 502	51%		3 196	59%	
Working[320]	2 451	23%	94%	2 125	43%	85%	914	17%	29%
Accessible[321]	1 139	11%	44%	2 355	48%	94%	1 909	35%	60%
Tariffing[322]	2 406	22%	92%	2 389	49%	96%	3 238	60%	101%
Cards[323]							934	17%	29%

Compiled from: (SATRA, 1998a)

What is clear from the table above is that the phone shop adopted by Vodacom was the most successful model for the rollout of community service telephones. Aside from the fact that a lower percentage could be located by the audit team (51% versus 59% for MTN's GSM payphones), of those that could be found, high percentages were operational (85%), accessible for more than 8 hours a day (94%), and charging correct community service tariffs (96%). By contrast, a disproportionate number of Vodacom's 'transportables' (76%) could not be found, likely, as noted above, appropriated for private use. Further, a dismally low proportion of those that could be found (44%) were accessible for 8 or more hours a day.

[318] Only those phones that could be located were assessed for operational status, accessibility and community service tariffs. It is therefore important to assess these attributes as a proportion of the phones actually tested.

[319] Number of phones passing 'locational integrity' test.

[320] Number of phones passing 'operational integrity' test.

[321] Number of phones accessible 8 or more hours per day.

[322] Number of phones where approved community service tariffs were being applied.

[323] Only applicable in the case of MTN's GSM payphones.

The 'transportable' model seems to have been shown to be a clear failure. MTN's GSM payphones seem to have proven, again as noted above, particularly vulnerable to damage or vandalism, with only 29% of the phones that were located actually in working order. There also seem to have been clear problems with the supply chain for phone cards, with only 29% of the payphones located having a ready local supply of such cards[324]. It is, therefore, hardly surprising that Vodacom determined to discontinue its 'transportable' model and that MTN switched to the phone shop model. What is surprising is that it took the two companies so long to react to the obvious lessons of the 1998 SATRA audit.

A number of specific concerns are voiced in the report. One of these is the uneven distribution of the rollout of the community service telephones, which goes beyond the doubts about the location of Vodacom's 'transportables' alluded to above. The concluding comment in respect of each of the two licensees that "there does not appear any clear correlation between distribution and need" implies that neither Vodacom nor MTN paid much attention to ensuring that their CST rollout targeted under-serviced areas (however ill-defined these were) (SATRA, 1998a, p. 200 & 275). This taints the cited complaint by MTN that Vodacom's 'transportables' were not in under-serviced areas, were "unlawful" and competitively "unfair" (SATRA, 1998a, pp. 65-66) with the reek of hypocrisy.

The report also raises, albeit indirectly, the question of how long a community service telephone needed to remain in place before it could be counted for the purposes of the licensee's USOs. Telkom argued, as previously noted, that phones rolled out under its USOs, but subsequently disconnected for non-payment or other reasons, counted towards the quantum of its USOs. MTN, in the 1998 audit, because of the impact of vandalism, argued that any "community payphones that are stolen, or damaged beyond repair… [should still be regarded as] constituting part of MTN's Community Service Obligations" (SATRA, 1998a, p. 67). Whilst not explicitly discussed as an issue, the audit team was clearly entirely unsympathetic to such pleadings, and expected all CST phones to be in place and compliant with the audit criteria at the time of the audit.

The report makes much of the issue of accessibility, and clearly expects all CST phones to be accessible 24 hours a day, seven days a week. Based on these concerns it proposes an "accessibility equivalence" index, ranking only those CST phones that are "available 24 hours

[324] It would have been interesting, and important, to know which working GSM payphones also had a ready local supply of phone cards. That missing data could have pushed the effectively working payphone percentage below 10%.

a day, 7 days a week" as "Class A", with decrements down to "Class E" (20% availability), with the CST obligations adjusted accordingly[325] (SATRA, 1998a, pp. 83, 136 & 356ff).

The report includes a complex series of conclusions and recommendations (sadly, repeated with variations at various points in the over-long and often repetitive report), including that:

- The dismal "audit results are the consequence of management policies and practices, which have been endemic to the system of corporate behaviour, of both MTN and Vodacom, from the outset of their licences";
- The need to "impose punitive financial measures" on both MTN and Vodacom;
- The need to develop a "National Telecommunications Community Services Development Strategy Plan, with the co-operation and involvement of the Mobile Operators, Telkom and the Universal Service Agency (USA)" to guide co-ordinated rollout of the CST obligations;
- The establishment of a "Telecommunications Community Services Consultative Committee (TCSC), involving the Mobile Operators, Telkom, [SATRA] and the USA" (SATRA, 1998a, p. 342).

6.8.3 Impact of the SATRA Audit

Strangely, SATRA's audit of the universal service obligations of the two mobile operators seems to have gone unremarked and unnoticed in the press. It was equally overlooked in ICASA's first annual report, which covered the period (SATRA, 2000b) during which attempts to finalise the report were under way. The latter baldly states that no "audit into community service obligations of Vodacom and MTN [was possible] due to lack of financial and human resources" (ICASA, 2001b, p. 22). Whether the institutional memory and the relevant information had been lost in the transition from SATRA to ICASA, or whether there was a deliberate attempt to conceal what became a rather embarrassing debacle (see below, one can only speculate.

The audit report was certainly, however, not unremarked by the licensees, who, for obvious reasons, mounted a concerted challenge to its findings and its validity. Little of the correspondence is available for public scrutiny, but the disputation seems to have dragged on

[325] For example, an operator would need to roll out 5 Class E phones (ie with 20% availability) to meet the requirement of one CST phone.

for several years. In particular, it seems that the operators were able to attack the sampling methodology, specifically the use of "sampling without replacement instead of sampling with replacement" leading to increased margins of error, and expose weaknesses in the field survey questionnaires (SATRA, 2000a, pp. 4-5). It is unclear to what extent the errors in the sampling approach actually vitiated the results reported and discussed above. However, while holding firm to the conclusion that the audit had "revealed that there was a significant shortfall in the delivery of community services by the cellular operators", SATRA was unable to repair the data and was hence forced to concede that the "statistical base of the audit conducted by SATRA is fundamentally and irreparable [sic] flawed" (SATRA, 2000b, pp. 2-3). As a result, SATRA recommended the withdrawal of the field survey sections of the report, where the substance of the CST shortfall by Vodacom and MTN was starkly revealed. In the event, the entire audit was shelved, and the report never saw the light of day. However, its existence remains known by some. Benjamin, for example, characterises the methodology as "weak", but confirms that the report "showed that both MTN and Vodacom were greatly under-performing in their obligations" (2001, p. 108). Rather more forcefully, Aki Stavrou describes the report as showing that what MTN and Vodacom had done was "absolutely crap" and regretfully concludes that "they were basically let off the hook" (interview, 17 October 2014). Similarly, Matthysen also continued to defend the high level findings of the report, reiterating several years later the problems it had exposed with the 'transportable' and payphone models (Open University, 2002, pp. 5-7). Despite the problems with the statistical methodology and some of the fieldwork, he continues to believe that it was "clear that the end-user experience of CSTs was not good" (interview, 6 January 2015).

Despite the fact that the report was ultimately spiked, following the hostile response of Vodacom and MTN to its findings, the exercise was not altogether without positive impact. In its final briefing to the ICASA Council, in which it sought to get at least some parts of the audit report adopted and released, the team noted that:

> *Vodacom has undertaken to do away with transportable community service phones as a mode of delivery of community service. They have also embarked on a further effort to make community service phones accessible 24 hours a day by mounting a phone outside their phone shops.*
>
> *MTN have been re-evaluating its placement of community service phones and have reflected its intentions to the Universal Service Agency and ICASA to provide or place these community services phones in tele-centres, which will assist in curbing vandalism of their phones. In so doing they will also be placing*

these phones on the outside of these tele-centre containers to improve 24 hour accessibility (SATRA, 2000b, p. 3).

The team went on to emphasise the need for ICASA to use the audit to establish "relevant performance indicators for community service delivery in future", failing which, it foresaw that "ICASA will continue to have problems when trying to impose punitive measures on the operators for non-compliance of their CSOs" (SATRA, 2000b, pp. 3-4).

6.8.4 ICASA USAO Audit

A third and final attempt to audit the compliance of the mobile licensees (now three in number, with the advent of Cell C) took place some ten years later, amidst a series of engagements from the regulator on universal access and service issues at around that time.

Towards the latter part of 2010, the regulator launched a Discussion Document on the USOs imposed on both fixed and mobile operators (ICASA, 2010a). Although the review was a far broader examination of the entire universal service obligation frameworks, and included broadcasting, and extended to the Universal Service Fund and the e-rate, it did include a review of licensee compliance with the existing USOs, conducted by consultancy firm BMI-Tech. This report was made available as a separate document (BMI-T, 2010), covering 7 of the major licensees (including broadcast signal distributor, Sentech), but suffers from a number of key limitations. Firstly, the consultants were not made aware of either of the two audits discussed above, believing that no previous "monitoring and evaluation of the operators' compliance with the USAOs [had] ever [been] done" (BMI-T, 2010, p. 4). Secondly, and more tellingly, there was no attempt to audit or verify the results. The report was "based solely on the answers provided by the licensees" (BMI-T, 2010, p. 5) to a self-completed questionnaire. The quality of the licensees' responses varied from detailed to short to non-existed, with no supporting documentation. The consultants were also not given access to licensee compliance reports previously submitted to ICASA. In short, and especially in the light of what its predecessors seem to have uncovered, the report is likely to have been heavily whitewashed and reveals little that the operators did not wish to be made public.

Telkom's compliance with its USOs has been dealt with extensively above, and so will not be discussed further. The compliance of Vodacom, MTN and Cell C is, however, of interest, and so merits some discussion. At the outset, it is worth noting that in many cases these licensees

declined or omitted to respond to certain of the questions in the questionnaire, but that the terms of reference of the consultants constrained them from following up in such cases[326].

In respect of the community service telephone obligation, the three licensees reported meeting or exceeding the targets, with Vodacom claiming 115 713 "active" CSTs (against a licence target of 22 000), MTN reporting 20 000 (against a licence target of 7 500) and Cell C merely asserting it had complied with its target of 52 000 (BMI-T, 2010, pp. 6-9). Cell C's bland declaration of compliance must be viewed as an understatement, likely in the shadow of a 2008 litigation from MTN, in which it appears that Cell C had already rolled out 100 000 CSTs by then (Jones C. , 2008)[327]. Whilst the unpublished findings of the previous two audits suggest that operator figures in respect of CST rollouts are, at best, not to be trusted, MTN's court case suggests that, once the operators had settled on Vodacom's phone shop model, at least some of them were quick to capitalise on the opportunities for arbitrage offered by the termination rate differential between normal mobile calls and those made from CST phones. Simply put, a CST termination fee of R 0,06 per minute as opposed to the standard R 1,25 (at the time) allowed for much higher profit margins on CST calls and created an incentive to classify as CSTs many phones that were outside under-serviced areas and in excess of the licence requirements. It was this perverse incentive that lay at the heart of MTN's litigation against Cell C (Jones C. , 2008)[328]. The dispute resulted in a court ruling which forced ICASA to reconsider its acceptance of Cell C's definition of under-serviced areas (ICASA, 2008a), but was ultimately dropped following a confidential out-of-court settlement (Muller, 2009).

In respect of the additional USOs that had been imposed in return for access to spectrum, the Compliance Review received very disappointing answers in response to their questionnaire. As noted above, each of the three mobile licensees had been tasked with rolling out 2,5 million SIM cards to people in under-serviced areas. Vodacom did not answer this question, but both MTN and Cell C stated that they had not complied (BMI-T, 2010, pp.

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[326] Vodacom was "silent" on five of the questions; MTN did not answer one of the questions; Cell C did not answer four of the questions (BMI-T, 2010, pp. 6-9).

[327] Round numbers always make this author suspicious. Vodacom's figure at least suggests a database, hopefully of greater accuracy than at the time of the previous SATRA audit. MTN's figure possibly derives from the initial two number ranges set aside for their CST phones, commencing 083 106 and 083 109, which would have provided for a maximum of 20 000 such lines. The beautifully rounded Cell C figure of 100 000 begs disbelief in regard to accuracy.

[328] This was not the first instance of litigious engagement between Cell C and MTN on the question of CSTs and their associated call tariffs (Senne & Mawson, 2007; Guest, 2007)..

6-9). In respect of the to provide 125 000 handsets each, Vodacom did not answer the question, whilst both MTN and Cell C indicated non-compliance (BMI-T, 2010, pp. 6-9)[329]. What is strange is that none of the licensees made mention of the agreement to supply 80 000 handsets towards the World Cup, announced early in 2010 (Nyanda, 2010a), and which must already have been under discussion at the time of the compliance audit (see below for further discussion).

In respect of the requirement to provide Internet access to 140 institutions catering for people with disabilities each, both Vodacom and MTN did not answer the question, while Cell C said it had not complied (BMI-T, 2010, pp. 6-9). As regards the provision of 1 400 items of 'terminal equipment' to institutions catering for people with disabilities, Vodacom again did not answer the question, along with Cell C this time, while MTN stated it had not complied.

Finally, when it came to the required provision of Internet access to the planned overall total of 20 500 public schools, Vodacom and MTN both claimed partial compliance (with the former having connected 706 out of a list of 713 "imposed" by ICASA[330], while the latter reported having connected 486 schools), whilst Cell C gave no details (BMI-T, 2010, pp. 6-9). These assertions contrast markedly with ICASA's much earlier assertion that it had "approved… implementation plans from Vodacom, MTN and Cell C for 716, 719 and 718 "public schools" respectively (ICASA, 2008b, p. 25)[331]. Neotel reported connecting a paltry 22 out of its required 2 500 schools, of which only 2 were public schools, while iBurst claimed connecting 180 schools, and Sentech avoided answering the question (BMI-T, 2010, pp. 10-12).

The licensees gave a variety of reasons for their failure to comply. Vodacom asserted that its USOs had lapsed because they had "not been carried over into its ECNS licence" issued under the 2005 ECA (BMI-T, 2010, p. 6). All three licensees pointed to numerous problems with the rollout to public schools in particular. The provision of lists of schools to the three licensees seems to have been especially problematic, with delays and confusion over lists attributed to both ICASA and the Department of Education, and the lack of co-ordination between them. It certainly seems that whatever lists there were (Neotel, for example, reports never having been "allocated even a single school" (BMI-T, 2010, p. 10).) fell well short of

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[329] Vodacom indicated that it believed this USO had "lapsed", whilst MTN blamed lack of feedback from the Department of Communications for its non-compliance (BMI-T, 2010, p. 6 & 8).

[330] Vodacom claimed, on an unstated and entirely unclear basis, that its licence only required it to connect 625 schools.

[331] Sentech and WBS also had schools connectivity requirements, each being required to connect 1 500 schools.

the 20 500 schools envisaged[332]. Vodacom, in particular, pointed to a range of additional problems, including duplication between operators, along with failure to take coverage areas into account (BMI-T, 2010, pp. 6-9). Vodacom went on to point to a number of additional problems with the public schools USO rollout, including lack of skills and teacher training, lack of electricity in some designated schools whilst others already had Internet access (BMI-T, 2010, pp. 6-7). Further, it was an intervention bedevilled by being a centrally-imposed, top-down initiative without consultation with, or involvement of, its intended beneficiaries (USAASA, 2014b, pp. 1v1-36). Much the same catalogue of problems is listed by former ICASA Councillor William Stucke ((interview, 1 September 2014). There seem also to have been some legal hurdles - "restrictions on the ability of the recipients to accept the assistance being offered" under the 1999 Public Finance Management Act (USAASA, 2014b, pp. 1v1-36).

In a belated recognition of the problems besetting this USO, a 'Project Implementation Team' was announced in late 2010 by then Minister of Communications Siphiwe Nyanda in an attempt to "seek a sustainable solution to ensure that these essential obligations are implemented" (2010b). This rescue attempt, however, appears to have sunk without trace.

In 2014, the schools' targets were substantially revised downwards, presumably because of the failures of implementation and monitoring discussed above, to 1 500 for each of the mobile licensees, and 750 for Neotel (ICASA, 2014b). What counted as connectivity for each school was specified in far greater detail, including hardware, software and connectivity QoS parameters, along with a detailed table at last specifying co-ordination responsibilities (see Figure 6.7 at right) (ICASA, 2014b).

Figure 6.7: Schools' Co-ordination Matrix

ROLES AND RESPONSIBILITIES OF THE PARTIES

Obligation	Licensee	ICASA	USASSA	DBE[2]	DoC
1. Allocation of schools		✓			
2. Verifying School location	✓			✓	
3. Verifying School contact details	✓			✓	
4. Informing Principal of Project	✓			✓	✓
5. Determining if school has basic amenities e.g. electricity	✓		✓	✓	
6. Re-allocation or replacing of schools to be connected		✓			
7. Testing coordinates on google map for allocated schools	✓				
8. Determining IT literacy & Training needs			✓	✓	
9. Determine Bill of quantities	✓				
10. Installation of Solution	✓				
11. Testing Installation	✓		✓	✓	
12. Documenting Installation	✓		✓		
13. Handing over Installed solution	✓		✓	✓	✓
14. Cost of usage of Solution and Maintenance [3]			✓		
15. Monitoring for Compliance		✓			

(ICASA, 2014b)

[332] Accurate figures for the total number of schools in South Africa are hard to come by (Africa Check, 2016)., but 20 500 schools would have been more than 80% of the 24 451 public schools then believed to exist (News24, 2012) and thus would clearly have included schools that were well-resourced and already connected.

This rescue attempt appears to have been subsumed in 2015 under one of the arms of Operation Phakisa, an initiative launched under the Department of Planning, Monitoring and Evaluation to "fast track the implementation of solutions on critical delivery issues highlighted in the National Development Plan" (Phakisa, 2016). But, by late 2016, Operation Phakisa was claiming some 2 430 (75%) of the 3 250 schools had been connected by Vodacom, MTN, Cell C & Vodacom (Phakisa, 2016)[333] - far short of the original targets. No further information is available on school connectivity USOs.

In short, the public schools USO obligation, in particular, appears to have been ill-considered, badly-informed, poorly planned, and incompetently executed, reaching under 10% of its targets[334]. The other spectrum USOs appear to have fared even worse, never even getting out of the starting blocks.

Similarly, there were problems with the SIM card initiative. Once again, what on the face of things appeared to be an innovative initiative, appears not to have been thought through in respect of implementation shortfalls or perverse incentives it might create. Muller suggests it "failed to fly" because it became

> *bogged down by administrative and technical hitches. The cards were useless without a handset, so the owner had to borrow a phone. Though the cards gave the recipient a cellular number, they were not loaded with airtime so users still had to pay the high retail rates for prepaid airtime (Muller, Free cellphone numbers, 2008c)*.

Anecdotal accounts further suggested that, beyond the borrowing of handsets, the initiative opened up a market in stolen handsets.

The handsets obligation mentioned previously was later abused in a barely-reported minor scandal, which saw USOs hijacked in the service of South Africa's hosting of the 2010 soccer World Cup. In his 2010 budget vote speech, the Minister of Communications, General Siphiwe Nyanda reported an "agreement with the mobile operators to avail 80 000 mobile units by May 2010, which will be distributed to the Police, Safety and Security agencies, and Emergency Officers who will be deployed at the various FIFA 2010 stadia" (2010a). The handsets concerned, a little over 20% of the overall commitment, were duly handed over at

[333] These figures look to be accurate, although the quality of the document leaves much to be desired.

[334] Cell C did report some rollout, but this appears to have been limited and no numbers were provided.

a public ceremony a few months later (Nyanda, 2010b), and trumpeted as "part of [the operators'] universal service obligations". This deviation from the intention behind the USOs - to provide access for under-serviced areas and communities - passed quite unremarked in the media (Rasool, 2010). Another report went much further, quoting a departmental spokesperson as describing the entire spectrum-related USO as directed at government rather than poor and remote communities:

> *The mobile operators will have to collectively give 250 000 mobile phones and four million SIM cards to the DoC*[335]*. The department will then allocate these to nominated beneficiaries within government (Francis, 2010)*.

In the event, the actual rollout was just under 80 000, broken town as 26 666 (Cell C), 25 068 (MTN) and 26 667 (Vodacom) (Odendaal, 2013).

Not only were the soccer World Cup handsets a perversion of the universal service obligation in the licences of the mobile operators, it appears that these handsets simply disappeared without trace. Ngcobo lists them as an example of the "abuse" of USOs, suggesting they "seem to have never been distributed appropriately" (2012, pp. 122-123). None of the operators thought them worthy of mention when they reported their USO compliance to ICASA in 2010 - perhaps they recognised that dodgy deals were best left unreported.

It remains unclear what actually happened to these 80 000 (or 250 000) phones: they may have ended up in the private pockets of the lucky recipients; worse, some or all of the entire shipment may have been misappropriated and sold. Of grave concern is the complete failure to involve ICASA, whose USOs were being perverted, in the process. Equally disturbing is the failure of the regulator itself to either report on or monitor what was going on: ICASA's 2011 annual report deals quite extensively with the regulator's contribution to a successful World Cup (pp. 33-34) but says nothing about the USO handsets. The entire exercise reeks of corruption.

6.9 Universal Service Obfuscations?

As can be seen from the preceding discussion, the monitoring of the USOs imposed on the mobile operators appears to have been haphazard at best, and ineffective in the extreme.

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[335] The alarming misperception of the basic nature of universal access and service aside, the figures cited are just plain wrong. The three mobile licensees were to supply 375 000 mobile phones and 7,5 million SIM cards.

Those audits that were in any depth and detail came up with findings that were damning to say the least. As a result, their publication was strenuously resisted by the mobile licensees. The only 'audit' (BMI-T, 2010) ever to see the public light of day was perfunctory at best. For their part, the licensees appear to have treated their USOs as a necessary evil that came bundled with their licences - something to be complied with, but on which the least possible effort should be expended, and where corners were there to be cut at every turn. As a result, the social imperative to provide universal, affordable access to telecommunications services shifted from the adoption of international good practice in the service of post-*apartheid* redress and equity to the mere outward observance of empty formulas.

As a result, rollout was disproportionately urban, with little, if any, co-ordination between operators or with USAASA or ICASA, a failure on the part of the regulator ascribed by Benjamin to a lack of "political will" (2001, p. 115). As the Universal Service Agency itself noted:

> *most significantly the co-ordination of community service obligations among the mobile operators and Telkom has not been achieved despite several efforts resulting in multiple operators fulfilling the obligations in the same market rather than dispersing these across under serviced areas across the country (USA, 2005, p. 98)*.

In addition, USAASA's lack of legal enforcement clout, meant that the operators could refuse to supply the data necessary for the establishment of a proper geographic information system of their rollout (Benjamin, 2001, pp. 115-116). In addition, as suggested above, Cell C in particular was quick to recognise the opportunities for arbitrage via the heavily discounted termination rates applicable to community service telephones. The difference between the community service termination rate of ZAR 0,06 per minute and the standard termination rate[336] of ZAR 1,25 (ZAR 0,77 during off-peak periods) opened up a considerable business incentive for operators and customers alike to have a mobile phone classified as a community service telephone. Cell C in turn charged users ZAR 0,90 per minute, more than an order of magnitude above the cost of termination (Jones C. , 2008), with users in turn able to earn a significant mark-up. Coupled with the fact that no proper definition or list of under-serviced areas was ever provided, this meant that new entrant Cell C could roll out large numbers of 'community service telephones', building up a substantial subscriber base in peri-urban or informal settlement spaza shops and the like. Whilst this created revenue for Cell C and created livelihoods for such CST operators, it drove out of business thousands of micro-

[336] Applicable during weekdays (excluding public holidays) from 07:00 to 20:00.

entrepreneurs offering payphone services based on commercial call rates (MyBroadband, 2006). This, in turn, led to disputes and litigation between MTN and Cell C, with the former alleging that ICASA's approval of "Cell C's roll-out was illegal as [the rollout] was not restricted to rural and poorer areas, as intended", and that "Cell C charged CST rates to its customers in areas where it should be charging commercial rates" (Senne & Mawson, 2007). In response, Cell C accused MTN of "withholding interconnection fees" (Senne & Mawson, 2007) to the value of R 200 million, and was successful in securing a "price discrimination" ruling from the competition authorities (CompComm, 2007; CompTrib, 2008, p. 79). The former dispute saw ICASA initially overturn Cell C's interpretation of under-serviced areas (Africa, 2009), but was finally settled out of court subject to undisclosed terms (Muller, 2009).

Finally, it is worth noting that no monitoring at all seems ever to have been conducted in respect of the offsets specified in vaunted Joint Economic Development Plan Agreement, described in glowing terms by one commentator as a "unique private-public sector partnership, aimed at boosting foreign investment, creating jobs, supporting research and development, stimulating exports, developing local value added technology, funding training and forging international links" (Budde, 2001).

7 The Universal Service Fund

South Africa's much-anticipated Universal Service Fund (USF) was created in terms of the 1996 Telecommunications Act. This legislation placed it under the financial control of the then Universal Service Agency (USA), which it also created[337]. The USF was to be funded through a levy to be imposed upon all licensees (although an open-ended clause also provided for inflows via "money accruing… from any other source") (RSA, 1996b, p. Section 65 (1) (b)). Although the fund later underwent a change of name and stationery under the 2005 Electronic Communications Act to become the Universal Access and Service Fund (USAF), it remains in place, still under the control of what is now the Universal Service and Access Agency of South Africa[338] (USAASA).

7.1 Contributions to the Fund

Conceived and formulated in accordance with international good practice (ITU, 1998, p. 89; ITU, 2003b, pp. 67-83), South Africa's USF has formally been in existence since 1 April 1999, the date from which contributions to the Fund were first gazetted to commence (DoC, 1999b).

The current regime for contributions to the USAF exists in terms of a fairly complex formulation under the 2005 Electronic Communications Act. In terms of this, all holders of individual and class ECNS, ECS and BS (with the legislated exception of community broadcasters) licences[339] are required to contribute a percentage of their "annual turnover"

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[337] It is perhaps worth noting that at one point in time a separate and additional universal service trust fund appears to have been mooted to support universal service commitments related to the introduction of a third mobile licence (Stones, 1998; SATRA, 1998b; Hlope, 1998a). The proposal seems to have sunk without trace, likely after Minister Naidoo snubbed conference to raise funds for it (Hlope, 1998b; Bidoli, 1999), but possibly also because of its elision with calls for an African Telecommunications Development Fund, made *inter alia* by President Mandela to the Africa Telecom 1998 (Jones L. , 1998), which led to the ATU's later ill-fated African Connection initiative - its most tangible outcome being a three week publicity stunt, which saw Minister Jay Naidoo undertake a Cape to Cairo road trip to publicise the need for an African information superhighway.

[338] The Universal Service Agency was also the subject of unexpected zeal for renaming and stationery reprinting at the hands of the 2005 Electronic Communications Act. Apart from switching the acronyms (USA → USAASA, and USF → USAF), little else was changed.

[339] An Electronic Communications Network Service (ECNS) licence allows for the provision of ICT infrastructure (eg fibre); an Electronic Communications Service (ECS) allows for the provision of an ICT service (eg telephony); and a Broadcast Service (BS) licence allows for the provision of broadcast services (eg television). Following a

derived from "licensed activity" to the Universal Service and Access Fund (USAF) (RSA, 2005, p. Section 89). The precise formulation of the contributions, their due dates and the manner of payment are regulated by ICASA. ICASA's regulations are, however, constrained by a legislated ceiling of 1% on the percentage contribution - although the Minister may raise this ceiling, albeit "after consultation with the affected parties". Public and commercial broadcast licensees are required to offset any contributions they have made to the Media Development and Diversity Agency (MDDA)[340] from their contributions to the USAF.

The regulations currently in force were promulgated by ICASA in 2011[341], and require all licensees (with the now legislated exclusion of community broadcasting licensees) to contribute 0,2% of annual turnover derived from their licensed activities to the USAF, subject to any MDDA offset as set out above. Licensees may further deduct "service provider discounts, agency fees, interconnection and facilities leasing charges, government grants and subsidies" from their annual turnover before calculating their contribution (ICASA, 2011a)[342].

Interestingly the original legislation left the "basis and manner of determination of such contributions" (RSA, 1996b, p. Section 67 (2) (a)) entirely at the discretion of the regulator. This was amended in 2001 to include the limitation that the levy should "not exceed 0,5% of a licencee's [sic] annual turnover". This bar was raised somewhat in the 2005 ECA to a maximum of "1 per cent of the licensee's annual turnover", although the door was left open for the Minister to gazette an alteration to this figure after "consultation with the affected parties" (RSA, 2005, p. Section 89 (2) (a)). It is unclear why this latter provision was added since it would effectively remain inoperative unless ICASA were subsequently to revise the regulations accordingly.

7.1.1 The Evolving Universal Service Levy

The current USF contribution requirements have evolved quite substantially since those originally imposed in 1999. Given that the implementation of the legislative provisions has rested with the regulator (initially SATRA, later ICASA) throughout, it is important to examine

2014 amendment to Section 89 of the Act, community broadcast licensees, many of whom receive subsidies from the MDDA fund, are exempted from having to contribute to the USAF.

[340] Contributions to the separate MDDA Fund are governed by the 2002 MDDA Act.

[341] These are, as we shall see, the fourth set of such regulations to have been promulgated since 1999.

[342] Previous regulations, as we shall also see, were simply based on annual turnover sans discounts.

in some detail how contributions to the Fund have been regulated over the years. Table 7.1 below sets out milestones in the process since the provision was first introduced.

Table 7.1: Regulatory Milestones: Contributions to the Universal Service Fund[343]

Date	Milestone
12 November 1996	Telecommunications Act comes into effect, establishing the USF, and assigning the regulator power to regulate contributions from licensees
7 May 1997	Ministerial Policy Direction (capping the USF at R 20 million, & Telkom's contribution at R 10 million)
17 September 1997	SATRA issues 'Discussion Document on Determining Universal Service Fund Contributions by Licensees in the Telecommunications Sector'
19 December 1997	SATRA issues draft Universal Service Fund contributions regulations, with implementation set for 31 March 1998
22 May 1999	Minister publishes final Universal Service Fund contributions regulations, to commence from 1 April 1999
4 June 1999	Minister repeals and reissues (amended) final Universal Service Fund contributions regulations[344], still to commence from 1 April 1999
11 October 2000	ICASA issues draft regulations moving VANS & PTNs from a fixed amount to a variable (0,25% of turnover) annual contribution
18 March 2002	ICASA issues further draft regulations, providing for a complex, differentiated formula and proposing to hike the % level of contributions
28 August 2003	Minister issues revised final Universal Service Fund contributions regulations, with a simplified formula, applicable to all licensees from 1 July 2004
11 April 2006	Electronic Communications Act comes into effect, with minor revisions to ICASA's mandate to regulate contributions from licensees to the renamed USAF
11 September 2007	ICASA issues draft regulations, extending scope to all licensees, keeping rate unchanged
10 October 2008	ICASA issues revised final Universal Service Fund contributions regulations, effective 1 April 2009
16 September 2010	ICASA issues draft regulations allowing licensees to claim a range of deductions from turnover
10 February 2011	ICASA issues revised final Universal Service Fund contributions regulations, effective immediately, and currently still in force

Despite both SATRA and the USA being established early in 1997, the initial implementation of the universal service levy was a disappointingly slow process, especially given the fact that universal access and service had been the centrepiece in the formulation of telecommunications policy: it took nearly two and a half years to complete.

[343] Sources: (Naidoo, 1997a; SATRA, 1997a; SATRA, 1997c; DoC, 1999b; ICASA, 2000; ICASA, 2002a; ICASA, 2003d; ICASA, 2007b; ICASA, 2008c) (ICASA, 2010b; ICASA, 2011a).

[344] The first set of regulations contained a date error, making compliance impossible.

The first intervention came in the form of a Ministerial Policy Direction - a strangely contrary one simply aimed at limiting the contributions funds available for this critically important fund. Minister Naidoo capped the annual contribution to the Fund at R 20 million - R 10 million for Telkom and R 10 million in "aggregate" for all other applicable licensees (1997). IT lawyer Dominic Cull views this ministerial intervention as problematic, since "the Act indicated that determining the basis of calculation was an ICASA responsibility", and notes that it created unnecessary "constraints" for the regulator (personal communication, 5 March 2015). A later report was to suggest that what lay behind this intervention was the need to make Telkom a more attractive proposition to potential foreign investors (USA, 2005, p. 68). Certainly, it would have sent a signal to likely strategic equity partners that government was prepared to protect Telkom's profit margins and the value of its equity at the expense of universal access and service. The formulation's workability in respect of the other licensees was also problematic: how, one wonders, can separate companies submitting contributions independently of one another and subject to differing timeframes[345] be placed under a single common contribution ceiling?

Shortly after this, SATRA initiated a formal notice and comment procedure, which ran in short order from the issuing of a 'Discussion Document on Determining Universal Service Fund Contributions by Licensees in the Telecommunications Sector'[346], through holding hearings scarcely ten days later, to the of issuing draft regulations less than three months later. Sadly, the discussion document, which would presumably have given an insight into the thinking at the time, and possibly have shown the influence of international best practice, was never part of the public record. However, the draft regulations envisaged a fixed amount of R 10 million to be levied on Telkom, and percentage levies on the other licensees (0,08% of "operating revenues" in the case of "telecommunications operators", and 19,5% of licence fees in the case of all other (including VANS and PTN) licensees), up to an "aggregate" of R 10 million (SATRA, 1997c).

It is an approach that seems to be partly in line with some of the thinking that was to emerge from the ITU in the following year and which favoured a percentage rather than a fixed amount levy (ITU, 1998, pp. 86-89). For reasons that are unclear, it took more than a year for the regulations to be finalised. Further, the process was not without its hiccups: the initial

[345] Vodacom's financial year ends on 31 March, whilst MTN closes its books on 31 December.

[346] Unfortunately, no copy of this document survives, since it was only available on request (SATRA, 1997a).

regulations had to be repealed and replaced because a date error[347] and because they did not incorporate the Ministerial Policy Direction (cf (DoC, 1999a) and (DoC, 1999b). The rather complex formula adopted (fixed amounts for the VANS and PTN licensees and a percentage of revenue for the others (which included Telkom, Vodacom, MTN), all subject to the Ministerial Policy Direction, and hence to caps) was to remain in place for the next five years (although, as will be shown, the caps were either ignored or proved impossible to implement).

There was clearly some rethinking of the levy formula at work within the regulator, perhaps to bring it more in line with ITU thinking. The influence of SATRA's 1998 study into 'needy persons' - which concluded that the cost of financing the affordability gap was well beyond the level of funding then available via the Fund, capped as it was, (Stavrou & Mkhize, 1998; USA, 1999b, pp. 11-12) - may also have played a role. In 2000 ICASA moved to bring a wider range of licensees under the umbrella of a percentage contribution, when they issued draft regulations that would have required VANS and PTNs to contribute on the basis of annual turnover - at 0,25%, a higher rate, differential to that applicable to major licensees - rather than the existing fixed amounts (ICASA, 2000).

These regulations were, however, never finalised, likely because of the intervention of the series of Ministerial Policy Directions that emanated from the early 2001 colloquium to prepare for the policy and legislative amendments associated with the imminent end of Telkom's period of exclusivity. Seeking to "increase the size of the Fund", presumably with subsidies for the shortly to be introduced under-serviced area licensees at least partly in mind, the Minister directed that contributions should be levied on "all telecommunication licensees" at a rate not exceeding 0,5% of turnover (DoC, 2001a)[348].

The intended formulation that ensued was more complex and highly differentiated (ICASA, 2002a). Not only were fixed annual contributions to be reintroduced for some classes of licensee (ranging from R 30 000 for "satellite contribution & distribution, class 4 international mobile linking" licensees to R 1 000 for USALs), but the quantum of the levy on "annual turnover" was to be variable, differentiating between those with "Community Service Obligations" (0,4%) and those without (0,5%). It is unclear what the basis for this shift in thinking was, although the variable percentage approach is in line with 'Pay or Play' models favoured by operators (GSMA, 2013, p. 15). However, the draft regulations were "contested

[347] Which required payment from the licensees on a date prior to the publication of the regulations.

[348] This formulation remained unchanged in both subsequent sets of Policy Directions.

on the basis that there was no clear guideline from the USA as to what it would use the funds for" (USA, 2005, p. 68). This objection is, however, likely to have motivated primarily by the envisaged size of the increase, which would have more than doubled the licensee contributions.

These regulations took over a year to finalise (ICASA, 2003). By the time they were, the formulation had been dramatically simplified in favour of a single rate applicable to all operators, and the planned steep hike in the rate had been dropped, with ICASA settling instead on a far more modest 25% increase to 0,2% of turnover.

Following the promulgation of the 2005 Electronic Communications Act in 2006, ICASA moved relatively tardily in revising its regulations, with the draft only issued in late 2007 (ICASA, 2007b), nearly two years later, and hearings held in March 2008 (Dominic Cull, personal communication, 5 March 2015). The delay was likely occasioned by the regulator's preoccupation with the onerous task of converting the plethora of previously technology-specific licences to the new technology neutral categorisations. ICASA's proposed changes to the USO levy were relatively straightforward and in line with the provisions of the ECA. The focus was largely concerned with widening the scope of contributors to include broadcasters, and with providing for the deduction of MDDA contributions by them. The rate was left unchanged at 0,2% of annual turnover. The final regulations were substantively the same, bar the introduction of substantial penalty and interest clauses, perhaps occasioned by past collection difficulties. The regulations did, however, create an anomalous situation for community broadcasters[349]. Many of these often shoestring operations receive financial and other support from the MDDA, but they were now required either to donate back to the same MDDA on a voluntary basis or to contribute to the USAF on a regulated one.

ICASA attempted to address some of these issues a year or two later, following representations from "various licensees and industry representative bodies" (ICASA, 2010, p. 10). However, it argued that it only had discretion in respect of the "administrative implementation" of the regulations, suggesting that it was unable to waive contributions from community broadcasters on the grounds that it "does not have the power to exempt any licensees from the payment of USAF" (ICASA, 2010, pp. 10,11). As a result, the final

[349] Non-profit radio and television broadcasters serving either a geographic community (the overwhelming majority) or a community of interest. It is precisely such broadcasters, often operating in a very hand-to-mouth way, that the MDDA was set up to foster and support.

regulations (ICASA, 2011a) brought little relief to the community broadcasters who remained lumbered with contributions to either the MDDA or the USAF or a combination of the two. Exemption for community broadcasters was finally established by legislative amendment in 2014, but has yet to be incorporated into the regulations.

ICASA was, however, induced to make a key change in 2011 that had the effect of substantially reducing income to the Fund: licensees are now allowed a range of deductions from their annual turnover before calculating the levy. These include "service provider discounts, agency fees, interconnection and facilities leasing charges, government grants and subsidies"[350]. As the recent furore around mobile termination rates has demonstrated, some of these amounts can be very substantial (with inter-operator interconnection fees estimated in 2009 as running in the order of R 16 billion annually (My Broadband, 2009)). Indeed, the first year of application of the new regulations saw contributions to the Fund plummet by 70% to a level from which they have never really recovered (see discussion below).

It is probable that the introduction of deductions was due to pressure from licensees, alleging double taxation. Certainly ISPA, the umbrella body for South Africa's Internet Service Providers, many of whose members are VANS providers, felt strongly about the need to allow such deductions. It notes that in cases where "ECS licencees [sic] [such as ISPs and VANS] obtain their facilities from ECNS licencees" [sic] [such as Telkom] a simple levy on turnover would amount to "double taxation" (ISPA, 2007, p. 5). The argument is based on the fact that many (if not, at the time, almost all[351]) ISPs lease facilities from another licensee. For example, many ISPs lease ADSL lines from Telkom for a fee, which they pass on to their customers, and which forms part of their gross turnover. But these ADSL fees already form part of Telkom's turnover, and hence are already subject to the USAF levy paid by Telkom. Without a deduction for such facilities leasing charges, they would again be taxed on for the

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[350] It is unclear why government grants and subsidies would have been included. These are presumably only applicable to the USALs, which were already defunct, and to the SABC. The double taxation argument would, nonetheless, apply, since such amounts are themselves derived from tax revenue paid into the fiscus.

[351] As part of the licence conversion process under the ECA, ICASA proposed awarding individual ECNS (to self-provide infrastructure) licences to only selected VANS licensees. In the year following the ISPA submission Altech Autopage Cellular took ICASA to court and won a judgement against the regulator. After several unsuccessful attempts to overturn the court decision by the Minister, she finally capitulated, and in early 2009 over 400 VANS operators received individual ECNS (infrastructure) licences. Limpitlaw sums up the impact of the judgement, pointing out that it "effectively ended the government's policy of ''managed liberalisation'' as there are now hundreds of individual ECNS licensees as a result of the conversion of the VANS licences into both ECS and ECNS licences. (Limpitlaw, 2014, p. 5236)" However, many, often smaller, ISPs continue to lease facilities.

levy as part of the turnover of the ISP in question. It is an argument similar to that made in respect of VAT. A similar double taxation argument can be made in respect of interconnection charges.

However valid the double taxation argument may be, it opens the door to the manipulation of licensee accounts in order to secure the maximum possible deduction for the purposes of calculating the levy to be paid. It is true that turnover may involve double taxation, but is far easier to calculate, administer and monitor.

Further, there seems to have been a failure on the part of the regulator to anticipate the impact of the changes upon revenue to the Fund. A proper regulatory impact assessment would surely have counter-balanced allowing deductions with an increase in the rate of the levy, upwards from 0,2%[352], to offset the reduced tax base and to keep income to the Fund more or less constant. One can only speculate whether the manifest failures on USAASA were taken into consideration, and Fund income allowed to fall so dramatically: however, there is no evidence to indicate that they were.

The effective date of the current set of regulations (9 February 2011) seems to have been the result of a blunder in either drafting or regulatory impact assessment, or both. The earmarked date created considerable legal confusion as to which licensees they were applicable to. This was because the financial year-end of some (eg MTN) is 31 December, which had already passed, implying they could not claim the deductions. Conversely, the financial year-end of others (eg Cell C, Telkom, Vodacom) is 31 March, making the deductions at least partially applicable. Worse, there was no pro rata provision in the regulations. In practice, all, except Vodacom, seem to have taken advantage of the legal lacuna and slashed their contributions. The 2011 regulations, then, seem to evidence a lack of professionalism, both in respect of planning and impact, and in their drafting, an issue which had also afflicted their 2009 predecessors.

Table 7.2 below summarises the changing basis, scope and nature of the levy as officially applicable over the years.

[352] Something of the order of 0,5% would have been more appropriate to ensure this.

Table 7.2: Regulating Contributions to the Universal Service Fund[353]

Date applicable	Levy rate per annum	Levy calculated on	Levy applicable to
1 April 1999	0,16% / R 1 500 / R 1 000[354]	Annual turnover[355]	Telecomms, VANS, PTN licensees
1 July 2004	0,2%[356]	Annual turnover	Telecomms service licensees
1 April 2009	0,2%	Annual turnover[357]	All ECNS, ECS & broadcasting[358] licensees
9 February 2011[359]	0,2%	Annual turnover (less deductions)[360]	All ECNS, ECS & BS[361] licensees

[353] Sources: (Naidoo, 1997a; SATRA, 1997a; SATRA, 1997c; DoC, 1999b; ICASA, 2000; ICASA, 2002a; ICASA, 2003d; ICASA, 2007b; ICASA, 2008c) (ICASA, 2010b; ICASA, 2011a).

[354] The percentage levy was applicable to holders of telecommunications licences (ie Telkom, Vodacom, MTN). The fixed annual amounts were levied on the more numerous VANS licensees (R 1 500) and PTN licensees (R 1 000). The contributions were capped in line with the 1997 Ministerial Policy Directions.

[355] Not explicitly defined in either the 1999 regulation or the 1996 Telecommunications Act, although specified as "annual turnover derived from the provision of the telecommunications service that it is licensed to provide".

[356] USAL and PTN licensees were effectively exempted, being levied a nominal R 1 per annum.

[357] Strangely, and presumably as a result of a drafting error, these regulations include unused definitions for "adjusted gross revenue" (defined as "gross annual revenues from licensed activities less service provider discounts, agency fees, interconnection and facilities leasing charges, government grants and subsidies") and "service provider discounts". Neither is used to determine the levy.

[358] Broadcasting licensees were required to deduct their contributions to the MDDA Fund from their contribution to the USAF.

[359] The effective date attached to the current set of regulations was highly problematic, since it fell within the financial year of some licensees, but not of others. All its predecessors had been timed to cover a full financial year of all operators. But the effective date of this set of regulations thus created legal confusion as to which licensees they applied to, since the financial year-end of some (eg MTN) is 31 December and had already passed, whilst that of others (eg Cell C, Telkom, Vodacom) is 31 March and was still in the future. In addition, there was no pro rata provision in the regulations. It was therefore unclear which operators the new regulations applied to, or how to calculate the new levy. In practice, all - except Vodacom - seem to have taken advantage of the legal lacuna and slashed their contributions by the full extent permissible.

[360] Presumably, in order to fix the blunder in relation to annual turnover in the previous regulations, this is now defined as "total revenue generated from Licensed Activity per annum less service provider discounts, agency fees, interconnection and facilities leasing charges, government grants and subsidies".

[361] The MDDA deduction was retained for BS (broadcasting service) licensees.

7.2 UAS Levy Trends

A number of general points can be made in relation to the contributions imposed on licensees in respect of the fund.

The fact that the scope of application of the levy has widened since its inception is not especially remarkable in the light of the phenomenon of convergence and South Africa's move to a converged regulator. Originally the legislation made it applicable only to holders of telecommunications service licences, including VANS and PTN licensees (RSA, 1996b, p. Section 67). But, with introduction of convergence legislation in 2005, the funding base was broadened to include all licensees, except the holders of spectrum licences (who would almost certainly also hold one or more of the other categories of licence) (RSA, 2005, p. Section 89). Counter to this trend of widening the tax base, though, has been the move to exclude community broadcasters. However, this move has been dictated more by consideration of the financial viability of this class of licensee.

More challenging is determining the basis of the calculation for the contribution levy towards the Fund. A specified percentage of 'annual turnover' seems relatively simple at face value, and is reasonably simple in a small market with limited competition and, more importantly, dominated by a small number of vertically integrated players. As the ISPA submission (2007) makes clear, until recently 'annual turnover' was never formally defined in either legislation (which merely refers to "prescribed annual contributions of the licensee's licensed activity" and links this to a "percentage of the licensee's annual turnover" (RSA, 2005, p. Section 89)) or the regulations. ISPA goes on to argue that the absence of a formal definition of 'annual turnover', together with a lack of clarity on what constitutes 'licensed activity' (which it links to the "difficulties inhering in the definition of "reseller" as set out in the ECA"), creates substantive problems with the "proper calculation and payment of USAF contributions" by licensees, making "proper compliance nigh-on impossible" (2007, pp. 5,6). Bearing this out is the instance cited by ICASA of a licensee whose USAF contributions had to be refunded because ICASA determined that was "not supposed to pay any contributions because they were not providing any licensed services" (personal communication, 13 March 2015). In addition, calculating the levy from turnover may require an onerous separation of accounts for those licensees whose income includes revenue from non-licensed activities, and appears to impose a formal audit on even the smallest of players for whom no such statutory requirement otherwise exists (ISPA, 2007, p. 8).

ISPA's lawyer, Dominic Cull, describes the situation as a "mess". Although he concedes that the issue is largely one pertinent to VANS licensees, he points to ICASA's "difficulty in establishing a coherent framework for calculation of annual licence fees and USAF contributions as a result of their lack of understanding of the licensing framework" (personal communication, 5 March 2015). Whilst Cull may have somewhat of a VANS axe to grind here, he does, correctly, point to the necessity of a clear and precise definition as to the basis of calculation for such a levy. Failure to provide such a definition only creates loopholes that allow licensees to obfuscate or delay their payments, and presents enormous challenges for a regulator attempting to enforce compliance[362].

Recent sets of regulations are interesting in that they introduce hefty penalties (25%) and penalty interest (up to prime plus 5%) on late payments (ICASA, 2008, p. Section 4), suggesting that ICASA had encountered substantial problems with late payment and non-payment of the required contributions to the Fund. Penalty and interest charges are retained in the 2011 regulations although their formulation has been revised to make them slightly less punitive in the light of "recent developments in drafting principles" and to ensure alignment with the 1999 Public Finance Management Act (ICASA, 2011a).

Finally, it is worth noting that the recent ICT Policy Review Panel, recommended an increase in the quantum of the levy, potentially up to the currently legislated maximum of 1%, subject to a "study to ascertain the quantum of funding that will be required", partly in order to fund an evolution from the USAF into an ICT Development Fund of wider scope and mandate (DTPS, 2015, pp. 42-46). Government's ensuing White Paper controversially, and without undertaking the recommended study, adopts a figure of "*at least one per cent*" [their italics] as the new benchmark, thus overruling the far more cautious approach recommended by the ICT Policy Review Panel (DTPS, 2015, p. 45). In addition, it hands the Minister "responsibility for setting and reviewing the Fund levy" (DTPS, 2016, p. 40). Both changes are currently ultra vires, with at least the latter requiring formal legislative amendment, meaning neither is likely to eventuate any time soon[363].

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[362] See the discussion below on ICASA's compliance regime.

[363] Setting a floor level of 1% is also ultra vires. Further, is unlikely that the ICT Policy Review process constitutes sufficient consultation for raising the ceiling, since this was never formally canvassed as stipulated (RSA, 2005a, p. Section 89 (2) (a)).

7.3 How Contributions to the Fund are Made

Throughout the lifespan of the Fund, licensees have made payment of their contributions to ICASA, which in turn, passes those contributions to the National Revenue Fund under the control of Treasury (RSA, 2005, p. Section 87).

This has created considerable difficulties in respect of determining the total of licensee contributions to the Fund, with accurate figures seemingly not available either from ICASA or USAASA (Perry, 2010; SACF, 2013, p. 25; Lewis, 2013, pp. 101,2; USAASA, 2014b, p. 71). Estimates range from Perry's rather speculative R 1 billion (Perry, 2010, p. 19), through SACF's R 1 472 164 183, based on undated data provided by the major telecommunications licensees (SACF, 2013, p. 25), to USAASA's own - incorrect - assertion that "there is no publicly available record of the value of annual USAF contributions by operators into the National Revenue Fund" (USAASA, 2014b, p. 70).

The degree of uncertainty and discrepancy can only be accounted for by the apparent failure of ICASA and USAASA to put in place the necessary co-ordination mechanisms to give effect to the legislative provision requiring that "all money received, the amounts of which in terms of subsection (1) must be credited to to [sic] the Universal Service and Access Fund in the books of the Agency, must be paid into the National Revenue Fund" (RSA, 2005, p. Section 87(2)). This speaks to a lack of political will on the part of USAASA to determine how much money is actually available to the Fund.

Attempts to address this problem via a 2014 amendment to the ECA may in fact have created additional problems. On the one hand ICASA is still required to pay the contributions of licensees to Treasury (via the National Revenue Fund (NRF)). On the other, USAASA is still required to "keep account of the Fund in its books" and to "collect [and credit] all money that is due and payable to the Universal Service and Access Fund from the Authority [ICASA]" (RSA, 2005, pp. Sections 87(2), 87(1) & 89(4)). Whilst this does seem to require that ICASA should now provide USAASA with a detailed breakdown of the contributions it receives towards the Fund, something it has not previously done, quite how the mutually contradictory destinations of the payments (the NRF vs USAASA) will be resolved remains to be seen.

As Table 7.3 below indicates, a substantially accurate assessment of the contributions to the Fund is in fact available - once one consults the annual Budget Review reports made publicly available by South Africa's National Treasury (figures sourced from USAASA and ICASA are included for comparative purposes, and show that their records only tally approximately,

especially in the early years, with each other and with the official figures). The figures from Treasury show that licensees have in fact contributed more than R 1,9 billion to the Fund since its inception.

Table 7.3: Universal Service Fund: Licensee Contributions

	USAASA[364]	ICASA[365]	Treasury (Budget Review)[366]
1998/1999			R 482 000
1999/2000	R 10 000 000		R 19 508 000
2000/2001	R 10 220 000		R 24 349 000
2001/2002	R 10 935 400		R 33 575 000
2002/2003	R 11 438 428		R 29 565 000
2003/2004	R 26 171 122		R 26 745 000
2004/2005	R 92 052 881		R 99 848 000
2005/2006	R 142 229 746	R 142 033 677[367]	R 142 034 000
2006/2007	R 151 993 963	R 153 438 706[368]	R 152 120 000
2007/2008	R 180 962 588	R 182 673 416[369]	R 181 085 000
2008/2009		R 206 313 581[370]	R 207 167 000
2009/2010		R 219 099 054[371]	R 224 773 813
2010/2011		R 181 205 854	R 255 341 290
2011/2012		R 176 053 541[372]	R 75 088 737

[364] The figures here reflect data provided to USAASA by ICASA, as reflected in the only USAASA Annual Report ever to record such figures (USAASA, 2008c, p. 14). In the first four years the figures substantially under-report the level of contributions, whilst in in the latter five they closely approximate the official Treasury figures. Repeated attempts by the author to obtain more recent figures from USAASA proved fruitless.

[365] Repeated attempts by the author to obtain a comprehensive set of figures from ICASA also proved fruitless. The partial figures presented here are derived from ICASA's annual reports, which specified them for a brief period, and the operator compliance reports published on ICASA's website, and via email correspondence.

[366] Data sourced from various National Treasury Budget Review Reports, viz: (Treasury, 2002, p. 196; Treasury, 2003b, p. 200; Treasury, 2005, p. 182; Treasury, 2008, p. 182) (Treasury, 2011, p. 158; Treasury, 2014, p. 134; Treasury, 2015, p. 188; Treasury, 2016, p. 212).

[367] (ICASA, 2007a, p. 131)

[368] (ICASA, 2008b, p. 153)

[369] (ICASA, 2008b, p. 153)

[370] (ICASA, 2009e, p. 174)

[371]This figure and the following one (for 2010/2011) are derived from the operator compliance reports published on the website of ICASA and reflect the two years for which these reports contain such numbers (ICASA, nd). ICASA no longer publishes the numbers (with some, presumably erroneous, exceptions) on the grounds that they are "confidential', according to a senior compliance manager (personal communication, 9 February 2015).

[372] This total and the four following (viz 2012/13 through to 2015/16) are supplied by ICASA (personal correspondence, 13 March 2015 and 20 February 2017) but seem to the author to be dubious. The oscillation around 2011/2012 is likely due to accounting issues related to the 2011 USAF regulations, which straddled licensee

2012/2013		R 192 389 253	R 155 083 589
2013/2014		R 196 071 924	R 126 852 000
2014/2015		R 201 862 357	R 176 681 000
2015/2016		R 209 541 652	R 198 612 000
Total	**R 636 004 128**	**R 2 060 683 014**	**R 2 128 910 429**

Accurate comparison is difficult because it was only over a short period (2005/6 to 2009/10) that ICASA itemised the contributions in its audited financial statements. What is curious is that the figures reportedly sourced by USAASA from ICASA in 2008 do not tally with the figures from ICASA's own annual reports.

Apart from the discrepancies in the early years, the various figures for contributions to the Fund are reasonably consistent, although they do make the operators' claimed contributions in the SACF report look inflated. However, the fact that the figures provided by ICASA to USAASA (left hand column) do not tally exactly with the official figures from Treasury (right hand column) - even once - suggests an alarming inability on the part of either ICASA or Treasury to keep track of the contributions to the Fund, and to apportion them correctly. It seems likely, both in the light of the widely held perception of ICASA's lack of capacity (versus the very substantial degree of financial competence and resources at the disposal of Treasury), and because of the concerns that will be raised below, that the Treasury figures are likely to be the most accurate.

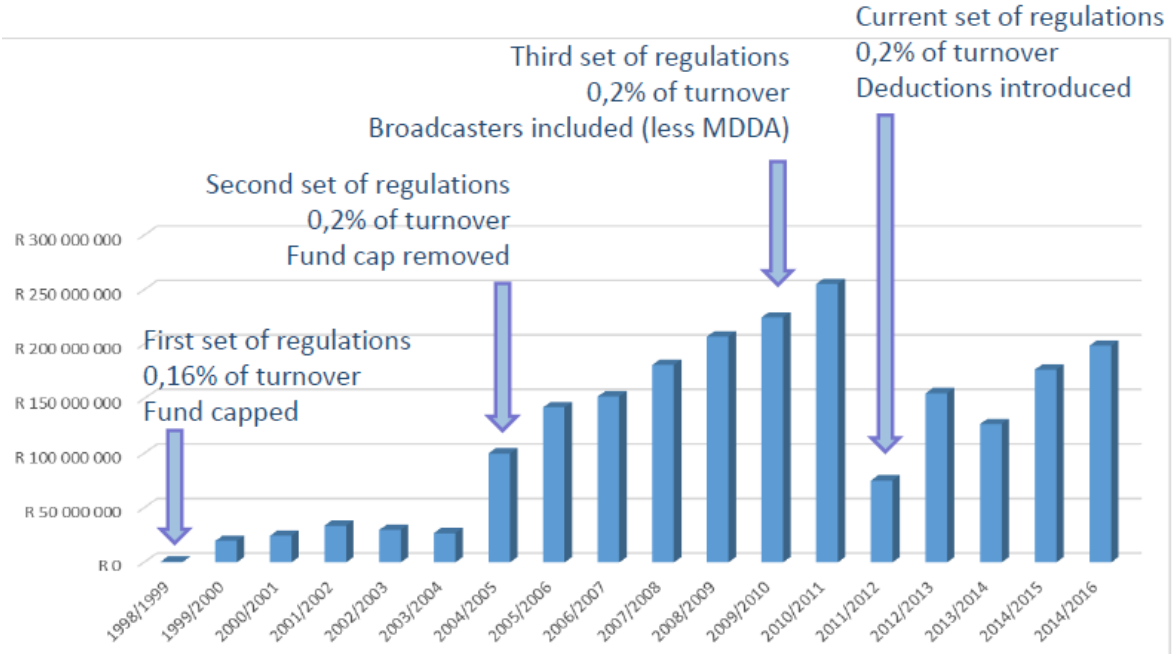
It is perhaps worth noting that, although the contributions to the Fund remained relatively low in the years for which the contribution cap was in place (up until 2003/2004), they did not remain within the ceiling established in the regulations, even allowing for inflation (which was in the single digits for the period). In the absence of any information in ICASA's annual reports, however, it seems likely that this can only be accounted by the difficulties of managing a cap at all, let alone equitably, between multiple contributors with differing financial year-ends. Be that as it may, collections soared once the cap was removed. Perhaps even more dramatically, they plummeted after 2010/2011, once allowable deductions were introduced[373], before slowly climbing again. It is unclear why the Treasury figures are so wildly

financial year-ends, but recent ICASA figures, unlike their predecessors, are substantially higher than the official Treasury numbers. The totals have repeatedly been queried with ICASA.

[373] It is unclear whether or not ICASA had costed the impact of the 2011 USAF regulations, and why they did not consider increasing the percentage to compensate for the effect of introducing the deduction offsets - since this had previously been contemplated (ICASA, 2002a). They may have been influenced by USAASA's manifest inability to spend even the existing level of contributions with any degree of effectiveness (see discussion below).

different in 2010/2011 and 2011/2012, perhaps because of accounting differences[374]. It is also unclear why the ICASA figures are consistently so much higher than those reported by Treasury (over R 150 million more since 2009/2010).

Figure 7.1: Universal Service Fund: Licensee Contributions (Treasury figures)



7.3.1 Reluctant Broadcasters

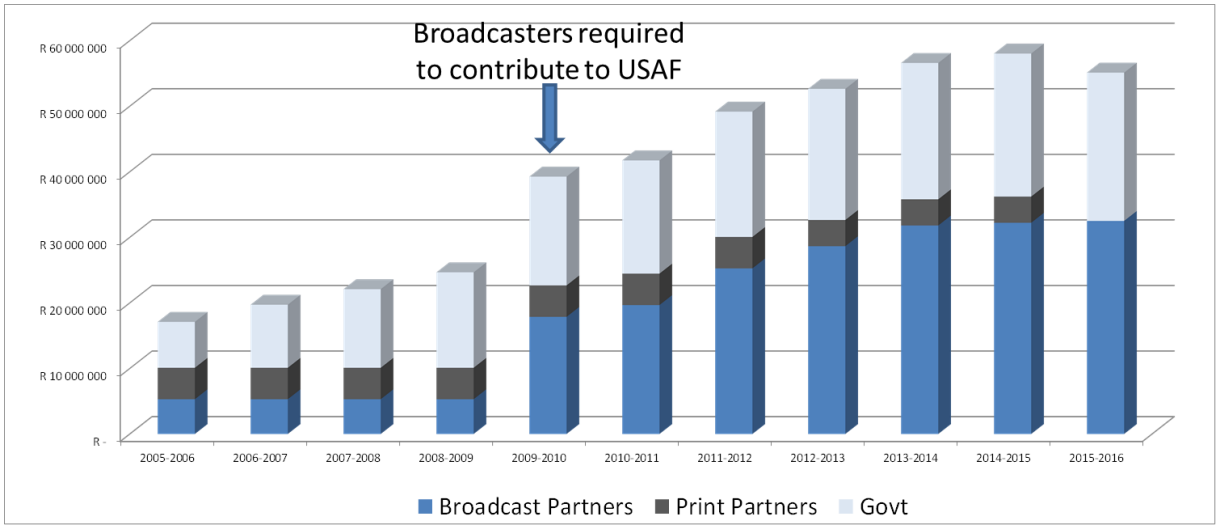
It is further important to note that contributions to the Fund are almost exclusively sourced from telecommunications licensees. An examination of ICASA's compliance reports between 2010 / 2011 and 2013 / 2014 suggests that, with the exception of Primedia, broadcasting licensees have preferred rather to contribute to the MDDA[375], presumably because of the fund's more specific broadcasting focus and because of its better disbursement record (see analysis below). An examination of the broadcasters' contributions to the MDDA (see Figure 7.2 below) shows a dramatic increase in contributions from broadcasters once they were required to contribute 0,2% of turnover to the USAF and MDDA combined (ie from 2009 / 2010). In that year contributions from broadcasters more than trebled from R 5,3 million to R 17,9 million (MDDA, 2010, p. 86). They have since continued to climb, presumably as ICASA has

[374] There are reporting differences. ICASA accounts for the contribution according to the licensee financial year to which it is attributable. Treasury accounts for the contribution according to when it actually receives the money.

[375] Broadcasters' contributions to the MDDA are voluntary. However, any broadcaster contributing less than 0,2% of its annual turnover to the MDDA (like Primedia), would be required to contribute the balance of 0,2% to the USAF. ICASA avers that it assesses broadcaster compliance with this provision.

tightened up on its enforcement of licensee compliance reporting, with the amount levelling off at around R 32 million per annum from 2013/14 (MDDA, 2015, p. 53).

Figure 7.2: Contributions to MDDA[376]



Similarly, the numbers of broadcasters that have signed long-term funding agreements with the MDDA increased substantially from around the same time, from 5 in 2008 / 2009 to 9 in 2009 / 2010, reaching 17 in 2012 / 2013. The MDDA itself notes both the trend and its cause:

> *Many Broadcasting Service Licensees have joined as partners from April 2009, contributing 0.2% of the annual turnover derived from the licensee's license activities to the MDDA, in line and in compliance with the ICASA Regulation. (2010, p. 7)*

The list includes the expected list of broadcasting heavyweights (such as MultiChoice, SABC, M-Net, e-TV, Primedia), as well as a number of smaller radio broadcasters. Actual contributions to the MDDA fund are likely to have come from a far larger pool of broadcasting contributors. Both trends, however, reflect a substantial move to MDDA once contributions to the USAF were legally required. The figures show that, since its inception in 2004, the MDDA has received nearly R 210 million from broadcast licensees - almost all (90%) of it since broadcasters were required to contribute to the USAF.

Some question marks must, however, be raised in respect of ICASA's ability to monitor and enforce compliance with the universal access and service levy.

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[376] Source: MDDA Annual Reports, viz: (MDDA, 2006; MDDA, 2007; MDDA, 2008; MDDA, 2009; MDDA, 2010; MDDA, 2011; MDDA, 2012; MDDA, 2013; MDDA, 2014; MDDA, 2015) (MDDA, 2016).

It seems clear, therefore, that extending the scope of the USAF to include broadcast contributors achieved almost nothing. Given the choice of where to place their universal service liability, the broadcasters voted overwhelmingly in favour of the MDDA.

7.4 Monitoring: ICASA vs Licensees

Some question marks must, however, be raised in respect of ICASA's ability to monitor and enforce compliance with the universal access and service levy.

Verification of compliance by the licensees is currently undertaken in terms of the compliance reports that all licensees are required to submit to ICASA on an annual basis, which have been made publicly available on the website of the regulator from 2009/10 onwards. It seems that ICASA has some difficulties securing these compliance reports. Although the number of published reports rose from 25 for 2009/10 to 89 for 2012/13, this is still a small proportion of the total number of licensees. Albeit that the listing contains all the major players such as Vodacom, MTN, Telkom and Cell C, it is likely that widespread failure to comply on the part of smaller players lay behind the introduction of penalties noted above.

Assessment of the compliance reports is undertaken separately for broadcasting licensees and ECNS and ECS licensees, partly due to the differential nature of the compliance requirements in each case. According to Fikile Hlongwane, Head of Broadcasting Compliance at ICASA (and as noted above), only one broadcasting licensee pays a contribution to the USAF, since all the rest (barring, again as noted above, community broadcasters) make contributions to the MDDA fund of 0,2% or more of their turnover (personal communication, 19 February 2015)[377].

The extent to which ICASA is able to verify compliance of broadcast licensees with the USAF levy regulations in unclear. ICASA's Hlongwane declares that "verification" is undertaken by ICASA's finance department on the basis of "USAF calculations [which would require audited financial statements] as well as the MDDA proof of payment" and that "in the event of any short fall [sic] in the contributions, finance takes the matter up with the relevant licensee/s" (personal communication, 19 February 2015). There is, however, no independent verification

[377] This would appear to be Primedia, which owns a number of radio stations (viz 94.7 Highveld Stereo, 702 Talk Radio, Cape Talk and KFM), whose compliance reports for 2011/2012 and 2012/2013 list amounts of R 1 792 079,09 and R 1 960 681,98 respectively. MultiChoice also contributes to the USAF (no amounts specified), but this is likely to be in respect of its ISP business which it later sold to Dimension Data in 2014.

of ICASA's ability to do this, and no publicly available report attesting to any issues with compliance.

ICASA began to make the annually required compliance reports submitted by the licensees publicly available with effect from 2009/2010. The reports covering the earlier years make interesting reading since they are relatively unsanitised. Most detail, especially when it comes to actual figures, has been excised in recent years, following operator demands for confidentiality (Godfree Maulana, personal correspondence, 9 February 2015). However, ICASA's own assessment of the early compliance reports of seven of the major contributors to the Fund (viz: Cell C, iBurst /WBS, Internet Solutions, MTN, Neotel, Telkom, Vodacom) reveals that the monitoring and enforcement difficulties ICASA has faced have been quite substantial (ICASA, 2011c)[378].

One of these has been late submission of payments to the USAF. Only Telkom and Vodacom seem to have paid within the prescribed 3 months after financial year end. Most of the others took up to 6 months to pay, many arguing that it was impossible to comply within the prescribed 3 months. In the event ICASA recommended a waiver of penalties and interest in those cases on the grounds that the incoming 2011 regulations (although they were not yet then in force) had moved to a 6 month window. Some of the amounts thus written off were quite substantial: a penalty fee of R 86 513 and R 50 177 interest in the case of iBurst. In the case of Internet Solutions, where the payment was 8 months late, enforcement of penalties and interest was recommended[379].

The second major problem area involved two licensees, MTN and Sentech, both of whom, whether by accident or design, used "adjusted gross revenue" (the regulation in force at the time required the calculation to be based on "annual turnover" without any adjustment[380]) as the basis of their calculation. For example, MTN's initial 2009/10 payment, incorrectly based on "adjusted gross revenue", was R 23 823 419. In MTN's case, correcting the calculation added an additional R 22 010 010, nearly doubling their contribution to the Fund. In addition, both payments were late, which led ICASA to seek, over the objections of MTN, to levy penalties and interest amounting to R 10 438 956. In the case of signal distributor Sentech

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[378] The problems ranged across a number of areas, from licence fee payments, through the e-rate to code of conduct issues. The analysis here looks exclusively at payments to the Universal Access and Service Fund.

[379] It is not clear whether ICASA was successful here. The outcome appears never to have been reported, and the author's request for an update on the matter, received an evasive answer.

[380] This was the definition included in the regulation, but never used in relation to 'annual turnover'.

the incorrect calculation had a considerably less dramatic impact, a shortfall of only R 28 962 (as a signal distributor, interconnection and facilities leasing costs would play a far lesser role than in the case of a mobile operator).

Worryingly, not a single broadcast licensee was assessed in either 2009/10 or 2010/11 in respect of their contribution to the USAF[381] in any of the over 50 published compliance reports. This is despite a legal requirement that broadcasters report their compliance in respect of contributions to the USAF (albeit offset by a deduction of their MDDA contributions).

Further, ICASA's ability to follow through on or interrogate the substance of the reports seems lacking. Several examples will suffice to make the point. Firstly, the fate of the 2009/2010 penalty fees and interest is never mentioned again in any of the subsequent MTN compliance reports[382] or in any of ICASA's annual reports. Sentech's subsequent 2010/11 compliance report appears merely to reflect a single 16 August 2011 payment of the arrears from the previous year, with no 2010/11 payment mentioned, nor any mention of any steps by ICASA to enforce compliance (ICASA, 2012c, p. 20). In related vein the degree of compliance on the part of Internet Solutions remains highly unclear. Each of the compliance reports subsequent to 2009/10 merely states that their USAF payment is not yet due, with result that their contribution to the fund remains seemingly unaudited in recent years. Attempts to gain clarity from ICASA in respect of Internet Solutions, elicited a firm 'no comment' on the grounds that this was a "compliance matter" (personal communication, 11 February 2015).

It is also noteworthy that the contributions of all four major telephony licensees fell substantially between 2009/10 and 2010/11[383], this despite all except Telkom reporting increased revenues f (Cell C, 2011; MTN, 2011, p. 46; Telkom, 2011, p. 144; Vodacom, 2011, p. 9)[384]. It is therefore surprising that ICASA's compliance reporting makes no comment on

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[381] MultiChoice is a contributor, but this is likely in respect of its ISP subsidiary, MWeb.

[382] The individual compliance reports are available from the ICASA website via https://www.icasa.org.za/LegislationRegulations/LicensingCompliance/CompliancePublications/ComplianceReports/tabid/474/Default.aspx.

[383] The drop was 55% in the case of Cell C, 29% in the case of Telkom, 26% in the case of MTN and 5% in the case of Vodacom.

[384] Cell C does not issue an annual report because it is not a listed company. The different companies have differing year ends: 31 March 289 31 December (MTN), but this is catered for in the compliance reporting periods. In all four cases the revenue trends were the same both before and after the two years for which we have individual data (for example, Vodacom's 2009/10 revenue was up from the previous year, and there was a further increase

the substantial fall in payments to the Fund on the part of its four largest contributors. In the absence of any comment forthcoming from ICASA, one can only presume that the 'annual turnover derived from the licensee's licence activity' differs substantially and in ways that differ from year to year from revenues reported by each of the companies.

Fraught with caveats though it must be, it is perhaps worth attempting to reconcile the contributions of Cell C, MTN and Telkom to the Fund, as reported on by ICASA, with their reported financial performance, as reflected in their various financial reports[385] (see Table 7.4 below).

Table 7.4: Operator Performance[386] vs USAF Contributions[387]

		2009 / 2010	2010 / 2011	% Change
Cell C (31 Mar)	Service Revenue	R 8 928 000 000	R 9 300 000 000	4%
	USAF contribution	R 16 428 724	R 7 396 959	-55,0%
	% of service revenue	0,184%	0,080%	
MTN (31 Mar)	Total Revenue	R 33 149 000 00	R 35 822 000 000	8,1%
	USAF contribution	R 45 833 429	R 33 987 339	-25,8%
	% of total revenue	0,138%	0,095%	
Telkom (31 Dec)	Total Revenue	R 36 474 000 000	R 34 026 000 000	-6,7%
	USAF contribution	R 63 697 989	R 45 351 221	-28,8%
	% of total revenue	0,175%	0,133%	
Vodacom (31 Dec)	Service Revenue	R 44 324 000 000	R 46 392 000 000	4,7%
	USAF contribution	R 88 844 056	R 84 585 539	-4,8%
	% of service revenue	0,200%	0,182%	

between 2010/11 and the subsequent year; conversely the fall in Telkom's revenue shown here is a consistent trend extending to the previous and the subsequent financial year.

[385] None of the annual reports (press statements in the case of Cell C) of the licensees provides an identifiable figure for USAF contributions, and the financial reports submitted to ICASA as proof of compliance are confidential, lending a degree of speculation to the exercise. However, the figures from the operators in all cases are explicitly comparative from the same annual report / press statement, and refer to the same years covered by the ICASA compliance reports. The two years covered here are the only two years for which ICASA ever provided a publicly available reports of individual contributions by the operators in question.

[386] Figures sourced from operator annual reports (and a press release in the case of Cell C). Cell C reports on "service revenue" as at 31 March 2011, and extrapolated back for 31 March 2010 (2011). MTN reports on "Total Revenue' as at 31 December 2009 and 2010 respectively (2011, p. 46). Telkom reports on "Total Revenue' as at 31 December 2009 and 2010 respectively (2011, p. 144). Vodacom reports on "service revenue" as at 31 December 2009 and 2010 respectively (2011, p. 9).

[387] As contained in the individual compliance reports, which are available from the ICASA website via https://www.icasa.org.za/LegislationRegulations/LicensingCompliance/CompliancePublications/ComplianceReports/tabid/474/Default.aspx.

The picture that emerges is a strange one. Granted the fact that the figure listed for revenue in official annual reports may not be the same as 'annual turnover derived from the licensee's licence activity', one would nonetheless expect a relatively constant ratio between the two. Yet the percentage contribution reported by ICASA fluctuates quite dramatically in some instances (excluding Vodacom, whose 2009/10 contribution appears exactly correct). This is further suggestive of the difficulties encountered by ICASA in attempting to enforce the USAF levy. One ICASA manager alludes to this in stating that "some of the calculations were incorrect hence the change in figures, mainly based on the interpretation and understanding of the requirement of the regulations" (Godfree Maulana, personal communication, 11 February 2015). It is perhaps also worth pointing out that, with millions at stake, there are fairly strong bottom-line financial incentives on operators to attempt to minimise their USAF payments

Taken together, the issues highlighted above suggest a worrying inability on the part of ICASA to monitor, enforce and follow through on USAF payment compliance year on year.

In sum, a number of policy implementation difficulties are clearly evident in relation to contributions by licensees towards the Universal Access and Service Fund. The effectiveness of the fundraising for universal access and service projects would therefore appear to be affected and undermined by serious institutional difficulties. ICASA seems to have been unable to keep track of contributions or to align its reporting with that of Treasury. USAASA seems to have had only the vaguest of notions as how much funding was potentially available to increase levels of ICT access. There seems to have been no communications structure between the two. The broadcasters seem in consequence to have voted with their feet.

As a result, there does not exist a single, publicly available, reliable and accurate set of figures for the amounts of money contributed towards the Fund over the years. Mandla Msimang of Pygma Consulting recalls how officials from Treasury reported that no-one from either ICASA or USAASA had ever consulted them on the status or amount of contributions to the Fund. She also notes that there was never a structured relationship or formal consultation framework between ICASA and USAASA on this issue (interview, 7 November 2014). This is all the more surprising given the provisions of the original 1996 Telecommunications Act which required "all money received [via ICASA to] be credited to the Universal Service Fund in the books of the Agency" (RSA, 1996b, p. Section 65 (2)). How either party expected this to be implemented in the absence of some form of formal arrangement is baffling.

One is forced to conclude dereliction, on the part of USAASA in particular, but also by ICASA to a lesser extent, to ensure that proper records were kept of the contributions, that these were properly balanced and verified, that figures tally with those officially tabled in Parliament by Treasury, and finally that the figures be made freely publicly available. In the absence of a clear record of contributions, planning and expenditure have limited chances to get off the ground. This will be discussed in the next section.

The second major issue bedevilling contributions to the Fund has been the lack of a clearly defined basis for calculating contributions, as discussed above. The lack of a clear and adequate definition of key concepts such as 'annual turnover' and 'licensed activity', coupled with the introduction of a range of allowable discounts for items such as 'interconnection', 'agency fees' and 'facilities leasing charges', creates a highly complex compliance environment with a number of problems. On the one hand it presents both a recipe for confusion for licensees attempting to comply and an opportunity for the unscrupulous to obfuscate or under-pay. On the other, it ensures a monitoring and enforcement nightmare for ICASA.

Finally, perhaps in consequence, as the analysis has shown, there appear to be a number of question marks over ICASA's capacity to monitor, verify and ensure licensee compliance with the USAF levy regulations.

Nevertheless, whilst far from perfect, the universal service fund levy imposed on licensees over the last 15 or so years has been able to accumulate a substantial financial resource potentially at the disposal of interventions intended to promote the cause of universal access and service.

It is therefore appropriate to turn next to a consideration of expenditure from the Fund.

7.5 Spending the Universal Service Fund

As noted above, contributions to the fund are paid via ICASA to Treasury's National Revenue Fund. Expenditure by USAASA from the Fund follows a rather convoluted process. Access to funding for universal access and service interventions requires a formal annual budget allocation from the National Revenue Fund. This takes place through the parliamentary budget vote of the Department and is formalised once the annual Appropriation Act is adopted by Parliament. USAASA's ability to access the full amount of the contributions to the USAF has, as noted above, been hampered by its lack of information in respect of these amounts, and by Treasury's reluctance to release the money in the absence of proper business planning

or effective track record in deploying the funds at its disposal (Mandla Msimang, interview, 7 November 2014)[388].

It is with a considerable degree of difficulty that one can establish how much money was made available to USAASA over the years. Expenditure from the fund has been widely (and correctly) speculated to be far below the amounts paid in by the licensees over the years (see above), but no authoritatively accurate numbers have been available (Lewis, 2013, p. 102) till now.

7.5.1 Funds Available to the Agency

Table 7.5 below represents an attempt to quantify the funds actually made available to the Agency over the years, but is beset by several challenges - hence the inclusion of figures from different sources.

Figures are reflected in the disparate USA and USAASA annual reports, but most of these are no longer in the public domain. Worse, USAASA itself no longer has copies of many of the earlier ones. The recent USAASA strategy document (2014b, pp. 1v1-71) attempts to provide a breakdown, but is bedevilled by the fact that its figures are drawn from an earlier, but partially incorrect, SACF report (2013, pp. 25,6). The figures from the full set of annual reports of the Agency, however, must be considered authoritative since they have been independently audited. Where the figures from the corresponding Appropriation Act differ, this usually means funds have been appropriated but not drawn down.

[388] The 2014 amendment to the ECA attempts to rectify this disconnect by requiring USAASA to "collect all money that is due and payable to the Universal Service and Access Fund from the Authority" (RSA, 2005a, p. Section 89 (4)). How this will work in practice is unclear, since ICASA is still required to pay the licensees' contributions into the National Revenue Fund, and USAASA is still required to access the contributions via annual Parliamentary appropriation.

Table 7.5: Universal Service Fund Appropriations

	SACF Report (SACF, 2013, pp. 25,6)[389]	Appropriation Acts[390]	USAASA Annual Reports[391]
1997/1998	R 3 599 000[392]	R 3 000 000[393]	Nil
1998/1999	R 20 000 000[394]	R 10 000 000	R 482 000
1999/2000	R 20 000 000	R 11 295 000[395]	R 11 295 000
2000/2001	R 20 000 000	R 21 100 000	R 25 595 324[396]
2001/2002	R 22 496 000[397]	R 22 486 000	R 22 486 000
2002/2003	[398]	R 23 679 000	R 23 679 000
2003/2004	R 24 500 000[399]	R 24 745 000	R 24 745 000
2004/2005	R 26 230 000	R 26 230 000	R 26 230 000
2005/2006	R 29 400 000	R 29 400 000	R 29 400 000
2006/2007	R 31 164 000	R 31 164 000	R 31 164 000
2007/2008	R 32 722 000	R 32 722 000	R 32 722 000
2008/2009	R 34 581 000	R 34 581 000	R 34 581 000
2009/2010	R 36 427 000	R 36 427 000	R 36 427 000
2010/2011	R 218 613 000	R 218 613 000[400]	R 38 613 000[401]

[389] These figures are reproduced verbatim in the recent USAASA strategy document (USAASA, 2014b, pp. 1v1-71).

[390] Various, viz: (RSA, 1998; RSA, 2000a; RSA, 2001a; RSA, 2002; RSA, 2003a; RSA, 2004; RSA, 2005b; RSA, 2006; RSA, 2007; RSA, 2008) (RSA, 2009; RSA, 2010; RSA, 2011; RSA, 2012; RSA, 2013; RSA, 2014c; RSA, 2014d; RSA, 2015; RSA, 2016).

[391] Various, viz: (USA, 2002; USA, 2004; USA, 2006d; USAASA, 2007; USAASA, 2008c; USAASA, 2009d; USAASA, 2010; USAASA, 2012d; USAASA, 2013b; USAASA, 2014d) (USAASA, 2015b; USAASA, 2016b; USAASA, 2017a). Interest accrued on funds received (which only really became substantial as unspent set-top box subsidies began to accrue, reaching R 23 940 000 in 2013/14, R 50 942 000 in 2014/15 and 98 440 000 in 2015/16) is not included in these figures.

[392] The apparent typographical error in the original report has been corrected here, as per (USAASA, 2014b).

[393] This amount, along with that for 1998/99, does not appear in subsequent Budget Votes, and so was presumably never transferred to the USA.

[394] The figures for 1998/99, 1999/2000 and 2000/01 appear to be - incorrectly - based on the legislated cap on the fund in those years.

[395] 1999 Appropriation Act provides no specific figure for the Fund, just giving a blanket R 778 689 000 for the DoC. However, the figure of R 11 295 000 appears in the 2003 Budget Vote (Treasury, 2003a).

[396] Includes inflows (from DoC and in respect of specific projects) additional to the appropriation amount of R 21 100 000.

[397] This appears to be a typographical error, which also appears in (USAASA, 2014b).

[398] This year is omitted in both this report and in (USAASA, 2014b) for no apparent reason.

[399] Given as an estimate.

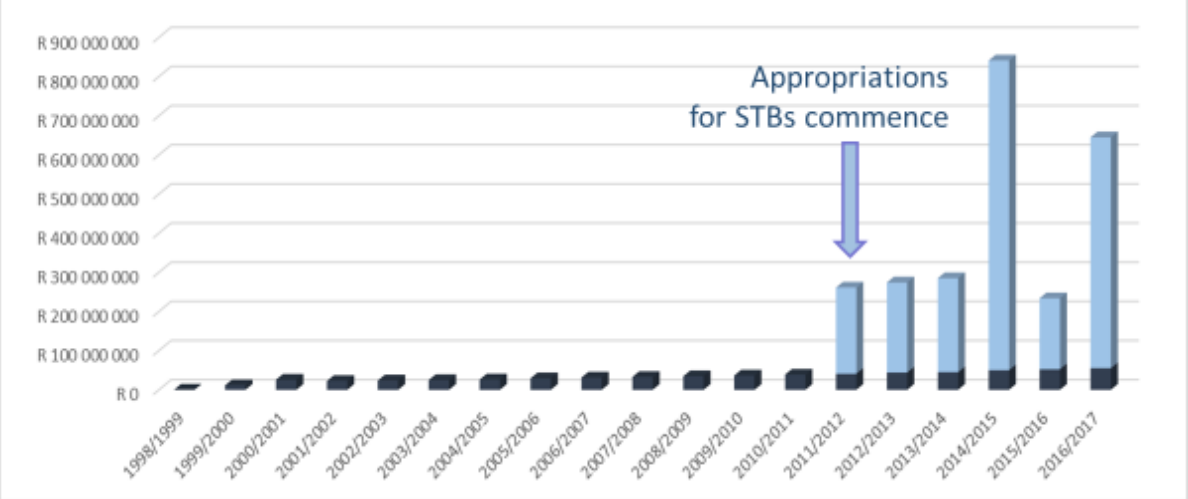
[400] The subsequent 2012 Budget Vote reflects a lesser figure of R 38 613 000, which, together with the USAASA annual reports, suggests that the R 180 000 000 was never drawn down (Treasury, 2012).

[401] An additional R 180 000 000 was allocated to subsidise set-top boxes as part of the Digital Migration, but was never transferred to USAASA.

2011/2012	R 260 930 000	R 260 930 000	R 260 930 000[402]
2012/2013		R 273 977 000	R 273 977 000[403]
2013/2014		R 285 046 000	R 285 046 000[404]
2014/2015		R 840 988 000[405]	R 840 988 000
2015/2016		R 233 540 000[406]	R 233 540 000
2016/2017		R 644 540 000[407]	R 644 540 000
Total	**R 780 662 000**	**R 3 064 463 000**	**R 2 876 440 324**

The figures suggest that earmarked allocations to the Fund since its inception have amounted to just over R 2,8 billion, and are illustrated in the graph (Figure 7.3) below. The towering spike from 2011/12 onwards (light blue) marks the inclusion of set asides to finance the distribution of subsidised set-top boxes (STBs) for poor households as part of the migration to digital terrestrial television (DTT), which process itself remains largely stalled. 2010 / 2011 stands out starkly. These amounts total nearly R 2,3 billion, almost all of it so far unspent, leaving the fund carrying a surplus of some R 2,5 billion by the end of the 2016/17 financial year (USAASA, 2017, p. 51).

Figure 7.3: Universal Service Fund: Appropriations to USAASA



[402] Includes an unspent R 220 000 000 for the Digital Migration / set-top boxes.

[403] Includes an unspent R 230 000 000 for the Digital Migration / set-top boxes.

[404] Includes R 240 000 000 earmarked for the Digital Migration / set-top boxes.

[405] Includes R 240 000 000 earmarked for the Digital Migration / set-top boxes, plus a further R 551 000 000 for the same purpose in the Adjustments Appropriation Act, totalling R 791 000 000.

[406] Includes R 181 160 000 earmarked for the Digital Migration, set-top boxes, antennae and installation. Does not include R 196 000 000 for USAASA for STB distribution and project management costs.

[407] Includes R 589 384 000 earmarked for the Digital Migration. Does not include R 240 000 000 for the SA Post Office for STB and antennae distribution costs.

Allocations earmarked for telecommunications universal access and service interventions have, however, pootled along at much the same level throughout, reaching a mere R 55 million in 2016/17. Once the STB subsidies are excluded, telecommunications-oriented allocations to the Fund total a mere 22% of the total, some R 625 million. However, in the period under consideration, licensees (largely telecommunications licensees) have contributed, as noted above, over R 1,9 billion - nearly four times as much as their sub-sector received.

Some of the confusion as to exactly how much money was available to USAASA to fund universal access and service interventions derives from the popular misconception that levies contributed by the (mostly telecommunications) licensees were in some way set aside and earmarked for the USAF. James Theledi, then USAASA CEO, is reported as telling the Parliamentary Portfolio Committee that there was "about R850 million sitting unused in the Universal Service Access Fund" and that the "money had been ringfenced [sic] by National Treasury and should still be available once it is needed" (Vecchiatto, 2008a). At the time, the bank accounts for the Fund reflected a credit balance of a mere R 3,4 million (USAASA, 2008, p. 77), and total levy contributions to Treasury amounted to a little over R 528 million, suggesting a CEO singularly ill-informed. Vecchiatto was subsequently to point out Theledi's error and to report that the levies were paid into the "large pot" of the National Revenue Fund and hence "treated like an ordinary tax rather than a levy designated for a specific purpose" (Vecchiatto, 2008b).

This fact is confirmed by a senior Treasury official:

> *The amounts in the USAF are not ring-fenced, but accrue to the [National Revenue Fund] and are then appropriated from here. However, the amounts appropriated are determined in the budget process; therefore the amounts that are allocated may not match the amount collected exactly. We have recently been allocating substantially more than we have been collecting* (personal communication, Rezah Atcha, Director: Telecommunications and Energy, 17 February 2015).

Interestingly, early drafts of the original Telecommunications Bill envisaged the Fund as a ring-fenced entity into which operators would contribute directly (DPTB, 1996a, p. Section 68). This provision was removed at the insistence of the Department of State Expenditure, which sought to enforce a Cabinet decision to incorporate the Department of Posts, Telecommunications and Broadcasting within South Africa's main Budget, and saw the USF as contradictory to the recommendations of the Katz Commission on Taxation (DSE, 1996).

7.6 Beneficiaries of the Fund

The intended target beneficiaries of the universal service fund have undergone some changes over the years. In terms of the 1996 Telecommunications Act, the USF was to be "utilised exclusively for the payment of subsidies", which were intended on the one hand to provide direct support for "needy persons" to gain access to telecommunications services, and, on the other, to subsidise PSTS licensees (ie Telkom) to meet its universal service obligations for the "extension of… service to areas and communities which are not served or not adequately served by telecommunication services" (RSA, 1996b, p. Section 66)[408]. The regulator, SATRA, which then had overall "control" and direction over how the Agency should expend the Fund, was tasked with determining the "categories of needy persons" eligible for support, how such needy persons should apply and how the subsidies should be disbursed. As the Fund was becoming operational, the Minister moved to specify the split between needy persons and the expansion of the PSTS to under-served areas, as being in the ratio of "99% and 1% respectively" (DoC, 1999b). In the light of the high priority thus accorded to providing telephony access to the poor, it is indeed ironic that, as will be shown, no needy person ever received such a subsidy[409].

The rate rebalancing proviso[410] in respect of subsidies payable to Telkom was dropped when the Act was amended in 2001. At the same time a number of additional beneficiaries in respect of subsidies were added, viz: the provision of Internet access to public schools and colleges; the establishment of telecentres[411] and "public information terminals"; support for "small businesses and cooperatives to acquire and construct [telecommunications] infrastructure" in under-serviced areas[412]; and the "provision of multimedia services" (RSA, 2001c). At the same time the Minister assumed overall direction of the Fund and everything pertaining to 'needy persons', presumably because of the ineffectiveness of SATRA in this role (see discussion below).

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[408] This latter provision was to remain in force only until Telkom's rates were rebalanced, after which it was assumed the cost of service provision to under-serviced areas and communities would be self-sustaining.

[409] The notion was to be revived much later as justification for distributing subsidised DTT set-top boxes to the poor.

[410] See footnote above.

[411] Some have suggested that this addition was merely a *post hoc* legitimation of the USA's long-standing telecentre programme, which, until the amendment had been *ultra vires* (see below for fuller discussion).

[412] This provision was to ensure that the Under-serviced Area Licensees, created at the same time, received financial support from the Fund.

The passage of the current 2005 ECA saw relatively few changes to this funding regime. Disbursements from the Fund remain earmarked exclusively for the payment of subsidies to further universal access and service to electronic communications services. Public information terminals and multimedia services have been dropped, and the USALs bundled aside under the new technology-neutral licensing framework. Subsidies now include:

- assistance for needy persons to acquire broadcasting, electronic communications network and electronic communications services;
- financial support for the construction or extension of electronic communications networks in under-serviced areas by any ECNS (infrastructure) licensee;
- procurement of broadcasting, electronic communications and electronic communications network services by public schools and FET colleges;
- establishment and operation of community centres providing access to electronic communications network services, electronic communication services and broadcasting services (RSA, 2005, p. Section 88).

A final catch-all proviso was added when the ECA was amended in 2014. This now allows the Minister to prescribe by regulation, in agreement with the Minister of Finance, how the subsidies should be directed (RSA, 2005, p. Section 88 (f)). This provision may have been intended to cover the provision of subsidised set-top boxes under the migration to digital terrestrial television. However, it went almost entirely unnoticed and uncontested[413]. Other amendments to the section at the time were technical in nature.

7.7 Telecentres

When it comes to the project-level application of the monies available to the Fund, it is perhaps appropriate to start with the involvement of the Agency in the delivery of telecentres. As noted previously, there was no legal mandate at the time for the Agency to fund telecentres, but they were being extensively punted at the time by both the IDRC (Fuchs, 1998; Ofir, 2003, p. 41 & 46) and the ITU (ITU, 1994a, p. 18; Townsend, 2002) as a vehicle

[413] The LINK Centre at the University of the Witwatersrand did specifically object to the clause as constituting Ministerial “interference”, thereby undermining the role of USAASA (LINK, 2013, p. 5).

for the promotion of universal access[414]. This enthusiasm for the telecentre model was shared by Jay Naidoo: shortly before introducing the Telecommunications Bill into Parliament, he was quoted as saying:

In the next five years, I want to see every community with a multi-purpose communications and information centre… [where] there would be access to the Internet and on-line government information – everything from what government tenders were available to how you could apply for a pension, or get a drivers' licence (Randall, 1996). Following its establishment in February 1997, the USA moved ambitiously to roll out telecentres, seemingly without any justification other than enthusiasm. At the launch, inaugural head Mlungisi Hlongwane is reported as declaring that the USA would "facilitate the establishment of a pilot project, the 'telecentres', throughout the country" (Malunga, 1997). Benjamin suggests that the decision to establish a series of telecentres was a direct instruction from both Director General Andile Ngcaba and Minister Jay Naidoo to the fledgling Universal Service Agency (2001, pp. 99-100). Benjamin goes on to note that Ngcaba held a firm view that the "telecentres were to be prestige projects, with high quality equipment and facilities"[415], and describes how the Department put "pressure" on the USA to "deliver quickly" (2001, pp. 121,2).

As a result, the first telecentre was launched with some fanfare in under-serviced Ga-Seleka, a poor, remote and arid rural settlement in Limpopo Province, near the Botswana border, in late March 1998 (Allchurch, 1998; Benjamin, 2001, p. 149)[416]. A further five telecentres in various under-serviced settlements across the country followed over the short space of the next two months (Khumalo, 1998), with a dozen more added by March 1999 (USA, 2005, p. 77).

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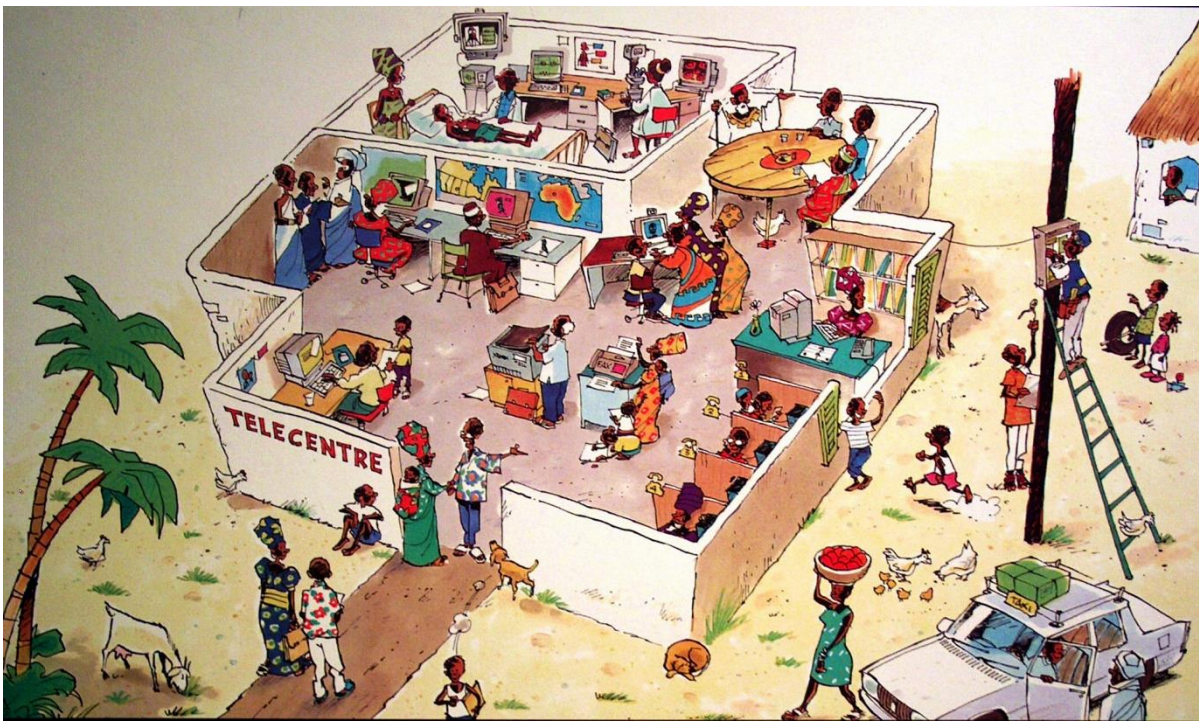
[414] The former was, as we have seen previously, particularly influential in South Africa at the time, funding *inter alia* the May 1996 Helderfontein workshop 'Empowering Communities in the Information Society', at which the concept of Multi-Purpose Community Centres featured prominently.

[415] Benjamin suggests this effectively over-ruled the USA's own vision of a more modest, scalable model (2001, p. 100).

[416] Benjamin has 22 March 1998. Khumalo (1998) has 19 March 1997 - the year appears to be a typo, as the USA was only officially launched two months later, and a number of other independent sources also have March 1998.

Figure 7.4: Idealised Telecentre



Source: IDRC

The initial cluster of telecentres were part of a small IDRC-funded pilot project covering 12 such centres (Benjamin, 2001, p. 121; James, 2001, p. 67). It was a pilot that soon escalated into a "very ambitious" (Khumalo, 1998) and grandiose vision that projected a rollout totalling 4 000 (USA, 2005, p. 77).

Few at the time questioned the notion of telecentres as being at the forefront of universal access and service projects to be funded from the Universal Service Fund. The acting head of the USA at the time, Fikile Khumalo spoke publicly and ambitiously of the future of the intervention (1998). Tina James, then a senior IDRC staffer, was to describe the telecentre programme as being at the core of the USA's universal access interventions "with funding provided by the Universal Service Fund and augmented by donor funding from the international community" (2001, p. 67). It was only rather later that the programme was recognised by commentators as being *ultra vires* (Benjamin, 2001, p. 99; USA, 2005, p. 65), outside the scope provided for in the Act[417].

[417] Although it was the major focus of the Agency, its telecentre programme was not the only one with dubious legal mandate. It is unclear what the legal basis was for the "Teacher's E-Readiness Training Programme" and the "Intern Programme… for young people studying in the ICT field" (USA, 2004, p. 5), worthy interventions though these might have been.

The USA's pilot telecentre rollout almost immediately ran into difficulties. The very first telecentre only received its telephone line just in time to make the official launch, following what seems to have been a mix of foot-dragging and incompetence on the part of Telkom (Benjamin, 2001, p. 149). By August 1998, the USA's acting head Fikile Khumalo was to report that two of the initial six telecentres (Thaba Nchu – no electricity, and Winterveldt – equipment theft) were "not operational as of today" (1998).

It took a little longer for the extent of the problems to become apparent to the IDRC. Things reached crisis-point at the May 1999 launch of one of the IDRC-funded telecentres at a school in Bulwer, a small country town in the Midlands of KwaZulu-Natal. The event was variously described as a "circus" (Tina James, interview, 27 November 2014) and a "disaster" (Benjamin, 2001, p. 123). The telecentre had been claimed by the USA to be operational, but when the Minister arrived for the official launch, the USA staffer was still frantically trying to get phone lines reconnected (they had been used by the school principal, and then disconnected by Telkom for non-payment of the bill), and the IDRC's Tina James was unpacking computers from their boxes and setting them up (no-one present knew how to do this) (Tina James, interview, 27 November 2014)[418].

As a result of this fiasco, the IDRC instituted a formal audit into the telecentre programme, which uncovered widespread misreporting, maladministration and fraud. The malpractices thus exposed included:

- Inflated[419] and fraudulent tenders;
- Wasteful expenditure;
- Ghost workers;
- Lack of book-keeping and record-keeping;
- Theft and disappearance of equipment (Tina James, interview, 27 November 2014)[420].

The situation was deemed so serious that the IDRC called an urgent meeting with Director General Andile Ngcaba, at which it formally advised that the USA and its entire telecentre

[418] Benjamin (2001, p. 123) has a similar account, likely from the same source.

[419] For example, building work "carried out by an IT contractor with no building experience and charged out at [prevailing] IT rates".

[420] The audit, which was undertaken by an external consultant from Canada, has never been made public. Attempts by the author to source a copy from the IDRC have proven fruitless.

programme should be closed down. But nothing was done, and, as a consequence, the IDRC withdrew its funding in September 2000 (Benjamin, 2001, p. 123).

To be fair, James generously attributes much of the debacle to mere "incompetence" on the part of the staff at the Agency[421] rather than the kind of deliberate, collusive fraud that was later to surface. In her words: the USA staff, many of whom had been appointed on the basis of their trade union backgrounds, just "didn't have the right background; they didn't have the right skills; they didn't understand tender processes" (Tina James, interview, 27 November 2014).

In the meantime, the USA was steaming ahead with its telecentre rollout, apparently oblivious to the fact that it was legally *ultra vires*, and blind to the prevalence of corruption and maladministration. This was despite the cautions of its own acting head who had emphasised that the project was a pilot and had suggested some improvements (tellingly, however, he was silent on the corruption and maladministration) (Khumalo, 1998). Benjamin suggests that the USA was acting under duress from both DG Ngcaba and Minister Naidoo in this regard (2001, p. 99 & 123). Tenders were awarded to establish a further 35 telecentres in "townships, informal settlements and rural areas" by December 1999 (Ngubane, 1999)[422].

Reports that the telecentre project was in trouble began to filter through into the press (Eveleth, 1999), but the warning signs went unheeded.

International consultants (David Townsend & Associates) were also brought in to draft an ambitious five-year telecentre rollout programme. This plan, tabled in July 1999, proposed a more differentiated model, ranging from small-scale "Tele-shops" (to be contracted out to Vodacom, and based on its CST phone shops and the Grameen phone model), through "Mini-Telecentres"[423], up to top-of-the-range "Multipurpose Community Telecentres"[424] (DNTA, 1999a, pp. 13-14 & 35-37). The plan's emphasis on the more modest forms of telecentre -

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[421] Although there seems clearly to have been deliberate fraud on the part of those building and operating the telecentres.

[422] This was in addition to the 32 telecentres then in operation. The contracts were awarded to three (presumably local) companies (10 telecentres each) and, surprisingly, Royal Dutch Telecommunications (5).

[423] A modest micro-enterprise comprising up to 2 phone lines, one dial-up Internet-connected PC, and a multi-function printer / scanner / copier / fax.

[424] These were envisaged as a "medium to larger size business operation", with upwards of 6 phone lines and 6 PCs, dedicated fax and Internet access lines, high volume printing and copy facilities, and offering a variety of additional e-services, possibly including community broadcasting - in short, a substantial undertaking.

some 70% of its proposed 2128 telecentres (just over 400 a year) were to be tele-shops, with a further 16% to be mini-telecentres - likely did not sit well with the grandiose telecentre visions of government.

In the event, neither vision came anywhere close to being realised. By 2001, when a legislative amendment finally legitimised the rollout, a mere 65 telecentres had been set up. Benjamin's gloomy if realistic assessment of these revealed a dismal picture: nearly a third (32%) were no longer operating; nearly a fifth (18%) did not even have telephone access; less than a tenth (8%) enjoyed Internet access; and under half (47%) were functional, offering telephony and computer facilities (2001, pp. 127-129).

Figure 7.5: USA Telecentre, Mamelodi

Source: USA

The USA's annual report of around that time[425] gives no figure as to the number of telecentres rolled out, but does indicate the USA's determination to press ahead with the telecentre model, despite some of the problems it records - including burglaries, difficulties of technical support, lack of capacity and management skills (USA, 2002, pp. 10,11). Further, Telkom's high levels of pricing left little margin for profitability (Ngubane, 1999).

But the Agency pressed ahead. A National Telecentre Meeting was held in March 2002, resulting in another implementation plan[426], and an audit and evaluation of the telecentres was commissioned in October 2001[427] (USA, 2002, p. 10 & 13) - but was never published. It is also evident that the USA continued to spend intensively on telecentres - some R 23 million in 2000/1 and nearly R 4 million in 2001/2 (USA, 2002, p. 33).

Subsequent annual reports continue to cite numbers of telecentres rolled out: for example, 24 in 2003/4 (USA, 2004, p. 10), 50 in 2005/6 (USA, 2006d, p. 8), 14 in 2006/7 (USAASA,

[425] A number of the early annual reports of the USA, and later USAASA, do not survive. Correspondence between the author and USAASA suggests that not even the latter has copies.

[426] No record of the meeting or of the resultant plan survives.

[427] That report too was never in the public domain, and does not appear to have survived. A subsequent audit in 2006 /7 (USAASA, 2007, p. 33) seems to have suffered the same fate.

2007, p. 15), 1 in 2007/8 (USAASA, 2008, p. 10). However, the Agency's numbers game seems to have ceased from 2008/9, after which no further specific numbers are available.

Alongside the rollout of telecentres the USA was also engaged from very early on in the deployment of school and university computer laboratories, which went under the funky title of 'cyber-labs' (Benjamin, 2001, p. 123; USA, 2002).

The telecentre deployment was further complicated by the introduction of a number of competing initiatives. These included: a 1998 Post Office programme to roll out self-service Internet-connected kiosks, called Public Information Terminals (PITs)[428]; as well as a Multi-purpose Community Centre (MPCC) [429] programme via the oddly-named Government Communication and Information System (GCIS) (RSA, 2000b). The GCIS MPCCs were later renamed 'Thusong Community Service Centres' and combined with the Agency's telecentre programme (USAASA, 2007, p. 7)[430]. The Agency's telecentre deployment also underwent a number of name changes. Aside from 'Thusong Service Centres', other terms in use in the documentation include 'digital hubs[431]' and 'community access centres', all of which were subsumed under a programme for the "Rapid Deployment of Public Access Facilities in Under-Serviced Areas" from 2009 (USAASA, 2009c, p. 51). The shifts in nomenclature may have been occasioned by the rapid turnover of personnel at the Agency (see discussion in a later section), could also have been motivated by a desire to camouflage the manifest failures of the programme, and possibly later to cover up corruption and the looting of the Fund (see discussion below again).

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[428] Developed jointly by the DoC and the SA Post Office, the PITs were connected to the Internet, pre-loaded with local government information, and rolled out in Post Offices country-wide. They were seen by some as a rival to the telecentre model. By 2008 some 825 had been rolled out (James, Finlay, Jensen, Neville, & Pillay, 2008, p. 14). Despite a 2001 amendment adding them to the possible list of USF beneficiaries (RSA, 1996c, p. Section 66 (1) (e)), they were never funded by USAASA.

[429] The ComTask report to which they trace their origin refers to "Multi Purpose Information Centres" (1996, p. 85), but the more current term "Multi-Purpose Community Centres" was adopted during implementation (RSA, 2000b). , The first recorded use of the term 'Thusong' (which means a 'place of help' in Sotho) was some years later in 2006 (Presidency, 2006). 185 such centres were listed as being in place as at January 2015, a quarter of them in the country's Gauteng industrial heartland (Thusong, 2015), which rather undermines the notion of providing access to ICT services for under-serviced areas and communities.

[430] It seems to have been agreed that the USA would establish telecentre facilities within each Thusong Centre and promote the use of telecentre facilities to access government services and information (Sigidi & Seti, nd).

[431] These were introduced as "advanced" telecentres from 2005, with the launch that year of the first three Community Digital Hubs (USA, 2006d).

Alongside the shifting vocabulary, there were ongoing efforts on the part of the Agency to remedy the problems of the programme. A "Rehabilitation of Telecentres Programme", was launched in 2003/4, which saw the installation of new equipment in some 20 telecentres (USA, 2004, p. 11). Rehabilitation of existing telecentres and cyber-labs was still continuing to engage the Agency as late as 2010, even as it sought to hand over its responsibility for them to other entities (USAASA, 2010, p. 12).

As noted previously, the various reports emanating from the USA (and later USAASA) are very vague, often inaccurate, even evasive, when it comes to reporting on the extent of the telecentre rollout. Table 7.6 below gives the author's best estimates for the years for which figures are available or can be extrapolated. Even assuming all telecentres were operational, the rollout was proceeding at a glacial average rate of some 10 telecentres a year.

Table 7.6: Rollout of USA Telecentres and Cyber-Labs

	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	2006/ 2007	2007/ 2008	2008/ 2009	2009/ 2010
Telecentres	65	81	68	92	111	138		155	154	154
Cyber-Labs			21	67	191		150	245	244	362

Sources: Annual and other reports of USA & USAASA

The most recently available estimate counts 103 telecentres and 186 cyber-labs, but cites no sources for these figures (USAASA, 2014b, pp. 1v1-63). Taken together these figures suggest a rollout drastically short of the original five-year target of 2 128 - despite more than 15 years having elapsed.

The programme has continued to be dogged by allegations of corruption and mismanagement. Former USAASA Board member Shaun Pather describes how a nest of maladministration, misappropriation and corruption - many of the same issues that the early IDRC audit had uncovered, now writ large and on an organised scale - was uncovered in mid-2011 during his tenure (interview, 27 March, 2015). Suspicions were aroused by the inflated prices on recommended bids for the 'Rapid Deployment Project'. Random site visits revealed that most of the telecentres were "empty shells" with a "few tables". Only two of the telecentres, Impendle in rural KwaZulu-Natal, and Ulwazi in the New Crossroads informal settlement close to Cape Town, were reported to be working. Both had been amongst the flurry of telecentres and cyber-labs opened with public fanfare by the Minister and his deputy

in the run-up to the May 2011 local government elections (Padayachie, 2011; Bapela, 2011)[432]. Similar problems appear to have surfaced at around the same time in relation to the uMsinga 'broadband project', which had been intended as a "flagship to demonstrate that with community support and with appropriate technology, you could make a difference" (Shaun Pather, interview, 27 March 2015). The appointed contractor, Umzinyathi Telecommunications[433], appears to have been paid much, but delivered little in the way of functioning telecentres.

In consequence a number of Board members approached Minister Padayachie, who agreed to a forensic audit[434], which led in turn to the suspension, dismissal and the laying of criminal charges against a number of USAASA staff allegedly implicated in corruption to the tune of some R 30 million (Malefane & Ncana, 2011; USAASA, 2013b, p. 34)[435].

Despite the forensic audit, its findings and the consequent sanctions against USAASA staff implicated, a similar set of allegations of corruption was to surface barely two years later, this time from Member of Parliament Bantu Holomisa. In an open letter to President Zuma, Holomisa alleged that Mthinte Communications had been dramatically overpaid (an initial R 7 million contract had been improperly escalated to over R 33 million) and had equally dramatically under-delivered (with only 9 of the contracted 120 telecentres in operation) (Holomisa, 2013).

Holomisa went on to allege "ethnic" bias in the project, pointing out that almost all of the Rapid Deployment telecentres were to be located in the home provinces of the Minister and the President.

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[432] Others included cyber-labs at: Maphophoma Primary School, Nongoma (9 May 2011); Mzingwezwi Secondary School, Ndwedwe (10 May 2011); Msinga High School, Msinga (13 May 2011). Msinga, which seems to have been a particularly favoured destination for USAASA's largesse over the years, also scored a low-power television and radio relay transmitter.

[433] Otherwise known as Umzitel. They were a "former USAL", which had been awarded a licence in Umzinyathi District Municipality, and had been "appointed by USAASA, to implement the broadband network in uMsinga" (DoC, 2011).

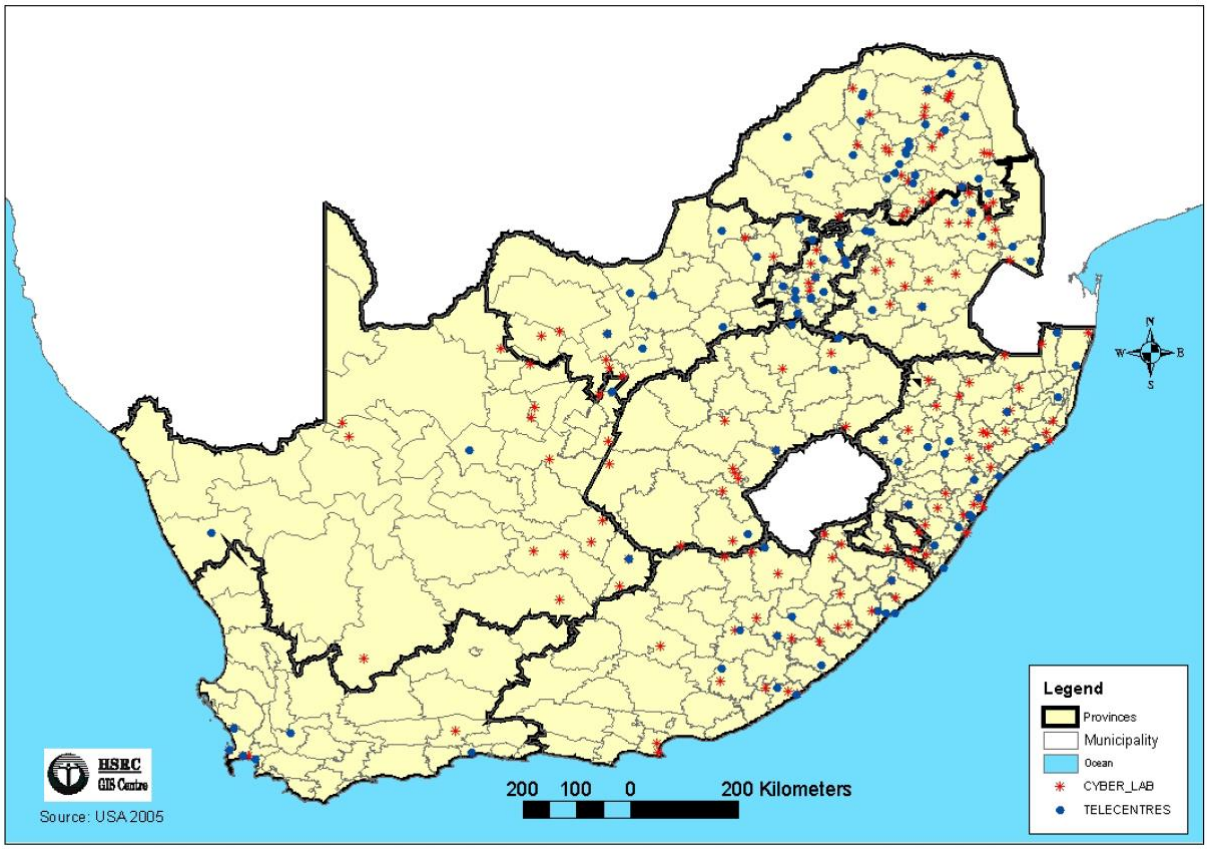
[434] Sadly, the forensic audit was never part of the official public record. Repeated efforts by the author to trace and secure a copy have proven fruitless. All that exists in the public domain is a Sunday Times report on the preceding internal audit report.

[435] The corruption allegations will be examined in more detail in a later chapter dealing with the governance of the Agency. The failure to deliver telecentres is what is at issue at this point.

The resultant furore led to further forensic investigations (USAASA, 2013b, p. 106) and the initiation of an investigation under the Special Investigation Unit (SIU) (RSA, 2014b). One of the three specific areas[436] targeted by the SIU investigation was the "Rapid Deployment of Public Access Facilities Programme", in other words the telecentre rollout outlined above. The investigation was to cover both the Rapid Deployment tender process and whether any "unauthorised, irregular or fruitless and wasteful expenditure" had been incurred by the Agency. As of early 2017, the SIU lists the status of this investigation as "Final Report Being Prepared" (SIU, 2017).

The spatial distribution of these centres suggests that, as in the case of the CSTs, delivery was concentrated close to the country's major urban centres, as can be seen from the map below (Figure 7.6 below).

Figure 7.6: Spatial Distribution of Telecentres & Cyber-Labs[437]



Source: (USA, 2006b, p. 15)

[436] The other two areas will be discussed in relation to the Agency itself in a later chapter.

[437] The map dates from 2006, and, therefore, includes only some 300 telecentres and cyber-labs.

It is, therefore, hard to describe the telecentre programme as anything other than an abject failure. The Agency's own report questions whether the telecentre model is an appropriate vehicle for the provision of access to telephony, and goes on to describe the entire intervention as "misdirected" (USA, 2005, pp. 52-53 & 58). Similarly, Benjamin's early (2001) conclusion that the first telecentres were neither effective nor sustainable - undermined by lack of skills and capacity, by poor financial management, and beset by technical challenges and theft - is echoed in more recent studies. James describes working on a 2007 audit of telecentres in KwaZulu-Natal which

> *showed that 99% of the IDRC funding had gone to waste, that hardly a single USA telecentre was still functioning. Most of them were completely dysfunctional or closed down, but there were still people working there, being paid by the USA, with nothing to do* (interview, 27 November 2014*).*

Similarly, Attwood and Braathen suggest that the percentage of operational telecentres may be very low (Attwood & Braathen, 2010)[438]. Gomez, Pather and Gosono conclude equally gloomily that little has changed since Benjamin's study, which in turn leads them to question the viability of the telecentre model itself (2012). A number of academic and other studies over the years have echoed similar concerns (Stavrou, Whitehead, Wilson, Seloane, & Benjamin, 2001; Parkinson, 2005, pp. 29-30; Hulbert & Snyman, 2007; Sumbwanyambe, Nel, & Clarke, 2011; Bate, 2014, pp. 240-258) over what UAS researcher Andrew Dymond has described as "un-telecentres… the famous telecentres without any tele connection" (personal communication, 20 November 2014).

The causes for the failure of the Agency's telecentre programme are manifold and complex. A detailed analysis of them is beyond the scope of this enquiry. A number of broad problems and challenges, however, are worth noting.

The first of these likely lies on the slippery slope between pilot project and full-scale implementation. As James points out, the "original intention that *pilot* telecentres would be run by the USA, was overtaken by the intention to launch a full-scale national rollout plan" (2001, p. 79). Under pressure from the Minister and the Director General for urgent, high-profile demonstration telecentre projects (Aki Stavrou, interview, 17 October 2014; (Benjamin, 2001)), the USA never paused to evaluate in proper detail the lessons of the initial

[438] Only 35% of 140 telecentres on the USAASA database were contactable by telephone, and not all of those were operational, suggesting that as few as 29% may be functional.

rollout, some of which were very early apparent. The 1999 Telecentre Implementation Plan does make passing reference to the earlier pilot implementation, but makes no attempt to draw any lessons from this. Nor do its various models, sensible though they are, seem informed accordingly. As a result, there was no viable, sustainable telecentre rollout model, based on a more realistic, less "sophisticated" (James, 2001, p. 79), and hence more scalable approach.

Possibly in order to forestall the direct involvement of the Agency in telecentre rollout, and in order to minimise some of the problems uncovered in the IDRC audit, when the Telecommunications Act was amended in 2001, a provision was introduced requiring "universal access projects" under the Fund to be awarded by "public competitive" tender (RSA, 1996b, p. Section 67A).

Lack of financial viability of the individual telecentres was clearly also a serious problem. For example, Benjamin estimates that barely a "quarter appeared to have a chance of sustainable operation" in the medium term (2003, p. 7). This clearly undermines the assumption of the USA appears that most would become flourishing small businesses (Bate, 2014, p. 241). The problem appears to have been compounded by the fact that the majority of the telecentres were 'community-owned', a structure that mitigates against entrepreneurship and business acumen. And, as Benjamin's team had earlier noted, "The entrepreneurial instinct is a strong force in making a centre be [sic] run effectively" (Benjamin, Stavrou, McCarthy, & Burton, 2000, p. 26).

The adoption of a community ownership approach, in the face of countervailing evidence and recommendations available at the time of the success of the Vodacom entrepreneurial model (Benjamin, Stavrou, McCarthy, & Burton, 2000), is perhaps curious. It is perhaps a spill-over of the stakeholder-based political approach prevalent at the time and noted in a previous chapter. But it is likely that the influence of those driving the rollout from the USA at the time, many of whom had come from the labour unions and the SA National Civic Organisation, also played a role. The project was initially driven by Tshepo Rantho, a community radio activist, and later by Lefty Manyokolo, a former unionist, who was highly mistrustful of the private sector at the time (Tina James, interview, 27 November, 2014). Correspondingly, many of the telecentre managers appeared to have been "politically chosen" (Aki Stavrou, interview, 17 October 2014).

Lack of administrative, technical and managerial skills seems also to have been a challenge. This was identified by Benjamin, both as a cause of telecentre failure and as a contributory

factor in telecentre success (2003, p. 4 & 8). Stavrou concurs that the lack of entrepreneurial skills was a basic problem: "There was no management training, no basic accounting training, no control over stocks" coupled with a "serious lack of marketing skills, understanding… how to promote telecentre services" (interview, 17 October 2014). Similar concerns about the need for an active and skilled manager, who can give leadership and act as a champion, continue to surface (Attwood, Diga, Braathen, & May, 2013, pp. 9-11). In addition, training was often poorly timed: "in some cases, training took place up to one year before the telecentre was ready which meant that most of the learning had been forgotten" (Tina James, personal communication, 31 March, 2017). Even the annual reports of the Agency in the early period are replete with references to training and the need for training provision to telecentre staff and managers (USA, 2002, p. 11).

A range of technical support problems plagued the early telecentres, in particular lack of access to electricity and the availability of phone lines (Benjamin, 2003, p. 4 & 7). As noted in an earlier study, there are also considerable difficulties in securing technical support for ICT equipment in remote, rural communities (Benjamin, Stavrou, McCarthy, & Burton, 2000, p. 26). This was coupled by the ongoing lack of co-ordinated planning between the USA's telecentre implementation programme and Telkom's own rollout plans (Tina James, personal communication, 31 March, 2017), placing many telecentres in areas without the prospect of access to telephony. Similar problems - such as inadequate "power supply" and lack of proper "connectivity" - continue to plague telecentres today, according to researchers in KwaZulu-Natal, who also identify maintenance of hardware and software, and lack of ability to manage suppliers as ongoing key factors in telecentre failure (Attwood, Diga, Braathen, & May, 2013, p. 9).

Undoubtedly the penchant of the USA for getting involved in the actual delivery of telecentres on the ground - an area for which its staff was ill-equipped and in which they had little if any experience (Tina James, interview, 27 November 2014) - contributed to the early fiascos. The role of the USA in relation to the USF was clearly intended to be one of the management and disbursement of funds, rather than that of implementation. Consultants engaged in 'institutional strengthening' for the Agency at the time were equally forthright:

> *It is not the job of the USA to implement telecentres nor to do any other type of specific project implementation, unless it is on a pilot project basis. Long terms [sic] project implementation by the USA is contrary to the spirit of the*

Telecommunications Act and inconsistent with the use of the USF resources. (DNTA, 1999b, p. 22)

Worse, undertaking telecentre implementation landed the Agency with the responsibility for ongoing support and maintenance of the centres, and hence with the need, alluded to above, to undertake 'rehabilitation' on an ongoing basis. A belated recognition of this fundamental error in approach (USA, 2005, p. 93) lay in all likelihood behind USAASA's desire to hand telecentres over to other entities from 2009.

Finally, corruption was clearly a factor in the ineffectiveness of the telecentre rollout. James, as noted above, suggests the corruption was less on the part of the Agency and its staff, and largely on the side of those implementing and managing the centres (compounded by the inability of USA staff to manage tender procedures and project implementation. However, corruption and misappropriation of monies from the Fund seem to have been much more endemic and actively driven by Agency staff, as can be seen from the 2012 forensic audit and the allegations made by opposition parliamentarian Bantu Holomisa during the 'rapid deployment' phase of telecentre rollout (2013). This will be discussed in far greater detail in the section below dealing with the USA and its functioning.

7.8 Needy Persons

In contrast to USAASA's gung-ho approach to telecentres, the provision of subsidies to 'needy persons' remained mired in bureaucratic inefficiency and overlapping mandates for some twenty years.

It seems clear that government intended support for the needy in securing access to telecommunications services was intended to be the key priority for expenditure from the USF - Minister Naidoo had, as previously noted, moved very early to direct that 99% of expenditure from the Fund should be devoted to supporting needy persons (DoC, 1999b). The responsibility for defining the categories of needy persons, however, lay with the regulator, SATRA at the time. SATRA in turn commissioned consultants to make recommendations on how to proceed. The resultant draft report (Stavrou & Mkhize, 1997) was issued for public comment in December 1997 (SATRA, 1997b), and finalised early the following year. The final document analyses levels of poverty, telecommunications penetration and affordability across South Africa, concluding, for instance, that "39% of all households are unlikely to be able to afford a telephone in the near future" (Stavrou & Mkhize,

1998, p. 22). The report goes on to make a series of recommendations covering: people with disabilities; the aged; households that can't afford to pay their bills; schools, pre-school and adult education centres; hospitals and clinics; multi-purpose community centres and telecentres. It is, however, leery of committing large sums of money from the USF to support poor households and individuals.

Subsequently, the USA initiated a separate process to determine definitions for universal access and universal service appropriate to South Africa. Bizarrely, as previously noted, these two definitions fell under the purview of the USA, while the that of 'needy persons', clearly intimately related, was assigned to SATRA (RSA, 1996b, p. Sections 59(2) & 66(4)). Such a complicated web of interlocking responsibilities between the Minister, the regulator and the Agency can only have served to muddy the process.

Be that as it may, the process was initiated in mid-1998 through the establishment of a joint task team, bringing together representatives of both the USA and SATRA. A preliminary discussion paper was then published (USA, 1998), followed by a second discussion paper early in 1999, which incorporated feedback from a series of public hearings across the country (USA, 1999a). This, in turn, resulted in a set of recommendations to the Minister in late 1999 (USA, 1999b). The three documents all do make reference to the question of 'needy persons', but are increasingly less specific, presumably because this was an issue outside the mandate of the USA, which was leading the process. The first discussion paper deals with:

- the challenges of affordability;
- the problem of 'churn'[439];
- the categories of 'needy persons' identified by SATRA as eligible for support (interestingly, omitting the institutional categories);
- the question of whether telecommunications is a "right" or a "privilege";
- a series of tiered options for "Universal Service Packages" to ensure users do not "'fall out of' the network", ranging from a "full basic package", through a "limited basic" package (excluding "long distance" and "toll charges"), down to an "essential services" package (incoming calls, plus only emergency and operator outgoing calls);
- options for "flexible billing" and "low user schemes" (USA, 1998, pp. 13-17).

[439] Telecommunications subscribers discontinuing their subscriptions, usually because of their inability to afford the service.

Most of these issues were again picked up in the second discussion paper, which, however, floated a very limited set of recommendations, covering only: the elimination of installation charges; the guarantee of lifelong to the network, with staggered disconnection in cases of inability to pay; the introduction of the "universal service packages" touched on above (USA, 1999b, pp. 18-21). These three issues were again picked up in the final set of recommendations to the Minister, albeit in terms that fell disappointingly short of specific, concrete proposals (USA, 1999b, pp. 9-11). All three documents are hamstrung by their inability to deal fully with the definition of 'needy persons', because of the legal tangle referred to above, but frequently refer to the SATRA study by Stavrou and Mkhize. The final submission to the Minister deals only with recommended definitions for 'Universal Access' and 'Universal Service', along with a fairly general discussion of the question of 'Affordability'.

The SATRA process was never formally and publicly completed, despite a public consultation being held in early 1998 (Chalmers, 1998). After SATRA was subsumed under the new, converged regulator, ICASA, a regulation dealing with "categories of needy people" was sent to the Minister for approval, but was returned to be revised (ICASA, 2001b, p. 22). Sadly, the draft regulation was never part of the public record. It is unclear on what basis it was rejected by the Minister. Neither ICASA nor the Minister appear to have taken any further steps to complete the process, leaving 'needy persons' in an ongoing state of limbo.

The question of definitions for universal access and service lingered on the agenda of the USA, albeit without any concrete attempt to have them finalised. A subsequent annual report includes a poorly conceptualised and badly worded set of "provisional" definitions, ostensibly "subject to extensive consultation with relevant stakeholders and approval by the Minister" (USA, 2002, p. 6). 'Universal Service' is defined as the "availability of a reliable connection to a communication network that enables any form of communication to and from any part of South Africa", while 'Universal Access' is defined as the "ability to use a communication network at a reasonable distance and at an affordable price, which [sic] provides relevant information and has the necessary capacity" (USA, 2002, p. 6).

The question was, however, picked up again a good few years later - this time by USAASA. In 2005, in the run up to the adoption of the Electronic Communications Act, the Agency commissioned a series of studies, on which it spent a little over R 3 million, covering its role and various aspects of the sector (USA, 2006d, p. 9). One of these looked at the question of the affordability of telecommunications services and the question of 'needy persons' (USA,

2006a)[440]. It is again not clear what triggered this study, since the Minister was to retain responsibility for 'needy persons' under the soon-to-be-passed Electronic Communications Act (RSA, 2005, p. Section 88 (4))[441].

Completed in early 2006, the study is a relatively generic (and sometimes incorrect[442]) desk analysis of universal access and service in South Africa, containing a series of generalised recommendations, covering affordability, definitions of universal access and universal service and under-serviced areas, 'needy persons' and the mandate of the Agency in general. It defined low-income users as those earning less than R 1 800 per month, and proposed the following definition of 'needy persons':

> *low-income users that cannot obtain communication services at commercial rates - including vulnerable groups of users such as the elderly, those with disabilities, or those with special social needs and users to whom the provision of communication services is not commercially viable (USA, 2006a, p. 60 & 58)*

The report does not, however, envisage the actual payment or provision of subsidies directly to 'needy' individuals or households, talking instead of 'competitive bidding' for subsidies from the Fund, in other words, a project-based supply-side approach. This was echoed in the Agency's strategic plan at the time which envisaged rolling out 500 "pilot subsidies" in 2006/2007 (USA, 2005, p. 49).

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[440] The others covered the level of ICT penetration in SA (USA, 2006b), the mobile CSTs (USA, 2006c), the work of the Agency itself (USA, 2005), and, bizarrely in the light of the long-standing process towards the new Act, an analysis of the extent to which the objectives of the soon-to-be-repealed Telecommunications Act had been achieved policy (Schofield & Sithole, 2006). The report into affordability and 'needy persons' (USA, 2006a) appears to have been updated some years after its completion since it contains figures for contributions to the USAF that would only have been available to the Agency in 2009.

[441] It was only with the 2014 amendment to the ECA that USAASA was formally brought into the process, and is now required to make recommendations regarding 'needy persons' every two years to the Minister, who in turn gazettes the categories of needy people to whom assistance may be given and the persons to whom subsidies may be paid. By that time 'needy persons' had been in need of a definition for nearly 20 years. USAASA is currently busy with a third iteration of these crucial definitions, prompted by the need to provide subsidised set-top boxes to poor households as part of South Africa's migration to digital terrestrial television.

[442] For example, it states that 'access deficit charges' and 'network externality surcharges' have been applied in South Africa (USA, 2006a, pp. 71-2) .

The various reports appear to have been canvassed at a stakeholder conference or seminar in mid-2006[443], and were subsequently consolidated into a single discussion document, by local consultancy BMI-T (Sipho Mngqibisa, personal communication, 14 February 2017). The resultant document (USAASA, 2008d) was issued two years later[444] as part of a formal public 'notice-and-comment' procedure. The process was a rather convoluted one, but was characterised by extensive and carefully recorded stakeholder input. It included both draft (USAASA, 2009a) and final (USAASA, 2009b) position papers, interspersed by a two-day public workshop in early 2009, before a formal recommendation and implementation plan was tabled to the Minister (USAASA, 2009e). The recommended definition of 'needy persons' was a little more implementation-oriented than its 2006 version:

- *persons (either collective or individual) who qualify through the application of a means test, considering a combination of factors, such as financial means, disability, age or other vulnerabilities:*
    - *devised by USAASA; or*
    - *devised by one or more public service organisations or institutions, which are selected for this purpose by USAASA (USAASA, 2009e, p. 7)*

Some of the debate during the process centred around which criteria to be considered when determining whether someone is 'needy', the use of a financial 'means test', as well as how the subsidies would be implemented and processed. Reference to geography or location as a criterion was omitted from the final recommendation, despite not have been a contentious issue. Likewise, specific reference to the specific services in relation to which a person is to be considered 'needy' (ie electronic communications and broadcasting) was omitted, presumably because of the voiced intention by the Minister to fund subsidised set-top boxes (STBs) for the migration to digital broadcasting through the Fund (Vecchiatto & du Toit, 2008).

[443] USAASA's relevant annual report makes several references to a USAASA conference, *sine die*, as well as a 'convergence seminar' run by Forge Ahead consultants in August 2006 (USAASA, 2007, p. 36). These are likely the same, single event, seemingly unreported in the press.

[444] The wheels at USAASA rotate seemingly at glacial speeds. A questionnaire was issued by BMI-T via USAASA to stakeholders in early 2008, as the ice began to melt (USAASA, 2008a).

Illustrating a degree of tardiness hard to surpass, the Minister[445] sat on the recommendation for over a year, before finally gazetting a set of definitions (DoC, 2010). Inexplicably and bizarrely, 'needy persons' (along with 'under-serviced areas') was omitted from the Gazette, despite being the specific responsibility of the Minister (unlike 'under-serviced' areas, which is assigned to ICASA).

As a result of this, South Africa has never, in over 20 years, had a formal definition of 'needy persons'. No subsidies for ICT services have therefore ever been paid out to those unable to afford access to ICT services.

It is only very recently that anything approaching a definition, or the payment of subsidies, has materialised - ironically in relation to broadcasting rather than the originally envisaged telecommunications services for those unable to afford access. The rollout of subsidised set-top boxes (STBs) for digital terrestrial television which began in mid-2016 bases itself explicitly on the ground of 'needy persons'. USAASA's provision of subsidised STBs to poor households finesses the absence of a formal definition by stating that a "household qualifying for a STB subsidy is deemed a needy person" under the ECA (USAASA, 2014f, p. 5). The draft regulation goes on to propose a sliding scale of subsidies covering households up to a maximum monthly income of R 3 200[446]. Strangely, although it is already being implemented (McLeod, 2016a), the draft regulation has never been finalised[447].

There have been a limited number of recent developments in relation to the question of 'needy person'. The ICT Policy Review Panel examined the question and, in the light of the foregoing, recommended its replacement with the term "fund beneficiaries" (DTPS, 2015, p. 40), a recommendation that was omitted from the subsequent White Paper. At around the same time, the Agency claims to have initiated its own review of universal access, universal service, under-serviced areas and needy persons (USAASA, 2016a, p. 22), although the "Consultative Document on the policy review of Universal Service, Universal Access, Under-Serviced Areas and Needy Persons" remains outside the public domain.

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[445] General Siphiwe Nyanda was the incumbent during much of the process. It was shortly after he was replaced by Roy Padayachie in a Cabinet reshuffle that the regulations were issued.

[446] As such, STB subsidies should benefit nearly 4,7 million households, just over 37% of all TV-owning households (data from spreadsheet supplied to the author by Stats SA, 25 August 2015).

[447] This may be because the ECA requires USAASA only to make recommendations to the Minister, who in turn must gazette the resultant determination (RSA, 2005a, p. Section 88 (4)).

7.9 Schools and Colleges

Support from the Fund to "public schools and public further education and training institutions" in order finance the "procurement of internet services and equipment" under the e-rate[448] was added to the scope of the USF in terms of the 2001 amendment to the Telecommunications Act (RSA, 1996b, p. Section 66 (1) (c)). This provision was left essentially unchanged with the passage of the 2005 Electronic Communications Act. The definition of eligible "schools and colleges" was, however, slightly expanded to include many "independent schools and private colleges", while the range of applicable procurement areas was made more technologically neutral ("broadcasting and electronic communications services and access to electronic communications networks") and their linkage to the e-rate was removed (RSA, 2005, p. Section 88 (1) (d)). Note that the support thus envisaged differs from the provision of 'cyber-labs' previously discussed.

The Agency appears to have begun providing subsidised access to schools from around 2003 (alongside the provision of computers and training to some 69 teachers) (USA, 2004, p. 9). Expenditure on Internet access and services for schools and colleges rose rapidly, topping R 9 million in 2004/2005 and reaching over R 20 million in 2005/2006 (USA, 2006d, p. 14). The Agency subsequently spoke of the important work "being done with ICASA and the operators to integrate the e-rate and USAASA subsidies in an ambitious programme to connect the schools, beginning with those schools in the lowest quintiles" (USAASA, 2007, p. 7). The programme, which covered 89 subsidised sites by 2007, often seems to have overlapped with the Agency's 'cyber-labs' programme, and with the refurbishment of old PCs (243 in 2006/2007), as well as the provision of e-mail and the promotion of open-source software in schools (USAASA, 2007, p. 17). In 2007/2008 it was extended to some 18 Further Education and Training colleges (USAASA, 2008, p. 22). The provision of subsidised access to schools seems to have been discontinued in 2010, when all such connectivity was handed over to the Department of Education (USAASA, 2010, p. 12), and to colleges in 2013.

By then a total of some R 103 million had been spent on such subsidised access, with little long-term benefit to show. Strangely, the Agency appears never to have engaged with SchoolNet South Africa, which had been launched in 1997 as a national umbrella body for

[448] The 'e-rate' was a mandated 50% discount on ISP charges applicable to such educational entities, also introduced in the same set of amendments to the Act (RSA, 1996c, p. Section 45 (3)). It will be discussed elsewhere.

schools and teachers involved in ICTs and education, in relation to either its 'cyber-lab' or ISP subsidy programmes. The Agency's expressed desire to investigate "possible means to create a national schools network" (USAASA, 2008, p. 8) suggests, at best, a failure to co-ordinate with SchoolNet South Africa. Equally odd is the absence of any research study by either USAASA or its parent Department to assess the effectiveness and impact of this multi-million-rand intervention.

7.10 Support for Licensees

Two sections of the legislation provided for the Fund to be utilised in support of the provision of telecommunications infrastructure. The 1996 Act provided for financial support to Telkom (or other licensees) for the "extension of [their] telecommunication service to [under-serviced] areas and communities" in order to meet any universal-service obligations imposed via their licences (RSA, 1996b, p. Section 66 (1) (b)). No subsidies falling under this category of funding were ever paid to any licensee, despite the Agency's own review noting that it had the capacity to do so (USA, 2005, p. 50).

When Under-serviced Area Licensees (USALs) were introduced via the 2001 amendment to the Act[449], the provision of subsidies to them from the Fund took place via the addition of a new category covering "small businesses and cooperatives" providing telecommunications services in under-serviced areas (RSA, 1996b, p. Section 66 (1) (f))[450]. The two categories were later joined under a single proviso in the 2005 Electronic Communications Act, which introduced a technology-neutral (telecommunications) licensing typology, and simply spoke of subsidies for "financing the construction or extension of electronic communications networks in underserviced areas" (RSA, 2005, p. Section 88 (1) (b)).

The provision of subsidies to the USALs, as provided for in the amended Telecommunications Act, was part of the planning discussion with ICASA, the Department and the Agency from the outset (Gillwald, 2002a, p. 11; AVP, 2002, p. 9). The subsidy model was initially somewhat inchoate, with the USA initially appearing to envisage direct subsidies to local bidders to "assist

[449] See next chapter for a full discussion of the USAL experiment.

[450] Interestingly, the licensing category itself (RSA, 1996c, p. Section 40A) only makes mention of "small businesses".

people from these [under-served] communities to participate fully in these licences" (USA, 2002, p. 15)[451].

A draft approach, gazetted by the Agency the following year, floated a combination of two models, phrased with a degree of grandiloquence that borders on the breath-taking, viz:

- *Subsidised interest, long term, significantly subordinated, ZAR 5 million, quasi equity loans with a 50% fully subsidised grant component for severely economically disadvantaged potential shareholders;*
- *Subsidised, medium term, significantly subordinated, term limited, amount limited, ZAR 10 million capital guarantees to development finance institutions and commercial banks (USA, 2003a, pp. 5-6)*.

Essentially what was being proposed was a combination of soft loans (part grants with equity rights) and capital guarantees underwriting bank loans.

By the time the subsidy was ready to be implemented, the model had been considerably simplified into a R 15 million grant per licensee, spread over three years, and subject to rollout targets being met[452]. In 2004 the Agency reported that "R50 million [had] been allocated to subsidise successful bidders for Under-serviced Area Licences, totaling [sic] R5 million per licensee over three years" (USA, 2004, p. 7). A subsequent explanatory memo issued by the Minister makes it clear that the subsidy thus comprised R 15 million per licensee from the Fund, spread over three years, and "paid annually only on satisfactory roll-out of… infrastructure" (Matsepe-Casaburri, 2005, p. 5). This provision was formally carried through to the respective USAL licences (ICASA, 2004b, p. Section 8.4).

Agreements were subsequently signed with each of the USAL licensees, covering the R 15 million, but without specifying any specific conditionality relating to years two and three (Thornton, 2006, p. 6)[453]. Each of the first 7 USALs accordingly duly received their first tranche of R 5 million, which appears to have been the primary source of funding in almost all cases (Thornton, 2006, p. 10). Of the seven, only two (Amatole Telecommunications and Bokone

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[451] An approach perhaps reflective of a degree of syndicalist naiveté - although the Act does refer to "cooperatives". .

[452] The final subsidy guidelines appear never officially to have been gazetted. Thornton and her associates suggest they were simply communicated to the Minister as a final post public consultation report (Thornton, 2006, p. 6). They suggest (correctly) that the USAL subsidies did, in fact, require a formal determination in terms of Section 66 (2) of the Telecommunications Act to be legally valid.

[453] Copies of these agreements were clearly given to Thornton's team, but do not form part of the public record.

Telecoms) appear[454] to have received the full R 15 million subsidy, and only a further two (Bokamoso Consortium and Kingdom Communications) appear to have received anything beyond the first instalment. In total a little over R 61 million (out of a possible R 105 million) was paid out to the first 7 USAL licensees (see Table 7.7 below). No subsidies appear ever to have been paid out any of the USALs subsequently licensed in later phases of the experiment.

7.11 Useless Service Fund?

Table 7.7 below presents expenditure from the Fund over a 15-year period from 2001 to 2017, as accounted for by the Agency.

Table 7.7: Universal Service Fund Expenditure[455]

Miscellaneous Expenditure (incl audit fees)		**R 13 662 000**
R&D		
	Needy Persons Definitions	R 3 159 000
	National Strategy / Standard Operating Manual	R 8 069 000
	Other R&D	R 5 881 000
	Total R&D	**R 17 109 000**
Telecentres		
	Miscellaneous expenses	R 9 627 514
	Consultants	R 28 595 880
	Subsidisation of capital good & services	R 21 776 064
	Telecomms Licensees	R 3 921 000
	Communities (Telecentres)	R 80 493 000
	Access Centre Handover Programme	R 38 010 000
	Broadband Infrastructure Subsidies	R 122 454 000
	ICT Rapid Deployment	R 99 923 000
	Total Telecentres	**R 404 800 458**
Schools & FET Colleges		
	Schools (Cyberlabs)	R 94 419 000
	FET Subsidies	R 59 226 000
	Total Schools & FET Colleges	**R 153 645 000**

[454] We are dependent on the annual reports of the Agency and financial statements of the Fund for subsequent information on amounts paid to the USALs, since no further independent assessments were ever undertaken.

[455] Various, viz: (USA, 2002; USA, 2004; USA, 2006d; USAASA, 2007; USAASA, 2008c; USAASA, 2009d; USAASA, 2010; USAASA, 2012d; USAASA, 2013b; USAASA, 2014d) (USAASA, 2015b; USAASA, 2016b). Categorisation of expenditure follows line items in the various annual reports, except where several smaller items have been aggregated under 'miscellaneous' expenditure.

USALs		
	Amatole Telecoms	R 15 000 000
	Bokamoso	R 5 464 463
	Bokone	R 15 000 000
	Ilizwi Telecommunications	R 5 000 000
	Karabo Telecoms	R 5 000 000
	Kingdom Communications	R 9 900 054
	Thinta	R 5 000 000
	Promotion & launches	R 302 000
	Total USALs	**R 61 616 194**
DTT		
	Digital Terrestrial Television	R 79 924 000
	Total DTT	**R 79 924 000**
TOTAL		**R 730 126 652**

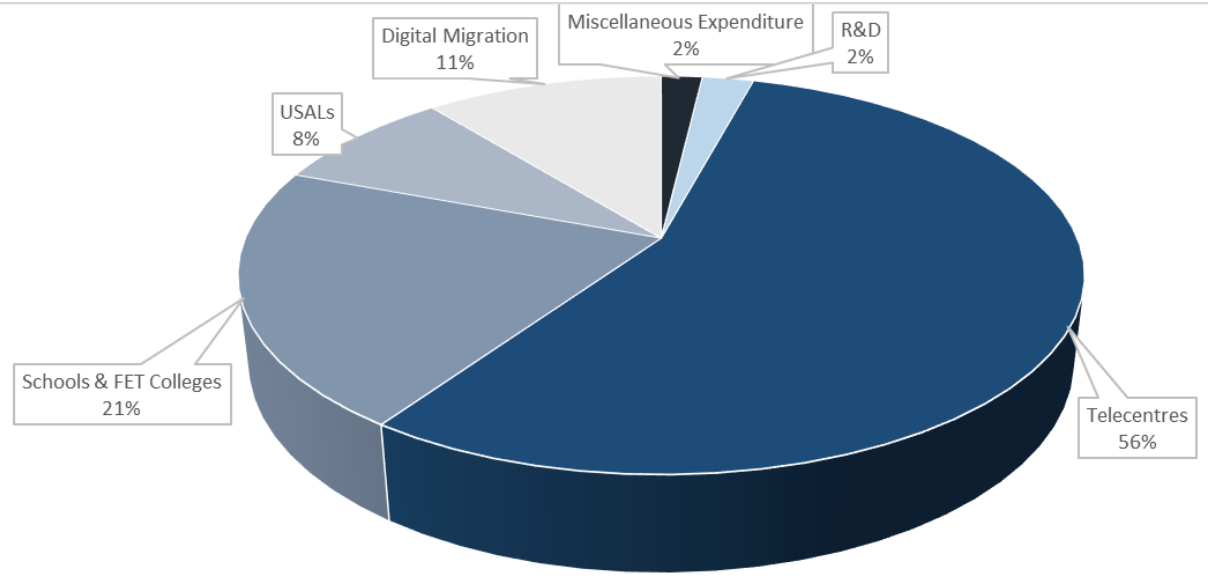
As noted above, USAASA's ability to manage projects and spend the funds at its disposal in a proper manner has been beset by ongoing and repeated allegations of corruption (Sidimba, 2012), and by the uncovering of irregular expenditure of at least R 43 million which precipitated a forensic audit (USAASA, 2012d, p. 73ff)[456]. More recently, USAASA has been the subject of a currently ongoing investigation by the Special Investigations Unit via special Presidential proclamation (RSA, 2014b).

The recent ramping up of expenditure from the Fund in support of South Africa's belated and stalled migration to Digital Terrestrial Television (DTT) has seen spending on the provision of subsidised set-top boxes kick in over the last three years. This now makes up a substantial slice (11%) of expenditure from the Fund, over 80% of it (some R 65 million) incurred as spending surged in the most recent financial year of 2016/17. However, this latest project too has become bogged down in allegations of tender irregularities, maladministration and bribery (Mzekandaba, 2017; Shinn, 2017).

A graphical breakdown of this expenditure is shown below (Figure 7.7). As can be seen, the funds available to the Agency were largely spent on what was essentially a failed telecentre project.

[456] The findings of the forensic audit were never made public.

Figure 7.7: Universal Service Fund Expenditure Breakdown (2001-2017)



The figures show that of the total expenditure from the Fund over the period, amounting to just over R 730 million, the majority (56% - 62% if one excludes expenditure on the migration to digital terrestrial television (DTT)) has been spent on a repeated series of failed telecentre projects of one kind or another[457]. This includes the irregular expenditure which formed the basis of the forensic audit and the SIU investigation referred to above. Full details of the amounts in question are not available, but they would appear to make up at least R 76 million[458], possibly closer to R 100 million. As noted previously, there is no accurate or comprehensive information available on the status of these telecentres.

A further 21% has been spent on subsidising schools and colleges, principally on cyber-labs and Internet access costs. Again, there is no cumulative information from USAASA on the status and sustainability of these interventions. Subsidies to support the licensees in the failed USAL experiment consumed much of the remaining expenditure (8%) from the fund. Again, there is precious little to show for this expenditure. As the analysis will show, almost every single USAL seems to have collapsed, despite this subvention.

The expenditure on research and development activities over the period is *ultra vires* the Act, since it provides only for the payment of "subsidies" from the Fund (RSA, 2005, p. Section 88

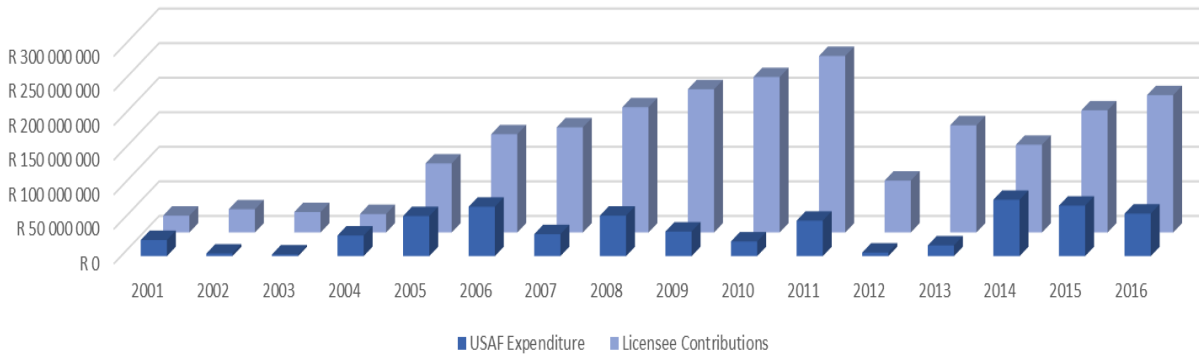
[457] During the period for which MDDA figures are available (2004 – 2013), the MDDA disbursed grant funding to a total of R 181 million, leaving the fund with a surplus of R 75 675 000.

[458] The previously reported irregular expenditure of R 43 million plus R 33 million **Invalid source specified.** under the current SIU probe.

(1)). These monies should have been accounted for under the budget of the Agency itself, as should the 'Miscellaneous' amounts, which largely comprise Fund audit fees. Be that as it may, R&D expenditure constitutes a mere 2% of the total, a scandalously low proportion for an organisation whose mandate includes injunctions to "conduct research into and keep abreast of [ICT] developments" and "continually [to] survey and evaluate the extent to which universal access and service have been achieved" (RSA, 2005, p. Section 82 (4)).

Figure 7.8 below compares expenditure from the Fund against licensee contributions as paid to Treasury via ICASA. What stands out starkly is the yawning gap between the levy and its associated expenditure. It must, of course, be borne in mind that licensee contributions are determined by ICASA regulations specifying the USF levy, while the Agency's expenditure is constrained by Treasury approval and consequent Parliamentary appropriation. But the vast discrepancy does go to show the tragedy of a missed opportunity. It demonstrates what could have been accomplished towards universal access and service with the funding potentially available, had it all been deployed effectively and efficiently. On the other hand, given the degree of wastage, mismanagement and corruption, the failure of the Fund may well have been a blessing in disguise.

Figure 7.8: Universal Service Fund Expenditure vs Licensee Contributions



A final point in relation to efficiency perhaps needs to be made. Even assuming the Agency had spent the funds at its disposal with proper diligence, the ratio between USAASA's institutional running costs and Fund expenditure is alarmingly high. The cumulative operational budget of the Agency over its lifespan weighs in at 95% of the total expenditure from the Fund over the same period. come in at an astonishingly inefficient 47% of total expenditure[459]. By way of contrast, the Media Development and Diversity Agency, an institution

[459] The MDDA continues to keep its own running costs below 25% of expenditure as per its regulations.

with an analogous core mandate in the broadcasting sector, specifically stipulates that that the running costs for the institution may never exceed 25% of total expenditure (RSA, 2003b, p. 10). Calculated the same way, the running costs of USAASA as an institution make up a bloated 49% of overall total expenditure over the period.

7.12 Conclusion

South Africa's Universal Service Fund appears, in the light of the preceding discussion, to have fared dismally indeed. The critical chorus sings largely from a single song book.

Take, for example, former IDRC staffer Tina James, who oversaw the early telecentre pilot funded by the IDRC. She characterises the experience as a "shameful waste of money" (interview, 27 November 2014), noting that, despite starting off with the best of ideas and the greatest of intentions - "the intent was genuine" - things went wrong very quickly at the Agency. For her the outcome has been little short of tragic: South Africa was considered to be at the forefront of ICT policy implementation at the time, one of the few countries in Africa where ICT issues were even on the government agenda. She ascribes the failures as being due to "lack of skills and unclear mandates", noting that countries like Malaysia achieved a lot more with a lot less money at their disposal.

Similarly, former academic and researcher Aki Stavrou recalls arguing very early on[460] that the Universal Service Fund "needed to be readjusted" because "something had gone wrong". Somewhat diplomatically, he suggests the Fund could have "better allocated at the time" (interview, 17 October 2014). Consultant and former head of policy and research at ICASA Mandla Msimang also has a gloomy assessment of the Fund, pointing to a lack of successes (interview, 7 November, 2014).

A number of key factors, in addition to project-specific problems discussed above, emerge as underpinning the failures of the Universal Service Fund.

One of these is structural: the intersecting and overlapping mandates between the regulator and the Agency and the Minister. The Agency has found itself in the classic double bind of being responsible for something it does not have the necessary authority to oversee. The ability of USAASA to disburse monies from the Fund has been significantly undermined by the

[460] Stavrou places his critique around 1998 when he was actively involved in commissioned research into telecentres and 'needy persons'.

extent to which the Agency has been reliant on third parties to do so. The Agency's own recent review concurs, describing the process as "complicated… [by the] number of players" (2014b, pp. 1v1-70).

For instance, the definition of 'under-serviced areas' (something which is fundamental to the application of funding in support of universal access and service), for example, depends upon ICASA, which took until 2012 to gazette the necessary regulations[461]. The definition of 'needy persons' too, as noted above, lay outside the control of the Agency, initially being assigned to the regulator, but later assumed by the Minister[462]. Whilst, no definition of 'needy persons' has ever been promulgated, and hence no subsidies have ever been paid to needy persons. Even more fundamental was the fact that the role of the Agency was seen to be that of a mere administrator of the Fund. It was designated merely to act "subject to the control and in accordance with… instructions" emanating from external structures, initially the regulator, later the Minister (RSA, 1996b, p. Section 65(4)). Certainly, Benjamin records a deal of pressure and interference emanating from Ministerial quarters (2001).

Multiple lines of accountability were further complicated by multiple parallel lines of implementation. Instead of a single integrated telecentre project, run from a single point, a number of contending initiatives were undertaken, seemingly without any co-ordination - the Agency's telecentres, the Thusong Service Centres of the GCIS, the Post Office PITs. Benjamin lists other parallel projects - DotZA Centres and Web Internet Labs ("WILs - computer labs in historically disadvantaged universities and Technikons") (Benjamin, 2001, p. 105) - attributing much of this parallel activity to growing disenchantment with the Agency on the part of the Department and the Minister. Even the school-based cyber-labs operated in the face of projects such as Gauteng Online[463] and the Western Cape's Khanya Project. Equally tellingly the cyber-labs seem to have existed in blissful ignorance of the schools USOs imposed on the operators, as discussed in the previous section.

There were also problems in the management of the Fund. There does not seem to have been a single formally-appointed line of accountability specific to the Fund. The Agency's

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[461] Seven years after the requirement was first specified in the ECA. Prior to that, there was no formal requirement in the legislation.

[462] Only recently (since 2014) acting on the advice of USAASA.

[463] Launched in 2001 with great fanfare, the project aimed to provide free Internet access and an e-mail address to every school pupil in the country's economic heartland province of Gauteng, but has been plagued by allegations of corruption, and is widely regarded as a failure. It is often sardonically referred to as 'Gauteng Offline'.

own consultants, for example, were to bewail the fact that there is "no dedicated USF manager" (USA, 2005, p. 74). This is a situation that persists today, a single Board exercising oversight in respect of both the Agency and the Fund, and a management structure that includes managers responsible for Finance[464], 'Operations' and 'Performance', but no single point of accountability for the effectiveness of the Fund.

Further, until recently the Fund lacked a clear set of guidelines and formal procedures. The Agency's own research noted more than ten years ago that there was "neither a written charter nor a Standard Operating Procedure" (USA, 2005, p. 74), pointing out that "best international practice… [requires] a document that lays down the rules, procedures, principles and guidelines of the how the fund is administered and operated." (USA, 2005, p. 69). In fairness, it must be noted that the Agency has recently produced a 'Universal Service and Access Fund Manual' (USAASA, 2014b, pp. Ann1-Ann46). The status of this document, however, is indeterminate. Provision for its development was made as far back as 2008, possibly as a result of the 2005 report, when it was seen as a means to ensure "appropriate use" of the monies in the Fund in order to achieve an "unqualified USAF audit report", and R 1,6 million was allocated accordingly (USAASA, 2009d, p. 29). However, the money was instead "re-allocated" to the cyber-labs project. It was only in 2012 that a tender was finally issued, and in late 2013 that the Agency embarked on a half-hearted consultative exercise (USAASA, 2013c)[465]. The actual Manual appears to have been delivered in the middle of the following year (USAASA, 2014b)[466], but has never been formally published. The process may have been overtaken by the gathering momentum around an ongoing series of corruption scandals plaguing the Agency around the same time (Maake, Hofstatter, & wa Afrika, 2013b; ITWeb, 2013b), and now appears redundant given the proposed replacement of the Universal Service and Access Fund by a Digital Development Fund (DTPS, 2015; DTPS, 2016).

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[464] Chief Financial Officer.

[465] The dating within the document is highly confusing, to say the least, probably as a result of poor editorial control. Although it was formally signed off on 23 October 2013, it asks for written representations by 7 November 2011, offers to meet stakeholders between 28 October and 7 November 2013, and proposes a consultative workshop on 14 November 2014. There is no record of such a workshop ever having taken place, either in the trade press or the annual reports of the Agency.

[466] It is described as having been "finalised" during 2013/14 (USAASA, 2014d, p. 11), and "approved" by the Board the following year (USAASA, 2015a, p. 41). The author's copy was shared with him by an Agency staffer, and does not exist as a formal publication, although the creation date of the file is June 2014.

The financial reporting and accountability by the Agency in respect of the Fund will be dealt with in the subsequent chapter where the structure and performance of USAASA as an entity is reviewed (see below).

Suffice it to note at this point that from 2013 USAASA began to issue separate annual reports and audits for the Fund (USAASA, 2014c; USAASA, 2014d). The separation was undertaken without explanation or justification, but its proximity to the 2012 forensic audit and the 2014 SIU investigation is suggestive. It is further worth noting that the draft Fund Manual proposes separating procurement under the Fund from USAASA's existing supply chain management structures, albeit under a mirror image of the existing committees (USAASA, 2014b, pp. Ann11-Ann13).

Taken together, this suggests a track record of poor financial management of the Fund, without sufficient checks and balances, thereby opening the door to corruption and misappropriation, and this vitiating its effectiveness in redressing South Africa's universal access and service gaps.

These inadequacies were compounded by the fact that the Fund seems to have been operated largely on an ad hoc basis, without a proper access gap analysis of the kind that is now considered international good practice. This failing was noted by the Agency's own consultants a number of years ago. They note that:

> *Best international practice suggests that the determination of the necessary amounts of Fund contributions by industry operators should ideally reflect a careful analysis of market conditions, and of the key economic factors that will influence the Fund's success* (USA, 2005, p. 68).

Indeed, in the absence of a properly integrated and comprehensive analysis of the nature, scope and extent of the various access deficits the Fund was intended to address, it is hard to see how the Agency's interventions can have been guided by anything other than glib optimism and political expediency. It is true that there was a degree of such analysis underpinning some of the areas of proposed intervention (USA, 1999a; DNTA, 1999a; USA, 2006a), but - with the exception of the recent but still to be ratified UAS strategy report (USAASA, 2014b) - there has been no unified analysis and consequent comprehensive set of recommendations covering the full scope of the Fund's mandate. As a result, the application of the monies available lacked focus and structure. Worse, this lack allowed

telecentre millenarianism to hold sway, and exposed the Fund to corruption and misappropriation.

Finally, there was clearly an issue with the management and planning of the funding generated by the Fund levy. Some have pointed to a lack of cash as under-pinning the failure of the Fund to achieve its objectives. This argument goes a little deeper than the common complaint that the Agency has consistently failed to spend the monies available to it (Perry, 2010) to argue that the appropriations approved by Treasury have been insufficient. The Agency's own consultants argued that the "USF has been under-funded from its very beginning" (USA, 2005, p. 68). This was not because the Fund levy had been set too low, as the recent Ministerial White Paper seems to imply (DTPS, 2016, p. 40). Rather, as noted above, the Agency seems to have had only the vaguest notion of how much money had been paid in by licensees to the National Revenue Fund. Neither ICASA nor the Department seem to have been very helpful in providing them with the necessary information[467]. As a result, the annual appropriations into the Fund fell, as noted above, consistently well short of the available contributions. In addition, Treasury seems to have been very reluctant to allow the Agency to draw down the full contribution. This seems in turn to have been largely due to the Agency's inability to "demonstrate a track record on spending the money" according to UAS expert Mandla Msimang (interview, 7 November 2014)[468]. Perhaps this is just as well, given the litany of failures, of corruption and maladministration, catalogued above. In any event, access to greater funding is likely to have compounded the magnitude of the problem, rather than solved it.

It seems clear, therefore, that South Africa's implementation of a universal service fund in alignment with international good practice can largely be considered to have failed. The expenditure of some R 600 million over 15 years has left little by way of long-term legacy. The degree and dimensions of policy success and failure of this specific area of UAS intervention will be assessed at a higher, more overall level in a later chapter.

It is now to an intervention that represents a uniquely South African attempt to ensure universal access and promote universal service that the analysis now needs to turn - to the awarding of Under-serviced Area Licences (USALs). The subsidies that these licensees

[467] As previously noted, one of the 2014 amendments to the ECA was designed to address this information lacuna.

[468] Current Treasury guidelines require a medium-term expenditure plan in order to secure and access budget allocations. USAASA does not appear to have complied with this requirement.

received from the Universal Service Fund have already been mentioned, but the intervention is more complex and multi-faceted than its subsidies, and requires specific attention.

8 Under-serviced Area Licences

The proposal to award a number of licences to operators in under-serviced areas first surfaced in the 2001 set of amendments (RSA, 2001c) to the 1996 Telecommunications Act. Plans to amend the Act were driven by the need to prepare for the end of Telkom's legislated fixed-line monopoly in 2002, and for the introduction of one or more additional telecommunications operators. The process was kicked off by a stakeholder colloquium, held at the Eskom Conference Centre[469] in early February 2001 and attended by some 350 participants from a wide range of groupings. The agenda was rather more wide-ranging, however, and included "competition and market structure, wireless spectrum usage, convergence, empowerment, universal access and new telecommunications technologies", with stakeholders invited to make "written recommendations on future policy" (ITWeb, 2001a). The issues and policy questions were also germane to the planned listing of Telkom on the stock exchange[470]. In the event, some 55 stakeholder submissions were made, ranging from existing licensees and potential investors, through private individuals to the African Telecommunications Forum and the National Telephone Cooperative Association of the USA (Bridges.org, 2001a)[471].

The colloquium was cast in rhetorical mode, with the opening speech by Director General Andile Ngcaba - possibly in anticipation of its contested outcomes - harking back to the consultative process leading up to the 1996 Telecommunications Act and invoking for the first time the catchphrase of 'managed liberalisation' (Ngcaba, 2001). Much of the attention at the colloquium focused on market structure, with Telkom seeking to protect its incumbency while most stakeholders favouring greater liberalisation and more than one additional competitor (de Wet, 2001a). The final policy determination was the subject of see-sawing public policy vicissitudes (de Wet, 2001c), largely related to whether one or two fixed-line competitors would be introduced, and suggestive of intense behind-the-scenes contestation

[469] SA's state-owned electricity company, Eskom, along with state-owned transport utility Transnet, was slated to form the basis of a second national fixed-line operator.

[470] Legislative certainty was necessary to secure investor confidence. Telkom's initial public offering of shares on the Johannesburg and New York stock exchanges eventually took place in March 2003.

[471] Sadly, all of these seem to have disappeared from the public record. Links to them from the Bridges.org policy brief are long deceased.

(DoC, 2001a; DoC, 2001b; DoC, 2001c)[472] before the Bill finally settled in favour of just a single competitor (RSA, 2001b).

However, the introduction of a new category of licences for under-serviced areas - subsequently to become known as the Under-serviced Area Licensees (USALs) - is a consistent refrain:

> *Small, medium and micro enterprises (SMMEs) and co-operatives shall be permitted to provide telecommunication services including Voice over Internet Protocol (VoIP) for the specific purpose of advancing universal access in geographic areas with a teledensity of less than 1 % from 7 May 2002… using their own or leased infrastructure… [and subject to] a standard interconnection regime (DoC, 2001a, pp. 7,8)*

8.1 Seeds and Speculations

There has been considerable speculation on the origins of this USAL model. Former ICASA Councillor William Stucke, for example, is keen to take credit for the idea, recalling his input into the colloquium, which he suggests was greeted by a "stunned silence":

> *What would make everyone happy was if a small black-owned company went out to rural Transkei and set up an antenna on top of a hill and connected up half a dozen local villages. We would have universal service; we would have black economic empowerment; we would have rural connectivity; we would have SMMEs taking off; we'd create employment. The only problem is: it's illegal.* (interview, 1 September 2014)

It is, however, almost certain that the introduction of the USALs came as a result of extensive and direct lobbying on the part of the US-based National Telephone Cooperative Association (NTCA). In a submission leading up to the February 2001 stakeholder colloquium, the NTCA tabled a fully formulated proposal remarkably similar to what was finally enacted.

[472] The Department of Communications, under the influence of Telkom and concerned to maximise rent extraction via the IPO, was popularly believed to support a single competitor, whilst the Department of Trade and Industry, subject to broader economic pressures, wanted a second competitor.

The NTCA was a surprising player in the process, given its lack of international profile either before or since[473]. However, the association had a long history and extensive experience in promoting and supporting the development of rural telecommunications co-operatives. Founded in 1954 as an offshoot of the post-war rural electrification drive in the US, the NTCA brought together a number of the beneficiaries of "long-term, low-interest loans available [from 1949] to rural telephone systems" under the Rural Electrification Act (NTCA, nd). As an industry association, the NTCA undertook lobbying and advocacy on behalf of its members, and provided a range of support services, growing from an initial membership of 8 to over 1 300 today. From 1990 the NTCA had formally established an international programme, spearheaded by the energetic and charismatic Marlee Norton. It was Marlee who was the driving force behind the USAL model in South Africa - former IDRC staffer Tina James describes her as "really important" (interview, 27 November 2014) - inspired by the NTCA's earlier successes in countries as far afield as Bolivia and Poland[474].

The NTCA submission arose from a late 2000 workshop on "telecommunications cooperatives" (NTCA, 2001, p. ii), held in conjunction with the Development Bank (DBSA), in preparation for the introduction of greater liberalisation into the sector. But the NTCA had already undertaken a preparatory analysis much earlier in 2000, examining the legislative changes required if telecommunications "cooperatives are to be a considered option" (NTCA, 2001, p. 6). Even earlier, the NTCA had established a relationship with the Universal Service Agency, where it appears that they were lobbying for the setting up of telephone co-operatives (DNTA, 1999b, pp. 34-35). Marlee Norton had also shared a platform at a commercial conference[475] on rural telecommunications with acting USA head Fikile Khumalo, on the topic of 'Developing Co-operatives as a Viable Solution for the Extension of Telecoms Services to Rural Communities' (IIR, 1999). Taken together, this suggests a consistent pattern of lobbying on the part of the NTCA, led by Marlee Norton, for the establishment of rural telecommunications co-operatives as a vehicle for the provision of universal access and service.

However, the episteme and the web of support for the concept may involve a rather more complex set of interactions. ICT sector researcher Alison Gillwald suggests that there was

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[473] The source of this international proselytising, other than in the personality of Marlee Norton, is unclear.

[474] Here dedication to "spread the rural telecommunications word" is described by the NTCA in evangelical terms. She has since moved on to evangelism in a different, more orthodoxly religious mould (NTCA, 2003).

[475] Cogburn (2005) was amongst the analysts who recognised the role of conferences in shaping policy agendas. Within his typology, commercial conferences play a lesser but nonetheless important role.

active engagement and support from both the Chair and Deputy Chair, Naepe Maepa and Eddie Funde respectively, of the regulator (SATRA) (interview, 13 November 2014). Others too point to Eddie Funde as a key supporter, largely in his later role as Chair of the South African Communications Forum (SACF) (interviews: Mandla Msimang, 7 November 2014; Katharina Pillay, 13 Jan 2015). Certainly, Funde was later to claim an instrumental role for the SACF in the adoption of the USAL model (USA, 2003b, p. 22ff), likely perceiving a sizeable 'black economic empowerment' opportunity for its members[476].

The 2001 NTCA submission to the Department provides a useful summary of the approach. It makes a strong argument in favour of establishing "locally owned telecommunications [co-operatives] that interconnect with the broader national and international network" as alternatives to the failure of the telecentre model[477] (NTCA, 2001, p. ii & 1). It makes as its principal recommendation that "the exclusive licence of Telkom should be modified to provide for grant of licenses [sic] to telecommunications cooperatives in Universal Service Areas designated by the Minister" (NTCA, 2001, p. ii). The report draws on the NTCA experience in Bolivia and the US, where there was a "favourable legal and regulatory climate and which combined with economic, demographic and technological developments to produce generally successful results" (NTCA, 2001, p. 7).

The report thus recognises the need for appropriate conditions to ensure success, and goes on to identify a number of issues needing consideration in the South African context, if telecommunications co-operatives are to succeed, including: limited liability protection for investors; appropriate tax structures; supportive regulatory policies and interventions; proper co-ordination between the various agencies responsible for UAS; financial support from the USF for network rollout (NTCA, 2001, pp. 7-11). The report goes on to float a number of regulatory proposals, including exemption from rate rebalancing, provision of local area exclusivity, special interconnection and revenue sharing arrangements with Telkom, and specifies a series of recommended legislative amendments to establish such telecommunications co-operatives (NTCA, 2001, pp. 11-14).

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[476] The SACF was the successor to the African Telecommunications Forum (ATF), which, as noted previously, brought together a number of entities that had failed to secure stakes in the lucrative mobile licences awarded in 1993.

[477] The hand of the submission's co-author, Tina James, can perhaps be discerned here. As noted in the previous section, her role at the IDRC had made her acutely aware of the failures of the USA's telecentres.

The core features of the USAL model are all there: the designation of under-serviced-areas; the awarding of geographically-circumscribed licences; financial support from the USF; the need for supportive policy and regulatory interventions. The report's key failure - with the wisdom of hindsight - was its lack of recognition of the potential implications of the explosive uptake of mobile telephony[478] on its proposed model[479].

It seems probable, therefore, that the USAL concept was already under active consideration by the Department. It is possibly the model that Director General Andile Ngcaba had in mind when he stated, prior to the colloquium, that "multi-level competition will be considered at the end of Telkom's exclusivity period, with a number of operators licensed to provide services at different tiers and in different geographical areas" (ITWeb, 2001a).

The notion of rural licensing is a concept that has resonances within the broader international epistemic community associated with the international telecommunications regime centred around the ITU and the World Bank, circles to which Ngcaba remained connected. For example, as early as 1994, academics Martin Cave, Mark Scanlan, and UAS expert Claire Milne had floated the idea of offering "non-overlapping franchises to operators prepared to connect and serve areas which would not prove profitable for the incumbent" (EC, p. 4). Something similar had been mooted in South Africa's own even earlier Coopers & Lybrand report, which repeatedly floated the notion of "'local network operators' [which] might include cooperatives formed by local residents, or private companies (1992, p. 25). A few years later the World Bank's Björn Wellenius had begun to author a series of policy briefs, reports and academic journal articles drawing attention to the least-subsidy rural payphone licensing interventions being undertaken by the USF in Chile (1997; 2002a; 2002b).

An earlier World Bank study had looked at the technical options and financial viability of the rural provision of telecommunications services, and had concluded that it was commercially feasible for "community–based groups or cooperatives [to] buy trunks or 'community lines' from the operator and provide the local subscriber connections" (Kayani & Dymond, 1997, p. 14). It had further identified a key equity support role for a "focused rural telecommunications development fund [which] can become a vehicle or magnet for encouraging private sector investment, for collecting or administering both commercial and concessionary finance, and

[478] By the end of 2000 the combined subscriber base of Vodacom and MTN was already 5,4 million, growing rapidly, and poised to overtake Telkom's fixed-line tally of 5,5 million (author's spreadsheet, compiled from operator annual reports).

[479] Possibly because prepaid mobile was almost non-existent in the US at the time.

for providing a range of equity and loan options tailored to the characteristics of each project" (Kayani & Dymond, 1997, p. 15). Some years later, Stern and his co-authors were to urge the use of the USF and the provision of asymmetric interconnection rates to support the operations of 'rural operators' (Stern, Townsend, & Monedero, 2006).

At around the same time, the telecommunications co-operatives in places as far afield as Bolivia (Flores, 1989; Calzada & Davalos, 2005) and Poland (Kontkiewicz-Chachulska, 1997) were receiving attention from researchers and policy-makers, as was the Grameen phone model of Bangladesh (Lawson & Meyenn, 2000; Richardson, Ramirez, & Haq, 2000). The epistemic tenor seems therefore to have been receptive to innovation and new models in pursuit of universal access and service.

8.2 From Conceptualisation to Implementation

Following on from the Colloquium, the Minister very shortly thereafter issued a lengthy Policy Direction, which, *inter alia*, laid the groundwork for the introduction of under-serviced area licensing (DoC, 2001a). The Minister directed that "small, medium and micro enterprises (SMMEs) and co-operatives shall be permitted to provide telecommunication services including Voice over Internet Protocol (VoiP) [sic] for the specific purpose of advancing universal access in geographic areas with a teledensity of less than 1% from 7 May 2002" and that such licensees might use "their own or leased infrastructure" (DoC, 2001a, pp. 7-8). Several regulatory provisions supporting the business case for such licensees were also set out, including that a "standard interconnection regime applicable to all SMMEs and co-operatives shall be developed by the network operators and approved by ICASA", and reiteration in respect of VANS licensees of the "prohibition to carry voice over the Internet and VANS" [sic] [480] (DoC, 2001a, p. 8). The second iteration did, however, introduce a substantive amendment to the under-serviced area threshold, raising the bar to 5% (DoC, 2001b, p. 8), presumably on the realisation that there were almost no areas with teledensity under 1% (see Table 8.1 below)[481]. It also excised co-operatives from the list of possible licence beneficiaries.

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[480] The formulation in respect of VANS licensees was corrected in the second iteration to specify a "prohibition to carry VoIP and voice" (DoC, 2001b, p. 8).

[481] The wording of the interconnection provision was also slightly amended to make ICASA solely responsible for its development (DoC, 2001b, p. 8).

When the Amendment Bill was tabled in Parliament later that year, it duly contained the necessary provisions to provide for the award of licences to small businesses to provide "telecommunication services or facilities" in "geographic areas where less than 5% of the population has access" (RSA, 2001b, p. Section 40A). Further clauses allowed the USALs to utilise VoIP and provided for interconnection with the networks of existing fixed and mobile licensees. Despite the model being substantially the same as that proposed by the NTCA, it is noteworthy that the Bill too no longer contained any notion of the 'co-operatives' so central to the NTCA approach[482]. It was this policy shift that was seen by former IDRC staffer Tina James, who had been hired to draft the NTCA submission (2001), as a fundamental betrayal of the initial vision of the NTCA (interview, 27 November 2014).

Only limited records survive of the consultation process. Much of the attention seems to have focused elsewhere than the USALs, on issues such as the country's WTO commitments, the independence of the regulator, the market structure of the sector and the question of what was meant by 'fixed-mobile'[483]. The VANS association, however, strenuously objected to the USALs being granted VoIP privileges, which still remained denied to their members (SAVA, 2001).

The final Amendment Act remained largely unchanged (a few minor wording changes aside) in respect of the USALs save for a proviso privileging applications for USAL licences from "persons from historically disadvantaged groups; and [sic]… women" (RSA, 1996b, p. Section 40A(2)(b))[484], and became law in November 2001.

It seems clear that the Ministry was keen to forge ahead with the issuing of USAL licences as a matter of some urgency. Scarcely three weeks later, the Minister issued a list of 27 district municipalities she classified as 'under-serviced' (DoC, 2001d) (see Figure 8.1 below).

The rationale for the designation is not entirely clear. According to the Minister, the determination was based on data from the 1996 census, since data from the 2001 census was not yet available (DoC, 2003c, p. 5). There are, however, some problems with using

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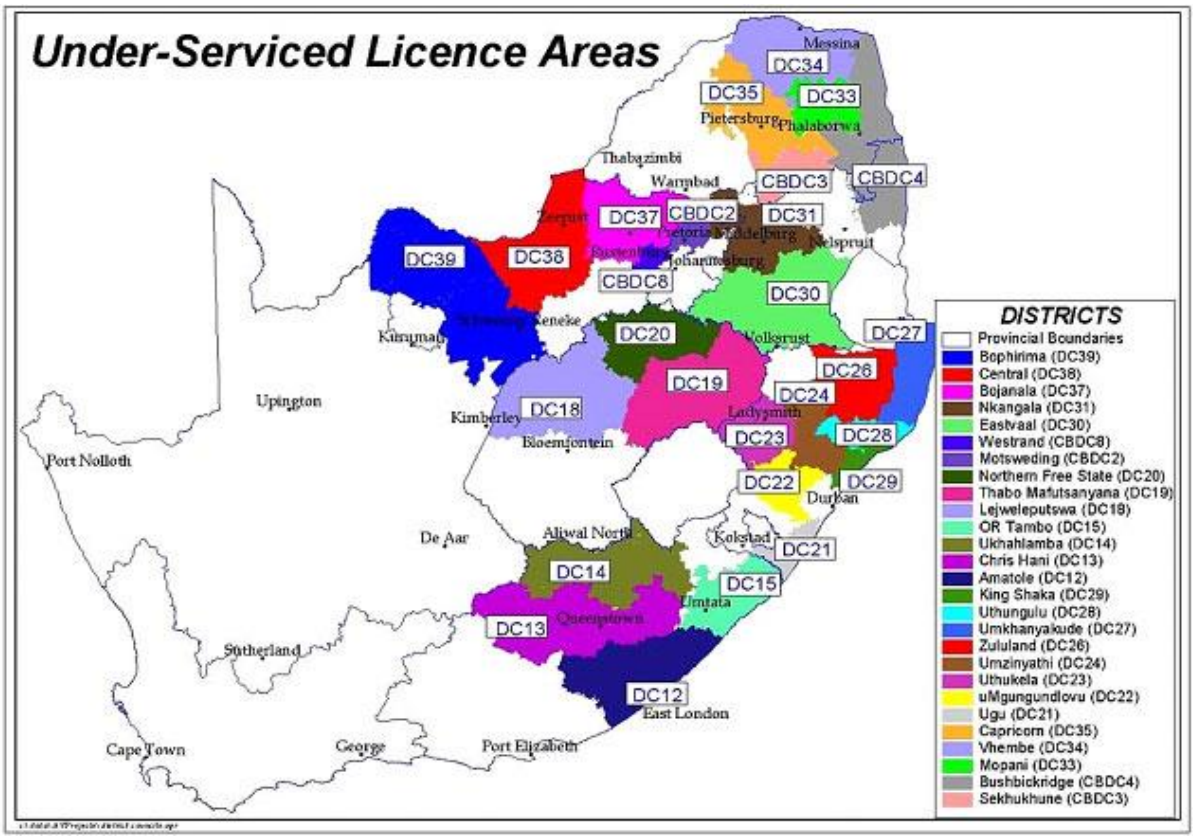
[482] As noted above, the Minister had already dispensed with the idea of co-operatives being awarded licences by the time she issued the second set of Policy Directions (DoC, 2001b, p. 8). Quite why remains unclear.

[483] A new concept introduced in the Bill as a category of service provision extended to PSTS licensees, and seen by the mobile licensees as a possible encroachment on their market (de Wet, 2001b). Essentially it provided for wireless handsets with no or very limited base-station handover.

[484] 'Historically disadvantaged' groups, in the South African context, refers to those subject to historical (and ongoing) discrimination, mainly on the grounds of race, gender or disability.

data from the 1996 census as a basis for the calculation. Firstly, the 1996 census did not distinguish between fixed and mobile telephony, lumping both together when counting household access to telephony. This would somewhat have skewed the figures, with mobile still relatively new to the market[485] and likely still mostly in the hands of affluent users who already had fixed-line access. Secondly, as a household survey, the census did not count business lines which are included in the definition of 'teledensity'[486]. Nevertheless, the 1996 census figures would still have indicated those areas where individuals were under-serviced.

Figure 8.1: Original 27 Under-serviced Licence Areas



Source: (SACF, 2004, p. 6)

However, between 1996 and 2001 the market had experienced two dramatic shifts which substantially altered the picture. Firstly, the rollout of Telkom's 2,69 million USO lines commenced in 1997, with the operator's fixed-line network peaking at 5,6 million lines in 2000 (see previous section). Secondly, the introduction of prepaid mobile services at the end of

[485] Accurate mobile subscriber numbers for 1996 (at which point Telkom had 3,9 million subscribers) are not in the public domain, but are likely to have been well under a million.

[486] A simple ratio involving main telephone lines and population - the "number of telephone lines per 100 persons" (RSA, 1996c, p. Section 1). Based on somewhat later ITU figures (ITU, 1998b, pp. A-22), business lines are likely to have comprised nearly 40% of total lines in operation.

1996 had seen the uptake of cellular telephony skyrocket. By the time the under-serviced areas were designated, the number of mobile subscribers was already nearly double the number of Telkom mainlines in operation[487]. This meant that the picture was substantially different than it had been at the time of the 1996 census, despite the assurance of the Minister to the contrary (DoC, 2003c, p. 5).

Gillwald suggests that there was a degree of "outcry by the incumbent fixed and mobile operators in response to the identified districts" (2002a, p. 2), with Telkom claiming to have exceeded 5% teledensity in some of the areas, and the mobile licensees claiming that others were "well serviced" by them. The mobile operators almost certainly had a point, as noted above, although there is no hard data to back up their case. Likewise, Telkom's teledensity claim also makes sense if business lines are included in the teledensity calculation.

As can be seen from Table 8.1 below, at least 5 of the 27 districts were - by 2001 (although it needs to be borne in mind these figures were not available to the Minister at the time) - above 5% in terms of residential teledensity alone. Almost all - *pace* Gillwald's assertion of just "some instances" - contain towns of some size and substance. Indeed, the very fact that district municipalities were used to make the demarcation meant that each under-serviced area was guaranteed to include at least one town. Further, the inclusion of such centres of economic and social activity is arguably essential for the commercial viability of the licensees, as had been noted elsewhere by the ITU (Kayani & Dymond, 1997, p. 81). Indeed, Amatole Director Mark Gray makes the same point: "We had to have towns to generate revenue to cross-subsidise roll out in rural areas" (interview, 2 June 2017).

Table 8.1: Under-serviced Area Fixed-line Teledensity[488]

District		Province	Main Town	Population	Teledensity
DC15	O R Tambo	Eastern Cape	Mthatha	1 676 484	0,69
DC27	Umkhanyakude District Municipality	KwaZulu-Natal	Mkuze	573 337	1,03
DC47	Sekhukhune Cross Boundary District Municipality	Limpopo	Groblersdal	967 182	1,19

[487] By early 2001, MTN and Vodacom had 8,6 million subscribers, while Telkom's network had shrunk to 5 million, thanks to the policy of disconnections discussed in a previous chapter. By early 2001, the mobile operators (now including Cell C) had 11,5 million subscribers between them, with Telkom then down to 4,9 million main lines.

[488] Data as per a spreadsheet of Census 2001 data, supplied to the author by Statistics South Africa. District names are as per the Statistics South Africa spreadsheet. Some districts (eg DC29) changed their names subsequent to the Ministerial designation. Others (eg CBDC4) were later dismembered. Those districts highlighted are those assigned to the first round of licensing.

District		Province	Main Town	Population	Teledensity
CBDC4	Bohlabela District Municipality	Limpopo	Phalaborwa	597 737	1,30
DC33	Mopani District Municipality	Limpopo	Giyani	964 237	1,42
DC34	Vhembe District Municipality	Limpopo	Thohoyandou	1 199 884	1,42
DC26	Zululand District Municipality	KwaZulu-Natal	Ulundi	804 454	1,61
DC34	Umzinyathi District Municipality	KwaZulu-Natal	Dundee	456 451	1,64
DC14	Ukhahlamba District Municipality	Eastern Cape	Barkly East	341 339	1,76
DC35	Capricorn District Municipality	Limpopo	Polokwane	1 154 693	2,36
DC13	Chris Hani District Municipality	Eastern Cape	Queenstown	810 303	2,41
DC28	Uthungulu District Municipality	KwaZulu-Natal	Richards Bay	885 967	2,43
DC39	Bophirima District Municipality	North West	Vryburg	439 672	2,43
DC23	Uthukela District Municipality	KwaZulu-Natal	Ladysmith	656 987	2,70
DC38	Central District Municipality[489]	North West	Mahikeng	763 000	2,85
DC37	Bojanala District Municipality	North West	Rustenburg	1 185 329	2,85
DC29	iLembe District Municipality	KwaZulu-Natal	kwaDukuza	560 389	3,39
DC21	Ugu District Municipality	KwaZulu-Natal	Port Shepstone	704 030	3,51
DC12	Amatole	Eastern Cape	East London	1 664 251	3,51
DC30	Govan Mbeki Municipality	Mpumalanga	Ermelo	900 008	3,78
DC19	Thabo Mofutsanyane District Municipality[490]	Free State	Phuthaditjhaba	725 936	4,19
DC31	Nkangala	Mpumalanga	Middelburg	1 020 584	4,52
DC18	Lejweleputswa District Municipality	Free State	Welkom	657 012	5,01
DC20	Northern Free State District Municipality	Free State	Sasolburg	460 319	6,11
CBDC2	Metsweding District Municipality	Gauteng	Bronkhorstspruit	159 896	6,13
DC20	Northern Free State District Municipality	Free State	Sasolburg	460 319	6,11
CBDC2	Metsweding District Municipality	Gauteng	Bronkhorstspruit	159 896	6,13
DC22	uMgungundlovu District Municipality	KwaZulu-Natal	Pietermaritzburg	927 847	6,38
DC48	West Rand District Municipality	Gauteng	Randfontein	744 154	6,88

[489] Added to the original 10 in early 2002.

[490] Added to the original 10 in early 2002.

There are, however, some surprising omissions from the list. In particular, Alfred Nzo District Municipality, centred on Mount Ayliff (population just under 5 000 at the time) in the former Transkei, stands out as having the district municipality with the lowest teledensity in the entire country at 0,54%, a mere 2 972 fixed-lines for over half a million inhabitants[491]. Other omissions with low teledensities include Sisonke District Municipality (1,95%) and Ehlanzeni (2,73%). There were also a number of inclusions with 2001 teledensities above the 5% threshold: see the last 7 entries in the table above. In addition, it is puzzling that no Northern Cape district municipality was included[492]. It is therefore possible that political considerations may have played a role in the final selection. That said, the 27 declared areas do all nevertheless fall within the bottom 37 of the country's 53 district municipalities.

Of the 27 under-serviced districts, 8 (2 in each of 4 provinces) from within the overall list were earmarked for the first round of licensing (DoC, 2001d), strangely overlooking the poorly connected districts in both Mpumalanga and North-West. Pork barrel politics or ethnic bias may have played a role, but the choice is not simplistically aligned to either consideration. A few months later, presumably as a result of lobbying, a further two areas were added to the list (DoC, 2002a)[493], giving a slightly better geographic spread, but still overlooking Mpumalanga. The basis for both initial selection and subsequent addition remains unclear.

8.3 You Pays your Money and You Gets your Licence

The licensing process for the USALs then stalled for nearly a year, possibly due to ICASA's preoccupation with the ongoing brouhaha around the third mobile licence and the process for the award of the second network operator licence[494]. Regulatory processes to deal with interconnection (ICASA, 2002e; ICASA, 2002h) as well as ownership and control (ICASA, 2002f; ICASA, 2002g) were only launched towards the end of 2002, and then were shoddy in

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[491] Again, we need to bear in mind that the Minister had only the 1996 census figures to work with, although it is very hard to imagine that the worst served districts in 2001 were not also similarly telephonically impoverished in 1996.

[492] Kgalagadi District Municipality, centred on Kuruman, and with a 2001 teledensity of 3,12%, seems an obvious candidate. There were no district municipalities in Western Cape a teledensity anywhere close to as low as 5%.

[493] DC19 Thabo Mafutsanyana (Free State) and DC38 Central (North West).

[494] The controversial award of the third mobile licence to Cell C was mired in allegations of improper conduct and political manipulation. It resulted in protracted litigation initiated by losing bidder NextCom, which was finally settled out of court, and led to the side-lining of SATRA Chairperson Naepe Maepa. The award of the second network licence threatened to go down the same garden path.

the execution[495]. The subsequent USAL licensing process proceeded somewhat erratically over the next few years. In December 2002, the Minister finally issued the formal Invitation to Apply (ITA)[496], subject to a R 30 000 application fee, along with the draft 25-year licence (DoC, 2002b)[497], which latter document was revised no fewer than twice by ICASA (2003; 2003)[498]. The ITA made a further change to the 10 under-serviced areas designated for the first round of licences, leading to a slightly better geographic spread (2 each for 5 provinces, but still excluding Mpumalanga): DC19 Thabo Mofutsanyane (Free State) was dropped in favour of DC39 Bophirima (North West). Again, the basis for the change is unclear, and was unremarked at the time.

The process continued to be mired in delays, with the Minister having to extend the original 30 April deadline twice (DoC, 2003a; DoC, 2003b), as ICASA struggled to manage the complexity of the process. Not only was ICASA wrestling with the necessary regulations on interconnection and ownership and control, but the bidders themselves were struggling to "communicate with the relevant communities" and to put in place the necessary "structures" (Weidemann, 2003a). Support and capacity building for the bids was clearly necessary, and entities like Forge Ahead BMI-T[499] (Denis Smit, interview, 20 November 2014) and the South African Communications Forum (SACF[500]) (USA, 2003b)[501] stepped into the breach, developing business plans and providing training.

But worse, delays emanating from USAASA held up the development of the key blueprint necessary to launch and to make viable the successful USAL bidders, the funding model from

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[495] Both needed to have corrections issued shortly after publication. The interconnection regulations, as we shall see below, were never finalised.

[496] Under the 1996 Telecommunications Act, it was the Minister who issued the ITA and granted the licence, with the regulator doing all the remaining spadework.

[497] The draft licence made provision for 'fixed mobility' which it defined as limited mobility within an undefined "Short Distance Charging Area". The annual licence fee was set at 0,1 % of sales revenue.

[498] The revisions were largely minor and technical, relating to the numbering and arrangement of sections. However, the third version of the licence no longer makes any attempt to define 'fixed mobility'.

[499] Joint MD, Simon White, was to head up one of the consortia vying for a USAL licence, the Rural Telecoms Development Company (RUTECO). It was unsuccessful.

[500] The involvement of the latter had started rather earlier and went perhaps rather further. They had embarked on a road show with the Universal Service Agency to create consortia and mobilise bids (USA, 2003b).

[501] The mid 2003 workshop perhaps illustrates well the confusion and blurring of roles between funder and implementer at the Agency.

the Universal Service Fund. It was only in late May 2003 that the Agency tabled for comment (*sine die!*) a "draft policy" to provide subsidies to the USALs (USA, 2003a), followed scarcely two weeks later by a stakeholder workshop (USA, 2004, p. 15). In the previous section, the complexity of the two-pronged model envisaged has already been noted, along with the byzantine language of the draft. The final model was never publicly gazetted. Thornton later noted that a "final report in respect of this proceeding was provided to the Minister after the consultation process ran its course" (2006, p. 6). Separate subsidy agreements were signed with the individual licensees (USA, 2004, p. 14), but these were never part of the public record. Thus, the parameters of the subsidy agreements remain unknown, save for the provision in the licences that the funds be utilised "exclusively for the acquisition and construction of infrastructure" (ICASA, 2006b, p. 12).

These delays resulting both from a lack of institutional focus and from the complexities of the web of overlapping responsibilities began to take their toll on the bidders. Bidder Simon White was quoted as complaining that "every month the viability of the project is limited further while the costs continue to increase", while another bewailed that few bidders had the "financial resources to sustain themselves through all these delays" (Weidemann, 2003c).

Strangely, the question of ownership and control limitations with respect to the licences was only finalised in late August (ICASA, 2003c). This was mere days ahead of the final 29 August deadline for applications. Although both draft and final regulations banned incumbent licensees (such as Telkom, MTN, Vodacom) from holding shares in any USAL applicant, and barred any entity from controlling more than one USAL, there were significant changes in the final regulations. Firstly, cross-ownership restrictions were relaxed, allowing any entity a non-controlling investment in up to 9 USALs (the draft regulations had pegged the limit at 3). Secondly, a new clause prohibited foreign investors from holding a controlling share in any USAL. It is not clear whether these changes affected any of the bids that had been submitted, a list of which was released a month later (ICASA, 2003f). Of the 10 under-serviced areas on offer, three bids had been received in only one (DC 35, Capricorn District), with two bids in four of the districts, one each in a further four, and none in one case (CBDC4 Bushbuckridge / Lowveld Municipality).

The licensing process was further delayed by the need to provide for public comment (Weidemann, 2003d) and to run a public hearings road show, with sessions in each of the respective licence areas (Weidemann, 2004). As a result, it was only on 3 June 2004 - two and a half years after the process had begun - that the first 7 licences were finally granted

by the Minister (DoC, 2004a), in accordance with ICASA's recommendation. A further six months were to elapse before the licences were finalised and formally issued by ICASA. Four of the licences were granted outright[502], with three more granted conditionally[503] (DoC, 2004a). Four bids had been disqualified, and three rejected.

The provisions of the first seven USALs' licences were almost identical to the draft licence, save for the addition of a clause on roaming, and for the removal of clauses providing for exemption from number portability and carrier pre-select for a limited period. They read like any standard telecommunications licence of the time, but it is worth noting some of their features:

- The licence period is 25 years (p12);
- The licensee is authorised to provide "any telecommunication services including voice over Internet protocol services (VoIP), fixed-mobile services and Public Telephone Services (p10);
- The licensee is authorised to provide infrastructure to VANS and mobile licensees (p10);
- The licensee is authorised to enter into roaming agreements (p10);
- The licensee is "obliged to maintain and use its network…. within a period of 36 months from date of issue" (p11);
- The licensee is "entitled to use any type of technology" (p11)
- The licence includes "Roll-Out Targets and Penalties for Non-Compliance" (p11) - specified in annexures;
- The annual licence fee is 0,1% of "audited net operational income" (p13) (ICASA, 2006b).

With the ink was barely dry on most of the licences, the USA immediately rushed ahead to hand over the cheques for the first tranche of subsidy funding to the new licensees. Indeed,

[502] Bokone Telecomms (DC35 Capricorn District, Limpopo Province), Kingdom Communications (DC26 Zululand District, KwaZulu-Natal), Thinta Thinta Telecoms (DC21 Ugu District Municipality, KwaZulu-Natal), Ilizwi Telecoms (DC15 OR Tambo Municipality, Eastern Cape). See table below.

[503] Amatole Telecoms (DC12 Amatole District, Eastern Cape), Bokamoso Communications (DC18 Lejweleputswa, Free State), KaraboTel (DC38 Central District, North West).

it was so proud of its achievement that it ran the hand-over ceremony twice (Jovanovic, 2004; Weidemann, 2005a)[504].

With almost unseemly haste, perhaps in recognition of the delays in the first round of USAL licensing and the likely consequences for the commercial viability of the hapless recipients, the Minister moved ahead to issue an ITA for the next 14 licences with a tight 21 February turnaround (DoC, 2005). Deadlines in this second round of applications were again slipped, with the closing date pushed out several times to 31 August, and ICASA issuing more than one list of applicants (ICASA, 2005a; ICASA, 2005c), largely to cater for mergers between bidders. It took a further year to finalise the award of the second round of USALs, with the Minister granting three licences outright[505], six conditionally[506], and six, subject to mergers[507]. ICASA described the process as a "three-phase licensing approach… which attaches conditions to issuing of the licences" (Senne, 2006b). More plausibly it reflects the poor quality of many of the bids, together with a growing sense of urgency to complete the USAL licensing project in the face of mounting evidence that it was in deep trouble and doomed to failure (Gillwald, 2005a; Vecchiatto, 2006a; Guest, 2006). One of the six conditional licensees in this round (ZeroPlus Trading) found itself in the strange position of receiving a licence for a district that had been administratively dismembered several months earlier[508].

Undeterred, however, the Minister had already in February 2006 issued an ITA for the remaining 6 under-serviced areas (DoC, 2006), which appear to have been conditionally

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[504] Only four of the licences had been signed at the time of the first ceremony. Amatole's licence was issued some months after the second event.

[505] Nkangala Telecoms (DC 31 Nkangala District, Mpumalanga), Northcom (DC 20 Northern Free State District, Free State), Ukhahlamba Communications (DC 14 Ukhahlamba District, Eastern Cape).

[506] Dinaka Telecommunications (DC39 Bophirima District, North West), Ilembe Communications (DC 29 Ilembe District, KwaZulu-Natal), Metsweding Telex (CBDC 2 Metsweding District, Gauteng), Nyakatho Telecommunications (DC 27 Umkhanyakude, KwaZulu-Natal), PlatiTel (DC 37 Bojanala District, North West), ZeroPlus Trading (CBDC 4 Bohlabela District, Limpopo).

[507] DC 13 Chris Hani District, Eastern Cape (CH Communications & Ntwasahlobo), DC 19 Thabo Mofutsanyana District, Free State (Thabo Mafutsanyana Telecom & Maluti Communications), DC 30 Eastvaal, Mpumalanga (Thanda Telecom, Khula Air Conditioning, Elangeni Communication & Arengo 134),DC 34 Vhembe District, Limpopo (Vhembe Telecommunications & Kwetedza Telecommunications). No award was made in Westrand District (CBDC8 Gauteng).

[508] CBDC4 Bohlabela District had been split between Ehlanzeni (Mpumalanga) and Mopani (Limpopo) District Municipalities on 1 March 2006.

granted by ICASA somewhat more than a year later (ICASA, 2008b, p. 19)[509] - bizarrely after the new Minister had already decreed that all 27 USALs be amalgamated as 7 Provincial Under-serviced Area Network Operators (PUSANOs - see discussion below) (DoC, 2007).

By 2008 then, licences had formally been granted in 24 of the 27 gazetted under-serviced areas[510]. Table 8.2 below lists the unfortunate recipients.

Table 8.2: List of Under-serviced Licensees

USALs Round 1[511] (7) 2002-12-19 ITA Issued 2004-06-03 Licences granted 2004-11 Licences issued	**USALs Round 2[512] (11)** 2005-01-11 ITA Issued 2006-08-14 Licences granted 2007-04 & 2007-11 Licences issued[513]	**USALs Round 3 (6)** 2006-02-07 ITA Issued 2007 / 2008 Licences granted
Amatole Telecomms	Dinaka Telecommunications	Asixhumane Communications
Bokamoso Communications	Ilembe Communications	Bulani Telecommunications
Bokone Telecomms	Kwetedza Telecommunications[514]	Duzi-Cell Networking KZN
Ilizwi Telecomms	Metjodi Telecommunications[515]	Sekhukhune Telecommunications
KaraboTel	Metsweding Telex	Thetha Khuluma Telecommunications

[509] The announcement seems to have passed well under the radar of the trade press, and only appears in the ICASA Annual Report with no precise date attached.

[510] It is perhaps worth noting that none of licences appears to have been amended to take account of the redrawing of district boundaries or name changes.

[511] No licences were granted in: CBDC4 Bushbuck Ridge / Lowveld Municipality; DC39 Bophirima District (North West); DC 20 Northern Free State District (Free State).

[512] Further licences, subject to merger, were also granted in: the Chris Hani District (CD13 Eastern Cape - CH Communications & Ntwasahlobo); the Gert Sibande District (DC30 Mpumalanga - Thanda Telecom, Khula Air Conditioning, Elangeni Communication &n Arengo 134). Neither of these mergers appears ever to have taken place. No award was made in Westrand District (CBDC8 Gauteng).

[513] Nkangala, Northcom and Ukhahlamba were the last three USALs to receive licences under the 1996 Telecomms Act. All subsequent USAL licensees were processed under the 2005 ECA.

[514] A merger between Vhembe Telecommunications Company and Kwetedza Telecommunications.

[515] A merger between Thabo Mafutsanyana Telecom and Maluti Communications.

Kingdom Communications	Nkangala Telecoms	Umzinyathi Telecommunications[516]
Thinta Thinta Telecomms	Northcom	
	Nyakatho Telecommunications	
	PlatiTel	
	Ukhahlamba Communications	
	ZeroPlus Trading	

8.4 Licensed to be Killed

Conceived as an innovative rural licensing model, stranded in the no-man's land between the lure of money-making opportunities and the ineptitude of bureaucratic delays, the under-serviced area licensing initiative became a process overtaken by events. As noted above, it took three long years from the declaration of the 27 target licensing areas until the first consortium could put its signature to its licence. By that time, at the start of 2005, there were over 23 million mobile subscribers nationwide, compared to under 5 million fixed lines[517]. The 27 areas may have had less than 5% fixed-line residential teledensity, but they were likely to have had substantial and burgeoning numbers of mobile subscribers, making market entry for any USAL operator challenging in the extreme.

Further, partly in response to pressures from the sector, from 2003 the Ministry had begun to move towards a belated further liberalisation of the sector. On the one hand, the tortuous process that was to culminate in new legislation - the 2005 Electronic Communications Act - had commenced with a stakeholder policy colloquium in July 2003, but had run into delays and controversy (Wolmarans, 2004)[518]. In the meantime, in late 2004, under continuing pressure from the sector, the Minister abruptly issued a set of Ministerial Determinations[519]

[516] Later known as Umzitel, possibly involved in later tender irregularities at USAASA (see later section).

[517] 23,6 million versus 4,7 million as at 31 March 2005, to be exact (figures from the author's spreadsheet, compiled from operator annual reports and press statements). This gives a national average teledensity of 10% for fixed and 50% for mobile.

[518] A draft bill had been released six months after the colloquium to howls of condemnation and ridicule. It was replaced in February 2005 by a rewritten and much-improved Bill, which finally became the current Act.

[519] So-called because the Minister set dates (1 February 2005) at which many of Telkom's exclusivity provisions, which had been established 'until a date to be determined by the Minister', were to proscribe.

(DoC, 2004b) which put in place important steps towards further liberalisation within the confines of the existing Telecommunications Act. Many of the provisions of this policy *deus ex machina* - which was issued a mere two months before the first USALs were to receive their licences - were directly relevant to aspects of the business models and potential market strategies of the USALs. Such provisions included: the full liberalisation of public payphone services, permitting voice over any protocol, the introduction of self-provisioning and of resale, the introduction of an e-rate discount on phone calls and Internet access charges. And, as Gillwald and Esselaar observed at the time, they "substantially diminish the USALs' business case, by opening up the market" (Esselaar & Gillwald, 2004, p. 25). Thinta Thinta was later to echo the point with specific reference to VANS licensees, who, as a result, enjoyed "self-provision rights, without any obligations leaving the USALs with roll-out obligations against a diminishing market" (Thornton, 2006, p. 126).

Given the pressures on the new USALs due to the licensing delays, and in the light of dramatically altered market conditions, it is hardly surprising that all the USALs rushed to sign roaming agreements[520] with the mobile incumbents in the scramble to secure a foothold in the market. Thinta Thinta (branding itself as T3) was the first to do so, with an agreement allowing it to roam on the MTN network, which already covered 100% of its licence area in the Ugu District of KwaZulu-Natal (Mogaki, 2005). Bokamoso was quick to follow, announcing a roaming agreement with Vodacom ahead of the fanfare launch of its services (branded as B-Tel) at a government *imbizo* held in early April 2005 in the town of Virginia in the Lejweleputswa District of the Free State (Weidemann, 2005b)[521]. Shortly thereafter Vodacom[522] announced the signing of five roaming agreements with USALs, adding Amatole Telecomms, Bokone Telecomms, KaraboTel and Kingdom Communications to its growing stable (Lowman, 2005). Ilizwi Telecoms too seems to have signed up to the Vodacom network a little later (Mngcungusa, 2005). Five of the first seven licensed USALs went on to file tariff plans with the regulator during 2005/6 (Amatole Telecomms, Ilizwi Telecomms, KaraboTel, Kingdom Communications, Thinta Thinta Telecomms (ICASA, 2006c, p. 11)).

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[520] Most of these were really resale agreements, with rebranding, as the USALs had no networks of their own, rendering them what is now termed MVNOs.

[521] Bokamoso (B-Tel) subsequently switched to Telkom (Telkom, 2005), reportedly because the reseller agreement with Vodacom was "unfavourable" (Thornton, 2006, p. 18).

[522] Vodacom's Tjaart le Roux seems to have been the driving force behind this. It is unclear whether this was simply a commercial drive, animated by financial or altruistic motives, or whether it was part of a more cynical business strategy to emasculate the USALs.

Although the promises to roll out their own networks within the 3 years required by their agreements with the USA were trotted out with each announcement, none had even started to do so by year's end. This was because their applications for the necessary spectrum remained stalled at ICASA (Mngcungusa, 2005). Nearly a year later the USALs were still waiting for that spectrum (Guest, 2006)!

As a result, the USALs were reduced essentially to MVNOs[523], resellers of the services of the mobile incumbents - but with a crucial, crippling difference: their customers were unable to roam outside their designated under-serviced area. Their agreements with the mobile operators had all the trappings of a mobile offering, including voicemail, access to emergency services, with the necessary MVNO branding support: "assistance with respect to the manufacturing of SIM cards and prepaid re-charge vouchers (with USAL branding and programmed on the USALs number plan)" (Vodacom, 2005). Even sweetened with "skills transfer and learnership programmes" for their staff, they were subject to the fixed-mobile curse, only able to offer "regional [as opposed to national] roaming" (Vodacom, 2005), in contrast to the normal national MVNO footprint. International ICT commentator Russell Southwood was to conclude gloomily that this was likely to remain their only option if they were to survive (2006). Worse, selling a service that offered only limited mobility within a market dominated by fully mobile providers was a recipe for failure. Why, one wonders, would any prospective user sign up for a USAL service restricted to a single district, when they could sign up to Vodacom and MTN at similar prices and secure unlimited portability?

As noted previously, it soon became that the USALs were in serious trouble (Gillwald, 2005a; Vecchiatto, 2006a; Guest, 2006). Alerted, in part perhaps by its July 2005 impact study, whose consultants had pointed out that the "viability" of the USALs had been "severely impacted" (USA, 2005, p. 33) by delays and other market factors[524], but also by its own workshops with the USALs (Vecchiatto, 2006b), the Universal Service Agency, to its credit, commissioned external specialists to conduct a USAL review[525] and to propose

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[523] A mobile virtual network operator (MVNO) sells mobile phone services without owning its own wireless network infrastructure. It secures bulk access to network services at wholesale rates from an existing mobile network operator, and sets its own retail prices under its own branding.

[524] The USA report identifies 1800 MHz spectrum *quid pro quo* requiring the provision of several million free SIM cards (ICASA, 2004g, pp. 49-50) (see discussion in previous section) as further undermining the USAL business case. Had it been implemented, it most certainly would have cut the ground out from under the USAL market.

[525] Covering the first 7 USAL licensees.

recommendations to strengthen their business cases and ensure their sustainability… [as well as] the potential impact of the Electronic Communications Bill" (USA, 2006d).

The results of this were more startling and starker than any had anticipated, and began to filter through in reports to Parliament ahead of the formal tabling of the report (Vecchiatto, 2006a; Vecchiatto, 2006b). The report concluded bleakly that "without significant intervention by the Minister and Department of Communications (Minister), ICASA, the USA, the USALs themselves and other stakeholders, most if not all of the USALs will not survive" (Thornton, 2006, pp. 1,2). The report makes grim reading. The USALs are portrayed as entities in dire straits, undermined problems with respect organisational functioning, with "weak" corporate governance practices, largely unable to manage "regulatory compliance", and severely financially constrained (Thornton, 2006, p. 9ff). The report shows the USALs as primarily reliant on funding from the USF to survive, with the overwhelming bulk of the R 35 000 disbursed at the time having been spent on "start-up and operating costs" (Thornton, 2006, p. 12). By that stage the six operational USALs had a mere 17 000 estimated subscribers between them, with estimated ARPUs barely a quarter of the national average, well below the threshold for survival (Thornton, 2006, p. 14ff).

The report goes on to hone in on three major bottlenecks confronting the USALs:

- Lack of access to capital, for both operational and capital expenditure, which it described as "one of the most acute limitations" facing the USALs - due both to difficulties in raising loans and securing equity, and to the small size of the subsidies of from the USF, which it described as "not adequate";
- Failure on the part of ICASA to assign the necessary spectrum in the WiMax (in one case) and CDMA (for the remainder) bands, on which the USALs' "current business plans" were reliant[526];
- Failure to on the part of ICASA to extend a "cost based interconnection" beyond the PSTS to the mobile licensees (Thornton, 2006, p. 27ff)[527].

Accordingly, the report's main recommendations mirror the three key issues:

⇒ *Increase in and changes in respect of allocation of the USF Subsidy;*

[526] One USAL did manage to secure a test licence in the 850 MHz band.

[527] One of the report's "most damning findings" was that the mobile operators were charging the USALs more for calls roaming on their networks than they were charging their own customers (Justine Limpitlaw, personal communication, 30 January 2015).

⇒ *Access to CDMA (and other necessary) or alternative spectrum;*

⇒ *Promulgation and enforcement of interconnection regulations to ensure cost based interconnection from all other telecommunication services providers* (Thornton, 2006, p. 27).

By implication, the dire situation that the USALs found themselves in, points back to policy and regulatory failure, with ineptitude and delays on the part of the authorities creating a crisis for the luckless licensees. The report remains circumspect when it comes to pointing fingers, but goes on to recommend a range of supplementary, enabling "supporting interventions" to be undertaken by the Department, the regulator and the Agency (Thornton, 2006, p. 27ff).

The findings, described by one of the research team on the report as "absolutely damning" (Justine Limpitlaw, personal communication, 20 January 2015), were duly presented to the Minister, enthusiastically supported by the luckless USALs[528]. In response, the Minister's "face became grimly set in stone (Justine Limpitlaw, personal communication, 20 January 2015).

The "final report" was also handed over to the Minister "after the consultation process ran its course" (Thornton, 2006, p. 6). The report appears, however, to have had limited impact. It was presented at a conference[529] some months later (Senne, 2006c). It also made a brief appearance on the USAASA website[530], largely unremarked and with little outcry despite several reports in the trade press (Senne, 2006c; Guest, 2006). Perhaps many, like USAASA Board member Bibi Khan, were "tired of being in workshops where we discuss the problems that USALs are facing" and blamed the hapless USALs for not taking "responsibility for their sustainability" (Senne, 2006c). Khan had clearly not read the report closely, since it laid most of the blame squarely at door of the policy-makers and regulatory bodies, her own included.

Maybe not unexpectedly, the impact of the report on each of the three entities - the Department, the regulator and the Agency - singled out in the recommendations, appears to have been precisely zero. The 2005 Electronic Communications Act contained no licensing category for USALs, and this came into force in 2006, thrusting upon ICASA the mammoth task of converting all its legacy licences, thus leaving little room to focus on the USALs.

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[528] Who reportedly cheered the presenting team on with cries of 'Buwa!' (equivalent to 'Hear, hear').

[529] The Convergence, Broadcast and Telecommunications Summit, 30 August 2006. No record of the event survives.

[530] It was later removed. A copy still survives on the website of the team leader, Lisa Thornton Consulting.

Subsequent pleas by several of the USALs to the Parliamentary Portfolio Committee on Communications, describing their dire predicament and calling for the recommendations of the report to be implemented, were met with scant sympathy: one ANC MP brusquely told the USALs present[531] to be "self-critical and assess internal problems" (PMG, 2007).

Over a year later the Minister was again suddenly to pick up the issue of the USALs in the course of another round of policy directions, some 9 in all. These included the following bizarre injunction to ICASA: "where there is more than one licence in a province, [to] merge the licences and issue one Provincial Under-Serviced Area Network Operator (PUSANO) licence" (DoC, 2007, p. 9). Few at the time seem to have appreciated the enormity or the folly of the announcement. Essentially it amounted to enforcing mergers between the holders of USAL licences (and holders-to-be since six licences were already in process under the Ministers own ITA), some of whom appear already to have collapsed at the time. It would have reduced 27 USAL licensees to 7 PUSANO licensees[532]. And it sounded the death knell for the hapless USAL licensees.

Despite breezy assurances from USAASA that all was well (Glazier, 2007; Motloung, 2008), none of the mergers ever went through. The USALs themselves were kept in the dark by ICASA while the regulator tried to work out how to proceed, finally issuing an open letter[533] to ICASA demanding clarity and action (Senne & Jones, 2007). ICASA was later to explain that it had refused to implement the Minister's policy direction on the grounds that it was *ultra vires* the ECA (ICASA, 2009). In many places there was also no longer much left to merge: two journalists were only able to trace one (Ilembe Communications) of the eight round two USALs they attempted to contact (du Toit & Senne, 2007)[534]. In the meantime, ICASA went ahead and issued class infrastructure and individual service licences[535] to 25 of the 27 USALs[536].

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[531] The record suggests several were present, but only Bokamoso is named.

[532] Seven, not nine, as is popularly supposed. Two of the country's nine provinces had no gazetted under-serviced areas.

[533] Sadly, the open letter itself has not survived.

[534] It seems not to have occurred to them to contact any of the first seven, of whom they were aware. It is unlikely, however, that their hit rate would have improved greatly, had they done so.

[535] Electronic Communications Network Service (ECNS) and Electronic Communications Service (ECS) licences respectively. Class ECNS licensees have limited geographic scope (provincial or less).

[536] An examination of the various ICASA-issued lists of licensees over the years suggests that all except Kwetedza Telecommunications received licences at some point.

It is not clear why two USALs were left out. It also appears that ICASA did not actually contact the USALs prior to issuing their new licences[537].

Minister Ivy Matsepe-Casaburri seems to have retained a lingering affection for the under-serviced area licensing model. Her 2008 budget vote contained a number of proposals designed to support "investors interested in expanding infrastructure and services to the underserviced and unserved areas at affordable prices". These included a call for the regulator to make sufficient spectrum available for the "introduction of such services" and to provide for an asymmetric termination rate regime. She went even further, announcing her intention to issue "a policy directive to ICASA to urgently prescribe procedures and criteria on how operators that best demonstrate the ability to lower the costs to communicate and increase access to underserviced and unserved communities can be licensed". (Parliament, 2008, pp. 14,15). No such policy direction appears ever to have been issued, possibly because, as Cull noted at the time, it would have been *ultra vires* (2008, p. 2).

Between the various regulatory delays and policy vacillations, all hope of securing the desperately-needed investment in the USALs evaporated. Despite the provisions of their licences, which appear specifically to prohibit the USALs from seeking external investment after receiving their licences, a number had approached South Africa's Industrial Development Corporation (IDC, a state-owned development finance institution), as well as Lucent Technologies, a WiMax vendor. USAL licences specifically stated that the "licensee shall not at any time or under any circumstances use this licence as a form of security to secure additional or initial funding" (ICASA, 2006b, p. 15). Nevertheless, the IDC had reportedly been keen to invest some R 215 million in the first set of USALs (Thornton, 2006, p. 11), but the IDC's pre-conditions for granting the loans (chiefly: equity participation[538], but also possession of a spectrum licence) appear never to have been met, and no loans were ever finalised.

By the beginning of 2008 then, none of the original seven USALs had rolled out networks, and only three remained "viable", according to USAASA CEO James Theledi (Senne, 2008). Unfortunately, his bleak summary of the situation, while accurate, shifts the blame to the USALs (as had USAASA Board member Bibi Khan above), and fails to recognise any policy, regulatory or contextual contribution to the collapse of the project:

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[537] Licensees were advised by press release to come and collect their issued licences (ICASA, 2009a).

[538] Equity participation would have required prior written approval from ICASA, but also compliance with the ownership and control regulations.

> *We gave USALs money; spent many years since they were licensed in December 2004 waiting for them to begin offering services; and now it's 2008 and they have not finalised interconnection agreements, they don't have networks, have challenges of liquidation* [sic] *and can't bring together a roll-out plan* (Senne, 2008).

It fell to the incoming Minister to administer the last rites. In his maiden budget vote speech, he stated that USAL model and the PUSANO intervention were being "reviewed" because

> *the complexities of competition, merging companies, the licensing regime and the dynamics within the ICT industry pose a huge challenge with regards to the implementation of such intervention (DoC, 2009a)*.

With the environment having "changed drastically since the concept of USALs was first discussed", he conceded that the USAL model as a "concept and the possible remedy had not worked" (Vecchiatto, 2009).

A policy direction abolishing the PUSANO folly followed a few months later (DoC, 2009b). This then left some 25 ill-fated USALs without a formal licence category, albeit able to build their own provincial network infrastructure and able to offer fixed or mobile services countrywide[539]. However, they now faced a market effectively fully liberalised following the Altech judgement, with over 400 VANS operators now able to roll out their own networks and offer telephony services in direct competition to the USALs. It was an environment few if any of them would be able to survive.

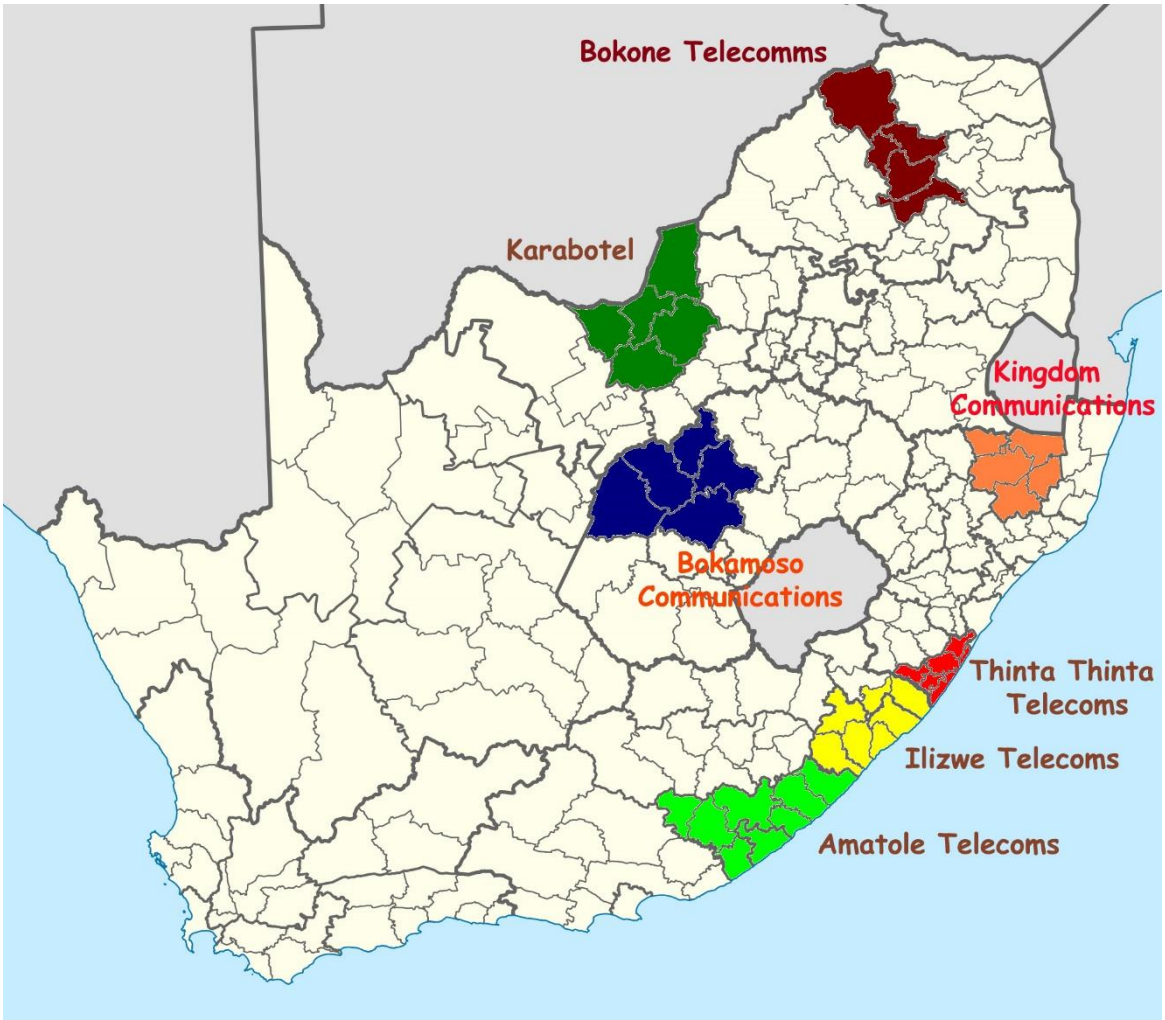
The fate of most of the jinxed USAL licensees remains unclear, even today. Of the original 7 pioneers, only Amatole Telecomms appears still to survive. The difficulty of establishing their status is compounded by the failure of ICASA to maintain an up-to-date and accurate database of licensees. By the time ICASA embarked on an exercise to clean up their database in 2014, three of the original seven had either deregistered or were untraceable, or both (ICASA, 2014a). Of the remaining 20, a further 9 had either deregistered or were untraceable, or both.

[539] Thanks to holding individual ECS licences, although they would need to secure roaming rights for customers travelling beyond the reach of their provincially constrained (class ECNS licensed) networks.

8.5 Seven Against the Sun

It is instructive to trace, as can best be established, what befell the first seven USALs, whose under-serviced areas are shown in Figure 8.2 below. Their stories are illustrative of the dynamics of this failed experiment in universal access and service licensing. Although the 2006 Thornton report commissioned by USAASA provides the only really substantial source of information, it has been supplemented by whatever other sources are in the public domain.

Figure 8.2: First 7 Under-serviced Area Licensees



Source: Author, based on (DoC, 2001d)

8.5.1 Amatole Telecommunications Services - Amatole District

Amatole's original USAL licence covered the Amatole District in the Eastern Cape (see Figure 8.3 below), along with the area demarcated as Buffalo City, and was issued in May 2005, some months after the other six, for reasons that are unclear. Despite containing a number

of substantial towns (East London, King William's Town, Bhisho, Alice), much of the area is poverty-stricken, especially those areas formerly in the bantustans of Ciskei and Transkei. At the time its 1,6 million inhabitants had a residential fixed-line teledensity of 3,5%. The company itself comprised some 8 small businesses and trusts, none of whom held in excess of 20% shareholding in the consortium (Thornton, 2006, pp. 34-35).

Figure 8.3: Amatole District

Source: Google[540]

Of all the USAL licences, Amatole's contained the greatest level of detail in respect of roll-out targets, running to some 20 pages (ICASA, 2006b, p. 32ff). The targets cover voice services, business and residential data services, and the provision of Internet access to schools. They are specified at municipal level, and broken down into residential lines, payphones and various categories of business lines. Hopelessly over-ambitious in hindsight, and adopting an unrealistic big bang approach of covering all 8 municipalities from year one, they commit Amatole to roll out 68 400 residential lines, 32 695 payphones and 3 550 business lines within five years[541]. The data service targets are specified at a similar level of detail, albeit set out somewhat differently, and envisage providing just under 2 500 business connections (including schools, clinic, municipalities and Internet cafés) and nearly 4 500 residential connections by the end of year 6. In addition, the licence commits Amatole to connect 75% of the district's 2 238 public schools. As with most licences, the figures were almost certainly lifted directly from Amatole's original bid. Their level of detail and the precision of their optimism reads like a utopian novel.

Amatole appears to have worked through a number of technology platforms, initially signing a three-year roaming agreement with Vodacom (Lowman, 2005; Thornton, 2006, p. 33). For their own network, they initially moved, in partnership with technology provider Tellumat, to

[540] The map shows Amatole District as it originally was. Buffalo City Metropolitan Municipality, comprising East London, King William's Town and surrounding areas, was excised from Amatole in 2011.

[541] These are the performance guarantee numbers. The targets are double the numbers in most cases.

what was described as a "distributed GSM over IP technology" solution (ITWeb, 2005)[542], before adopting WiMax for the provision of data and VoIP services (MyBroadband, 2007) once they had been granted WiMax spectrum (USAASA, 2007, p. 12). This was to become what current Director Mark Gray proudly labels as the "first commercial WiMax network in South Africa" (interview, 2 June 2017). Amatole was later, when they were no longer able to source additional CPE and new base stations, to opt for a mix of WiFi and ADSL, and to return their 3,5 GHz WiMax spectrum to ICASA (Mark Gray, interview, 2 June 2017).

With their tariff plan having been filed and approved by ICASA (ICASA, 2006c, p. 11), Amatole first launched its GSM services, roaming on Vodacom, in November 2005, and had an estimated 5 000 subscribers by early 2006 (Thornton, 2006, p. 37 & 39)[543]. USAASA reports the same 5 000 "starter packs" by the end of 2005, but records and additional 100 "active pre-paid subscribers", presumably as at the same date (USAASA, 2007, p. 13). According to Gray, the service peaked at 6 000 subscribers (interview, 2 June 2017. The planned WiMax service, offering both VoIP and Internet access, took rather longer to get off the ground, largely due to delays in securing the necessary spectrum from ICASA. Having secured spectrum in the 3,5 GHz band, Amatole initially planned to launch these services in June 2007 (MyBroadband, 2007), but this in turn was pushed out a further year due to delays in securing the microwave spectrum needed for backhaul (Muller, 2008a)[544].

Figure 8.4: EastTel / Amatole Logo

Source: (EastTel, nda)

Even that deadline may have been optimistic: they were later reported to have only launched the WiMax service at their first site in East London in March 2009 (USAASA, 2009d, p. 24). By 2012, now trading as EastTel, Amatole was reportedly doing brisk business, largely as an ISP, but also offering VoIP services (GetNews, 2012). However, there is no documentation publicly available attesting to subscriber base or profitability.

By early 2006, Amatole had received the first R 5 million instalment from the USF. Thornton's assertion that this "grant has been used primarily to fund operating expenses" (Thornton,

[542] Amatole's licence had in fact envisaged an early launch of GSM services (ICASA, 2006b, p. 29).

[543] This appears to refer to the number of 'starter packs' activated, which may not necessarily amount to the same thing.

[544] They received a microwave licence for this in November 2007.

2006, p. 39)[545] is vigorously disputed by current EastTel Director Mark Gray (interview, 2 June 2017), who refers to delays in tranche payments and describes the Agency as "not at all helpful". Gray insists that the overwhelming majority of the USF funding went on infrastructure and network rollout. According to USAASA's annual reports, Amatole eventually received its full USAL subsidy allocation of R 15 million between 2006 and 2009 (USAASA, 2008c, p. 16; USAASA, 2009d, p. 24) - one of only two USALs to do so. This suggests that USAASA was satisfied that the funds were correctly expended[546].

Amatole's rollout of GSM services early encountered difficulties with interconnection[547]. Thornton's report cites the USAL as "struggling to obtain interconnection with Cell C" (2006, p. 33)[548]. Current Director Mark Gray confirms that Cell C was refusing to carry any traffic originating from Vodacom's network via the two number ranges assigned to Amatole, 085-300-XXXX and 085-301-XXXX (personal communication, 8 June 2017). Unable to interconnect with Cell C, Amatole laid a complaint with the Competition Commission. The Commission in turn charged Cell C with "exclusionary conduct and price discrimination" since Amatole's "customers were not permitted by Cell C to interconnect with its users" (CompComm, 2008, p. 25). The case was eventually removed from the roll of the Competition Tribunal when, according to the Commission, Cell finally agreed to interconnect (Ramburuth, 2009). According to Gray, however, the issue was "never resolved" and led to the collapse of Amatole's GSM rollout (interview, 2 June 2017).

The 2006 USAASA evaluation paints a qualified picture of Amatole, albeit a guardedly positive one. The qualifications include the reported bitter squabbling between Amatole's shareholders, pitting commercial investors against more broad-based community groups, who alleged that the shareholding for commercial companies was "disproportionately high" (Thornton, 2006, p. 35). The report also points to lapses in respect of corporate governance and compliance with the Companies Act. More importantly the report notes that Amatole had "not complied with its rollout plan" (Thornton, 2006, p. 38)[549]. Further, there appear to have

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[545] this would have placed Amatole in breach of its subsidy agreement with USAASA, which required the subsidy to be utilised "exclusively for the acquisition and construction of infrastructure" (ICASA, 2006b, p. Clause 8.4 (c)).

[546] Although one must note that USAASA's capacity for monitoring and evaluation has, to say the least, proven ineffective, as noted in the previous section.

[547] Interconnection *per se*, not even with asymmetrical interconnection pricing.

[548] As we shall see, they were far from the only USAL to do so.

[549] The report refers to both GSM coverage (42 sites over 3 years) and very ambitious subscriber targets (142 500 subscribers over 5 years plus Internet connectivity to 571 schools over 6 years) (ICASA, 2006b, pp. 29-42)). Given

been problems in respect of regulatory compliance, with reports on "performance in respect of service targets and roll out targets" not having been submitted to ICASA, and the required codes of conduct not having been developed. Amatole's struggle with regulatory compliance appears ongoing: there is no record of any compliance reports having been submitted to ICASA for any of the four years where these were published (2009/10 – 2014/15).

Although the USAASA report does note a number of issues with Amatole's business plan, which it diplomatically describes as "over-ambitious", it does go on to suggest that the company had a "chance of becoming cash positive" in the short to medium term (Thornton, 2006, pp. 39,40).

Subsequent to the USAASA evaluation, Amatole was to clash with ICASA over licence fees. In May 2013, as part of a sudden crackdown on licensees[550], ICASA obtained and executed a seizure warrant for Amatole's WiMax and microwave apparatus. Amatole claims that the action caught them by surprise as they were engaged in discussions with the regulator to "resolve any outstanding licensee fee issues" (MyBroadband, 2013a). It appears that Amatole was not the only licensee to claim that ICASA was "unable to verify its own information regarding outstanding license [sic] fees" (MyBroadband, 2013a). Amatole challenged the regulator, obtaining an urgent interdict ordering the return of the seized equipment (ITWeb, 2013a). The matter was subsequently settled, although the terms of the settlement remain "confidential" (MyBroadband, 2013c).

Amatole is almost certainly the only surviving member of the original group of under-serviced area licensees. Still operating as EastTel, it describes itself as a "full service telecom operator… focusing on the Eastern Cape" (EastTel, ndb). Having had to "readjust" its business model in the face of a changed technology and market environment, EastTel now sees itself in essence as a WISP[551], using ADSL and WiFi to provide VoIP and data services from its offices in the East London Telecom Tower. Director Mark Gray remains sanguine about the future of the company, pointing to a 2106 management buyout as evidence of the company's confidence in itself (interview, 2 June 2017).

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the problems with the viability of the USAL licensees discussed previously, and Cell C's refusal to interconnect, it is hardly surprising these were never met.

[550] iBurst was the first victim.

[551] Wireless Internet service provider, an ISP whose services are provided over a network based on wireless technologies.

That survival has, however, come at the price of deviating from the original under-serviced area licence model, mandated to connect poor and marginalised communities in remote, rural and under-served area. The overall picture that emerges of Amatole is one of a small-scale, niche operator, with customers from far beyond its originally assigned geographic area, having adapted to the changed circumstances of the environment and the sector.

8.5.2 Bokamoso Consortium - Lejweleputswa District

Bokamoso's USAL licence covers the sprawling Lejweleputswa District, north-west of the Free State capital of Bloemfontein. Home to some 600 000 people at the time, by 2001 it was one of the better-connected of the under-serviced areas, with a residential fixed-line teledensity of a whisker over 5%. It also contains several substantial towns: Welkom, Virginia, Odendaalsrus, Winburg, Brandfort. Bokamoso itself comprised some 17 separate individuals and companies, all with small shareholdings, but with 35% set aside under B-Tel (Thornton, 2006, pp. 46-47).

Figure 8.5: Lejweleputswa District

Source: (Yes, nd)

Bokamoso was issued their licence in December 2004 (ICASA, 2004i). The roll-out targets and schedule are very poorly specified in comparison with those of Amatole, taking up a mere three pages, most of which is taken up with unannotated and unexplained population and coverage maps, presumably cut and pasted from the original bid. A table of "subscriber growth" commits Bokamoso to connect 5 277 fixed lines and 20 641 mobile subscribers over three years (ICASA, 2004i, p. 33). A total of 65 base stations across 18 sites, located in the various towns within the region, is also specified (ICASA, 2004i, p. 33).

Bokamoso's technology choices seem to have been a series of bad decisions. As noted above, the company quickly became a reseller of Vodacom services, branding itself as B-Tel, and planning a hastily-arranged, high-profile launch at a government *imbizo* in early April 2005 in

the small mining town of Virginia[552] (Weidemann, 2005b). This clearly failed to take place, as the company later announced a mid-June switch-on of its roaming services, gleefully anticipating an immediate 600 subscribers, growing to 6 000 by year's end (Weidemann, 2005c). B-Tel later also began to resell Telkom prepaid payphone cards under Bua (seSotho for 'speak') branding (Telkom, 2005). Subsequently Bokamoso planned to adopt CDMA technology, in partnership with Lucent, for the rollout of their own network (Thornton, 2006, p. 60). As with many other USALs, this seems to have stymied in the face of the failure of ICASA to allocate the necessary spectrum (Mngcungusa, 2005).

Bokamoso's rollout, insofar as the few available numbers indicate, seems to have been singularly unsuccessful. By early 2006 they were claiming "about 2 300 active subscribers" (Thornton, 2006, p. 45). At about the same time USAASA reported B-Tel as having a "subscriber base of 350" (USAASA, 2007, p. 13), presumably based on earlier numbers. Either way, such small numbers of subscribers do not bode well for business profitability.

What seems fatally to have undermined Bokamoso was a slew of what the Thornton report refers to a "serious corporate governance problems" (Thornton, 2006, pp. 48-51). These included "improper and fraudulent" loans taken by certain shareholders, which led to the "resignation of the chairperson and the CEO during January 2006". Bokamoso was also facing litigation from disgruntled shareholders, and was later forced to make a substantial pay-out to the former CEO who alleged 'constructive dismissal' at the CCMA (Balancing Act, 2006). Although the USAASA report does not explicitly label it as such, there appears to have been a deal of fruitless, wasteful and possibly corrupt expenditure, including R 650 000 for a "marketing plan" that was never delivered and R 600 00 for a "network / business plan" that appears to have been inappropriate to Bokamoso's licence conditions (Thornton, 2006, pp. 45-54). The report thus views Bokamoso as a rudderless ship, noting that there is "no link between the licence conditions, the business plan, the Vodacom contract and what happens in reality" (Thornton, 2006, p. 51).

Although the issue never got as far as the Competition Commission, Bokamoso too was on the receiving end of a refusal by Cell C interconnect, and "wanting to only sign a regional rather than national roaming agreement" (Thornton, 2006, p. 55).

[552] Population around 65 000 at the time.

Nevertheless, Bokamoso did manage to pull together a submission to Parliament on the Convergence Bill, highlighting the implications of the lack of a licence category and defined service area for the USALs (Bokamoso, 2005).

When it came to Bokamoso's funding from the USF, the report concludes that the "grant has been used primarily to fund operating expenses to date" (Thornton, 2006, p. 51). Nevertheless, Bokamoso managed to receive part of the second tranche of funding from the USF[553], bring their total funding from the USF to a total of R 5 464 463.

Despite the appointment of a new Board in November 2005, the outlook for Bokamoso was an exceedingly gloomy one: "currently [it has] no approved business plan and there are also no indications that B-Tel will be able to raise private investor funding in the immediate term" (Thornton, 2006, p. 55). Bokamoso was last reported to be "negotiating a merger with Northcom" (USAASA, 2008, p. 16) under the imposed PUSANO dispensation.

After that Bokamoso vanishes from the public record, sunk without trace.

8.5.3 Bokone Telecomms - Capricorn District

The Capricorn District, the area demarcated for Bokone Telecomms' licence, covers a long slice of what is now Limpopo Province, one of the more poorly connected areas in South Africa. Aside from the conurbation around the provincial capital, Polokwane, where some 45% of the district's then 1,1 million inhabitants lived, the district is mostly rural, with the next largest population centre being the cluster of villages around Zebediela. With high levels of poverty and many inhabitants reliant on subsistence farming and remittances, it had a residential fixed-

Figure 8.6: Capricorn District

Source: (Yes, nd)

[553] Despite USAASA's claim that a second tranche was contingent upon "submission of their audited financial statements proving establishment of infrastructure to the value of R 5m" (USAASA, 2008c, p. 77).

line teledensity of just 2,4% at the time, likely mostly concentrated in Polokwane itself. Despite this, the relatively wealthy Polokwane conurbation should have made for good internal cross-subsidisation possibilities. The Bokone consortium was made of 26 shareholders, mostly local businesses holding small stakes, and the staff were all, at least initially unpaid volunteers (Thornton, 2006, pp. 64-65).

Bokone's licence was issued in November 2004, setting out the standard terms and conditions referred to above (ICASA, 2004c). Its rollout plan commits Bokone to using an "scalable wireless access system", and connecting 8 800 subscribers over a 5 year period (ICASA, 2004c, p. 31). This is broken down into various categories, viz: "residential" (46%), "business" (20%), "broadband" (4%), and a somewhat arcane category of "universal access" (30%)[554]. Some 66 base stations are envisaged, slightly more than half of them new ones[555]. A series of badly-scanned maps of the various local municipalities, showing base station coverage then follows.

Although Bokone had originally signed up as a Vodacom reseller (Lowman, 2005), its relationship with Vodacom quickly "soured" and Bokone opted to "eschew the reseller model" once it became clear that the roaming agreement was anti-competitive: the alleged "wholesale rate offered by Vodacom was in fact higher than the retail rate offered to [Vodacom's own] subscribers" (Thornton, 2006, p. 61). Although Bokone had originally planned to build a CDMA2000 network, delays in securing spectrum from ICASA prompted them to move to corDECT, which they planned to roll out "as soon as they receive their second tranche" from the USF (Thornton, 2006, pp. 61-62).

Bokone reportedly completed their network rollout in 2007, but had at that stage "no services running on the network" (USAASA, 2008, p. 16). The following year they were still planning to "go live" according to USAASA CEO James Theledi (Senne, 2008). There are no reports of subscriber numbers, and no further indication of whether or not Bokone actually ever launched. Indeed, it appears as if it never did. Bokone was later to be described as a "project that failed before it could see the light, with its devices left gathering dust" (Makana, 2010).

The USAASA report noted that Bokone had no full-time staff, and that its personnel lacked experience and needed training. It also described "corporate financial governance" as "extremely inadequate", referring to a sum of R 3 million that may have been irregularly

[554] None of the categories is formally defined. "Universal access" may refer to telecentres or payphones.

[555] Presumably access to the "existing" ones would be secured via facilities leasing agreements with incumbents.

"transferred out of the company's account" (Thornton, 2006, p. 66)[556]. Nonetheless, and possibly suspiciously so, Bokone Telecomms was one of only two USALs to have received all three of its tranches of funding from the USF. It further appears that Bokone secured a further R 30 million from the provincial government (Makana, 2010)[557].

Sadly, however, it appears that a total of R 45 million went to waste. Infrastructure appears to have been bought and installed, and then left to rot or be stolen. And no services appear ever to have been launched, nor customers ever signed up. Worse, no formal investigation appears ever to have been launched by USAASA or the Limpopo provincial government, nor charges laid.

8.5.4 Ilizwi Telecommunications - OR Tambo

Ilizwi Telecommunications was awarded its licence in the under-serviced Eastern Cape area of OR Tambo District, covering most of the former bantustan of the Transkei. It is a poverty-stricken area, largely characterised by subsistence farming, with many inhabitants reliant on remittances, and includes the birthplace of Nelson Mandela, and, originally, that of its eponymous ANC leader[559]. It was home to 1,6 million people at the time, with only two towns of any size: Port St Johns (147 000) and Mthatha (100 000). Its 2001 residential fixed-line teledensity at the time was a mere 0,7%, making it the second most poorly served area in the country. Ilizwi itself

Figure 8.7: OR Tambo District

Source: (Researchgate, 2010)[558]

[556] At the time of the report, a second KPMG audit was reportedly under way to trace the funds.

[557] It is unclear if there was anything improper about this alleged investment, but a total of R 45 million invested, with nothing to show for it, does seem to merit further investigation.

[558] The map shows OR Tambo District as it was at the time. After 2011 Mbizana and Ntabankulu local municipalities were transferred to the Alfred Nzo District Municipality.

[559] Due to the redrawing of boundaries, O R Tambo's birthplace now lies in another district.

comprised some 7 entities, mostly local trusts, with the largest slice held by Ilizwi Investment Holdings (Thornton, 2006, p. 83).

Ilizwi's licence was one of a cluster issued by ICASA in November 2004 (ICASA, 2004d) and specifies a rollout plan that is skeletal to say the least. It tabulates fixed-line "site network uptake" figures, 18 in total, and lists each of the 7 local municipalities to be covered (ICASA, 2004d, p. 30). A rather unhelpful "coverage map" is appended, showing existing GSM coverage, along with areas to be covered in the various years (ICASA, 2004d, p. 33)[560].

Ilizwi had planned to roll out a CDMA network able to accommodate over 35 000 subscribers, but delays in securing spectrum from ICASA prompted them to sign a roaming agreement with Vodacom (Thornton, 2006, p. 93). It is unclear whether Ilizwi was ever able to roll out its own network. One USAASA annual report claims they had and were providing fixed, mobile and data services (USAASA, 2007, p. 14); the following annual report states that they had "not managed to rollout [sic] any network" (USAASA, 2008).

Branded as iTel, Ilizwi's GSM reselling business opened in mid-2005, and was optimistically projecting in excess of 30 000 subscribers by 2010, some 80% of them prepaid, along with nearly 800 community payphones. At the time of the report, iTel claimed to have 7 500 subscribers and 160 community payphones (Thornton, 2006, pp. 89-91). Ilizwi's CDMA projections were similarly hopeful, projecting by 2010 to sign up over 30 000 fixed CDMA customers (some 48% of them businesses), along with over 20 000 mobile CDMA subscribers and over 1 100 data subscribers (Thornton, 2006, p. 92). No accurate or subsequent figures on either rollout or uptake are available.

Governance at Ilizwi received one of the more positive assessments of the USAASA report, which noted that "generally, the company is aware of, and complies with, corporate governance requirements" and "complies with regulatory requirements where it can" (Thornton, 2006, p. 85).

Financially, the company was reported to be struggling to raise funding, with a bridging loan from a local bank (Meeg Bank) under threat, but engaged in talks with the IDC to secure further funds (Thornton, 2006, p. 86). Although iTel's reseller business had a "chance of becoming cash positive", the evaluation described the business plan "over-ambitious" and too

[560] Presumably the original is in colour.

reliant on unrealistically high ARPU projections, particularly given the "relatively low economic potential" and small addressable market of the district (Thornton, 2006, pp. 88-89).

Ilizwi only ever received the first instalment of their grant from the USF, most of which was spent on "establishment costs (launch, product development and marketing)" for the iTel MVNO side of the business (Thornton, 2006, p. 86).

They too fell foul of Cell C's refusal to sign anything other than "regional interconnection agreements as opposed to national ones" (Thornton, 2006, p. 93) with the USALs, but do not seem to have lodged a complaint with either ICASA or the Competitor Commission.

Ilizwi was still in existence in 2010, when the company applied for a series of blocks of geographic numbers. This attracted ICASA's suspicion, and they were charged and found guilty by ICASA's Complaints and Compliance Committee of utilising the numbers, in violation of their licence conditions, to offer fax-to-email services (ICASA, 2011d).

A few years later the company had disappeared, listed as an "untraceable" licensee by the regulator (ICASA, 2014a, p. 5) - another USAL that sank with the smallest of splashes.

8.5.5 Karabo Telecoms - Central District

The licence awarded to Karabo Telecoms covered the Central District (now renamed Ngaka Modiri Molema District) of the North-West Province, home to slightly over three quarters of a million people at the time, most of whom were employed in the mining and agriculture sectors. The area is mostly rural semi-desert but contains a number of fairly substantial towns: Coligny, Lichtenburg, Mafikeng (now Mahikeng), Mmabatho, Ottosdal, Zeerust. Its residential fixed-line teledensity at the time was 2,9%.

Figure 8.8: Central District

Source: (Yes, nd)

KaraboTel received its licence from ICASA in December 2004 (ICASA, 2004h). The company was principally owned by two entrepreneurs, partnered with another 12 investment entities (Thornton, 2006, p. 96). The licence envisages a rollout in two phases, firstly as a reseller of Vodacom services, and secondly, within 6 months, deploying its own network (ICASA, 2004h, pp. 29-36). A detailed table calls for 53 400 subscribers to be signed up within 5 years across 44 different areas, sensibly commencing with Mafikeng, Zeerust and Lichtenburg.

Like so many of the other USALs, KaraboTel had signed up as a reseller for Vodacom (Lowman, 2005), launching prepaid services in August 2005, although they reportedly had "plans to roll out their own network as well, to offer high speed data and voice services" (Thornton, 2006, p. 98). At around the same time, CEO Emson Moyo spoke of plans to "build a high-speed data network, probably using WiMax" (MyBroadband, 2005).

The USAASA assessment is thin on KaraboTel, as no written responses were supplied to the research team. However, the company did report that 1 073 SIM cards had been "activated" although it did "not know how many people stay as active subscribers" (Thornton, 2006, p. 98). It is, therefore, unclear whether KaraboTel in fact ever progressed beyond its first faltering steps as an MVNO.

What information there is, suggests that all was not well at KaraboTel. USAASA report refers to "severe financial and operational stresses", noting that CEO Emson Moyo and the financial manager had both been suspended and then dismissed on the grounds that they were Zimbabweans without the necessary South African documentation (Thornton, 2006, p. 95 & 98). Moyo later launched a court application "challenging the validity of his removal as a director" (ICASA, 2007a, p. 40). The USAASA report also notes that "shareholder loans were drawn down by Mr Bogoshi of R375,000, and by Mr Moyo of R275,000", but does not say whether it views these as irregular (Thornton, 2006, p. 97).

The company only received a single R 5 million tranche from the USF, with no indication from USAASA as to why subsequent tranches were withheld.

KaraboTel too was unable to interconnect with Cell C (Thornton, 2006, p. 98).

There is no further or subsequent trace of KaraboTel.

8.5.6 Kingdom Communications - Zululand District

KwaZulu-Natal's Zululand District, the heart of the Zulu kingdom, was the site for the licence issued to the aptly-named Kingdom Communications. Again primarily rural, it encompasses a number of the scattered pieces that made up the former kwaZulu Bantustan, and was home to some 800 000 people at the time. It does contain some substantial towns, notably Ulundi (24 000) and Vryheid (35 000). At the time its residential fixed-line teledensity was 1,6%

Kingdom received their licence from ICASA in November 2004 (ICASA, 2004e). The consortium itself comprised 10 investors, mostly businesses and trusts, with Okomphakathi Investments holding the largest slice at 39% (Thornton, 2006, p. 103). The rollout schedule is spread over 7 years and promises a total of 35 base stations spread across the 5 municipalities, but concentrated in those with large towns, Abaqulusi (12) and Ulundi (11) (ICASA, 2004e, p. 30).

Figure 8.9: Zululand District

Source: (Yes, nd)

At the time of the USAASA evaluation, Kingdom was merely a reseller of Vodacom services (Lowman, 2005), albeit under its own branding, but without "any direct or indirect customer control" (Thornton, 2006, p. 109). The report does not give subscriber numbers for this arrangement.

For its own core network the company was committed to CDMA2000, for which it had budgeted some R 62 million, but, like the other USALs, was tied down, anxiously awaiting the release of spectrum by ICASA (Thornton, 2006, pp. 109-112). Backhaul was to be provided by Telkom (Thornton, 2006, p. 121). The network does seem eventually to have got off the ground, with USAASA reporting the launch of the "first phase of [CDMA2000] base stations in Vryheid on 23 March 2008", with customer services expected to be launched by September

2008 (2008, p. 16). It is not clear whether the customer launch indeed took place, or what customer uptake there was[561].

Although Kingdom was reportedly "not confident about its corporate governance practices", and evinced the need for training promised by USAASA, the report does not identify any major governance issues (Thornton, 2006, pp. 107-108).

Although most of the first tranche of the USF grant had been spent on "salaries" (Thornton, 2006, p. 110), Kingdom did manage to secure most of their second tranche, making a total of R 9,9 million. This may have covered the Vryheid launch, but was well short of the capital necessary to fund their full rollout. Negotiations with potential third-party funders proved difficult, with "commercial banks [bring] 'very reticent' to stump up cash" (MyBroadband, 2005). Although Kingdom had applied for over R 70 million in loans from its CDMA2000 vendor, Lucent Technologies, and the IDC (Thornton, 2006, p. 110), nothing seems to have materialised from this, lack of spectrum proving to be a sticking point.

Interconnection with Cell C also proved to be another stumbling block for Kingdom (Thornton, 2006, p. 120).

Nothing more is known of Kingdom Communications, its customers or its rollout, save that in 2014 the regulator reported that the licensee had "deregistered" (ICASA, 2014a, p. 8), once again an aborted USAL venture with nothing left to show for their licence.

8.5.7 Thinta Thinta Telecoms - Ugu District

Ugu District in southern KwaZulu-Natal, where Thinta Thinta secured its licence had some 700 000 inhabitants at the time, with a residential fixed-line teledensity of 3,5% in 2001. It is a mixed area, with some former Bantustan areas of subsistence farming, along with commercial agriculture and tourism. It contains only one town of any size, Port Shepstone, with 25 000 inhabitants at the time.

Thinta Thinta was licensed in November 2004 (ICASA, 2004b). The consortium comprised two main partners, Amalima Investment Holdings (68%) and Siwugu Women Investment Holdings (25%) - each of which in turn were comprised of SMMEs and traditional leaders - with the remaining 7% split between 7 individuals and two trusts (Thornton, 2006, p. 129).

[561] USAASA never again reported on the progress of any of the USALs, and there does not appear to have been any press coverage.

Thinta Thinta's licence is exceptionally thin on targets, containing a mere one-page colour-coded map, printed in black-and-white, marking coverage areas over two years, and referring to "narrowband GSM" and "broadband FWA" (ICASA, 2004b, p. 32).

Figure 8.10: Ugu District

Source: (Yes, nd)[562]

In line with this, Thinta Thinta was reported to be planning to roll out GSM and broadband services under its own branding, initially via a roaming agreement signed with some fanfare with MTN - it was the only USAL to do so - but with plans to roll out its own network over the next few years (Mogaki, 2005). . The fact that MTN reportedly already enjoyed 100% coverage of the Ugu area (Mogaki, 2005) might perhaps have been a cause for competitive concern rather than satisfaction.

As an MTN reseller, branding as T3 (Thinta Thinta Telecoms), the company offered subscribers the ability to "use their phones throughout the country", but with "preferential tariffs" applicable within the district of Ugu (Thornton, 2006, p. 125). The rollout of T3's own CDMA2000 network was hampered by the inability at the time to secure anything more than a 'test licence' from ICASA (Thornton, 2006, p. 126). By 2008, having secured a spectrum licence, they had reportedly rolled out a "small network" (USAASA, 2008, p. 16). There is no data available as to number of subscribers, either as MTN resellers or on their own network. Like many of the other USALs, Thinta Thinta was "not confident about its corporate governance practices", and evinced the need for training (Thornton, 2006, p. 131).

In April 2008, Thinta Thinta is as having launched a WiMax pilot project in partnership with Smile Communications at the village of Gamalakhe, using public payphones and offering reduced call rates (Hellkom, 2008). The project appears to have been based on the use of Smile payphones, via PIN-protected individual access, to "make low-cost calls and operate a

[562] Note that the municipality names and boundaries now differ, and that a portion of what was then Vulamehlo Municipality was incorporated into the eThekwini Metro in 2016.

voice mailbox with free message retrieval" (Muller, 2008c), a model that has some features in common with the UK's ill-fated Telepoint model[563]. USAASA also reports on the partnership with Smile, but has a very different view of the services on offer: "voice and message services [to Smile customers] using Thinta-Thinta network" [sic] (USAASA, 2008, p. 16).

It is likely that the two were complementary initiatives, but the fate of neither is known. Queries directed to Smile Communications on the fate of the Gamalakhe project elicited on the response that they were "[not] able to shed any light on what happened there" (Paul Carter-Brown, personal communication, 17 February 2015).

Despite their claim to have secured funding commitments from the IDC (R 51 million) and Lucent Technologies (R 13,8 million), in addition to shareholders' capital of some R 1 million (Thornton, 2006, p. 134), it seems unlikely that either of these materialised, given the previously reported reluctance of the IDC to step in without an equity stake, or a spectrum licence. Thinta Thinta did not receive any funding from the USF after the first R 5 million tranche.

Thinta Thinta was still in existence in 2010 when they lodged and won a rather trivial interconnection dispute against Telkom.

Like so many of the other USALs, they too seem to have disappeared without trace. ICASA's 2014 licensee audit identified them as both "untraceable" and "deregistered" (ICASA, 2014a, pp. 7-8).

8.6 Business Case or Basket Case

Of the seven original USALs, then, it appears from the evidence above that only one remains in existence, albeit offering services very different from what was originally envisaged. Of the subsequent 17, not one appears to have survived. The most optimistic numbers from above amount to a mere 17 000 GSM MVNO customers, with no figures for customers on the USALs' own networks. Some R 61 million from the USF by way of subsidies, along with

[563] The Telepoint system used the CT2 cordless telephony standard (a precursor to the more successful DECT system) to provide a short-range quasi-mobile telephony service, one which allowed for mobile call origination, but could not provide mobile call termination, compensating in part for this by offering voice-mail retrieval. It was overtaken by GSM, with the last of the UK's four licensees, Rabbit, closing its doors in 1993.

unknown amounts from small-scale investors and entrepreneurs, seems to have produced only the most miniscule of results.

Behind to failure of the model and the collapse of the individual licensees, lie many untold stories of personal loss and financial disaster. BMI-Tech's Denis Smit recalls that people lost their houses and that communities lost their savings[564] (interview, 20 November 2014). There are persistent rumours that one investor, facing financial ruin, committed suicide[565] (Alison Gillwald, interview, 9 May 2017).

What then are the likely causes of this debacle?

As has been noted, the USAL licensing intervention found ready resonance with the groundswell of popular opposition to Telkom's fixed-line monopoly. Despite - or, perhaps because of - this support for the proposal, from the outset there was considerable focus on the part of researchers and stakeholders on what more was necessary to ensure the economic viability and commercial success of the USALs, and to protect them from falling victim to the market power of fixed and mobile incumbency, and their consequent ability to exercise abuse of dominance.

The original NTCA proposal (2001) touched on what it viewed as critical success factors and identified several key enabling regulatory interventions. A subsequent report commissioned by the DBSA and the IDRC looked specifically and directly at financial viability for the USALs, covering both capital and operational expenditure, as well as sources of revenue. Its financial modelling envisaged USALs breaking even after three years - with only limited support by way of "start-up subsidies" from the USF in "marginal" cases (AVP, 2002, p. 29). - but was predicated on two key measures being put in place, namely:

- supportive regulations covering asymmetric interconnection (which it viewed as a "make or break" (AVP, 2002, p. 24) issue for the USAL business model - discussion below) and facilities sharing; and

[564] Several of the shareholdings appear to have been through 'stokvels', groups of people who club together to make regular contributions to a savings pool, usually with a rotating member pay-out, but sometimes for investment purposes.

[565] The author was unable to verify this independently. However, even if this is an 'urban legend', its currency suggests it chimes with the view that the USALs spelt financial ruin for many of the communities, individuals and small businesses that had invested in them

- the establishment of a "Shared Platform Company" which would provide "Operating Support System / Business Support Systems" (largely network management and customer service activities) (AVP, 2002, p. 29).

The LINK Centre's Alison Gillwald also wrote extensively and with an increasing degree of frustration on the USALs and their waning possibilities for economic viability and commercial survival (Gillwald, 2002a; Gillwald, 2003, p. 9; Gillwald & Esselaar, 2004, p. 16; Gillwald, 2005a). Similar concerns were shared by other commentators (van der Merwe, 2002; Chetty, Blake, & McPhie, 2006). It is important, therefore, to examine the critical success factors upon which the survival of this brave licensing experiment hinged.

8.6.1 Asymmetric Termination

A viable business case for the USALs had to rest principally on cost structures and revenue streams. Interconnect payments to upstream operators for outgoing calls and termination revenues for incoming calls from other networks are clearly two key streams of expenditure and revenue for any small-scale operator. This becomes all the more so if one is working in a high-cost, low-revenue environment, with small volumes of call origination. These market and cost dynamics have long been recognised, and underpinned earlier World Bank research by Kayani and Dymond, which led them to recommend "skewed interconnection agreements [as] an effective means of encouraging the start–up and early growth of rural network operators" (1997, p. 85). Similarly, these realities also underpinned a subsequent counter-intuitive recommendation for "regulators to allow operators, at least for an initial period, to price their services above those in urban areas" and to implement cost-based "geographic de-averaging" of interconnection rates to "reflect more closely the costs of terminating a call in a… more costly rural area" (Dymond & Oestmann, 2003, p. 60 & 63). The case is further reinforced by greater willingness to pay for service on the part of consumers denied access because of their remote rural location. A subsequent World Bank report authored by the ubiquitous Dymond picked up and elaborated the same set of ideas (2004).

When it came to defining a business model for South Africa's USAL licensees, a number of commentators recognised that the imposition of an asymmetric termination rate regime for the USALs was critical to their success. Gillwald's early analysis of the USAL process uses the logic noted above to mount an extended plea for the imposition of "cost based asymmetrical interconnection prices" in order to ensure a "sustainable business case" (2002a, pp. 12-13). Regulatory law expert Dominic Cull agrees: "the policy of using an asymmetric

interconnection regime as a mechanism for subsidising service provision in underserviced areas was one of the underpinnings of the 2002 policy relating to Under-Serviced Area Licensees (USALs)" (2008, p. 2). An asymmetric interconnection regime is also implicit in the "revenue sharing procedures" of the initial NTCA submission (NTCA, 2001, p. 14). Certainly, it was the key foundation and *sine qua non* of the business model proposed by the DBSA and the IDRC (AVP, 2002).

ICASA had already published a set of draft interconnection regulations specifically in preparation for the licensing of the USALs (ICASA, 2002e; ICASA, 2002h). These did not go nearly far enough: they proposed only a 30% 'differential' in interconnection charges; worse asymmetry was applicable only to interconnection with the PSTN (Telkom at the time) for long-distance calls. Symmetric interconnection rates were imposed on local calls and in respect of calls to mobile networks, with the latter capped at half the charge for calls from the PSTN to mobile networks[566]. It is not surprising, therefore, that the DBSA report viewed the draft regulations with dismay, pointing out that the fixed to mobile differential then in place exceeded 70% (AVP, 2002, p. 8)[567]. The authors went on to state baldly that the proposed 30% differential was far too low, that this would make the "USAL business unviable", and to call for a "minimum differential of 55-60%" (AVP, 2002, p. 19 & 29).

According to some stakeholders, the incumbent operators were bitterly opposed to even a limited degree of interconnection asymmetry[568]. Former DBSA staffer Heloise Emdon, then on secondment to the IDRC, describes attending a meeting at ICASA at which the incumbents resolutely opposed an asymmetric interconnection market, suggesting instead that any USAL revenue shortfall be paid for out of the USF (interview, 28 October 2014)[569]. She saw the counter-proposal as a move to use the USF as a "ruse and a red herring", turning it into a "policy millstone". She left the meeting feeling "very defeated and sad". Thus:

> *It became evident that the mobile operators would not enter into viable commercial asymmetric termination agreements with the USALs, which undermined the [USAL]*

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[566] The initial draft regulated termination rates rather than retail call charges, and pegged them to those applicable for termination on mobile networks, which were at the time R 1,25 (peak) or R 0,77 (off-peak) per minute.

[567] At the time Telkom paid the mobile licensees R 1,23 per minute to terminate a peak time call on their network. The corresponding termination fee for a peak call received by Telkom was R 0,21.

[568] An ICASA councillor said as much to the author at the time.

[569] Emdon had been pivotal in developing and lobbying for the DBSA / IDRC business model for the USALs.

licences… sabotaging potential business models. (Heloise Emdon, personal communication, 23 June 2017)

The draft regulations, likely as a result of this kind of pressure, never came into force. Their formal fate is unclear. Whether they simply lapsed and "were never finalised" as Cull implies (2008, p. 2), or whether they there was an active "withdrawal of the proposed asymmetrical termination rate regime for USALs" as Gillwald and Esselaar aver (2004, p. 16), remains unclear. It is possible the regulator felt that the requirement for major operators[570] to provide termination at LRIC[571] rates in accordance with the interconnection regime[572] then in place would suffice. Certainly, by mid-2003 the Minister was taking the application of the existing interconnection guidelines to the USALs as a *fait accompli* (DoC, 2003c, p. 5).

Undeterred, despite the proposal having petered out, ICASA Councillor Mamodupi Mohlala was to claim some years later that the "cellphone operators were still studying the proposed [asymmetrical interconnection] model" (Otter, 2007)[573]. In similar vein, as late as 2008 Minister Ivy Matsepe-Casaburri was still arguing in favour of asymmetric termination rates as a means to support the business model of operators providing services to remote and rural communities. During her 2008 budget vote she noted the existence of "investors interested in expanding infrastructure and services to the underserviced and unserved areas at affordable prices" and called upon ICASA to "consider favourable interconnection rates in the traffic that originates on the networks operated by such operators" (Parliament, 2008, pp. 14,15).

The impact of the failure to impose active asymmetry in respect of interconnection with the USALs has been seen by a number or respected commentators as dealing a fatal blow to the prospects of their success. Gillwald and Esselaar give this as a key reason for describing the USALs as "doomed" (2004, p. 16), while Cull views it as "pivotal", declaring that "There is little doubt in [my] mind that this is one of the principal reasons for the failure of the USAL project" (2008, p. 2).

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[570] Effectively licensees with more than 35% market share.

[571] Long Run Incremental Costing, a cost modelling methodology often used to determine the price paid by competitors for services provided by an operator with significant market power.

[572] The 2000 Guidelines were amended in late 2002. In early 2003 Cell C launched an application to have rivals Vodacom and MTN declared 'major operators, with a potentially substantial boost to its bottom lines (TeleGeography, 2003).

[573] This was shortly before the ill-fated decree that attempted to turn the USALs into PUSANOs.

Not only was an effective asymmetric termination rate regime denied the USALs, virtually all of them were unable to interconnect with Cell C[574], as noted above. The USAASA report summarises the situation:

> *The interconnection arrangements do not extend to Cell C. It apparently wants to negotiate its own interconnection agreement with each of the USALs. None of the USALs has signed such an agreement with Cell C because Cell C desires a geographically bound arrangement, which is unacceptable to the USALs. The USALs are thus currently unable to interconnect with Cell C.* (Thornton, 2006, p. 18)

It is unclear what Cell C intended by the 'regional' interconnect agreement repeatedly referred to in that report. Presumably it entailed limiting interconnection only to those calls originated from or terminating within the under-serviced specific to that licensee. Presumably to it relied on shrewd legal interpretation of the prevailing interconnection guidelines and the respective licences. Its technical feasibility is unclear - but its anti-competitive intent is plain. It was a refusal that undermined the ability of the USALs to compete for customers[575], and would appear *prima facie* to constitute anti-competitive conduct, and render Cell C liable for prosecution. As noted above, only Amatole mounted a formal challenge to Cell C's refusal, one which, sadly, was never ruled on by the Competition Tribunal.

In subsequent years, asymmetric interconnection, with marginal or smaller operators able to charge higher termination fees than those with significant market power, has become a mainstream regulatory intervention (ERG, 2008). Indeed, in the face of significant opposition from fixed and mobile incumbents (Tubbs, 2014), it is what underpins South Africa's 2014 mobile termination rate regulations (ICASA, 2014c), albeit at a differential far lower than that deemed necessary to ensure the viability of the USALs.

8.6.2 Shared Platform Company

The second major pillar underpinning the business case of the USALs was the creation of a "Shared Platform Company" to minimise costs, reduce overheads and achieve economies of

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[574] Most were roaming on Vodacom's infrastructure (interestingly, Cell C was largely doing likewise at the time). None reported interconnect problems with MTN.

[575] At the time Cell C itself was seeking to get a foothold in the market, claiming some 2,3 million subscribers, which gave it a small (12%) share of the market.

scale for the USALs by pooling network management and customer service activities under a single, shared entity (AVP, 2002, p. 29).

The idea seems, however, to have found limited traction. None of the institutional support institutions, such as the DBSA (from whom the idea emanated) or the Agency, seem to have taken up the idea. It was left to four of the USALs - Bokamoso Communications, Bokone Telecomms, Kingdom Communications and Thinta Thinta Telecomms (Thornton, 2006, p. 125)[576] - to attempt to institutionalise under the title of 'Shared Services Group'. The USAASA report spells out its functions in some detail:

> *The intention behind this SSG is to allow the USALs to increase choice of services and packages via ownership and control of certain network and support components. Shared components will include a billing platform, OSS / BSS*[577] *functions, certain network operations functions, OTS (On-site Technical Support services) a NOC (Network Operations Centre) and customer call centre – all in support of services on the CDMA network. The SSG will make these services available to [each USAL] for a monthly fee and gives the USAL access to certain scale economies normally only available to larger organisations.* (Thornton, 2006, p. 101)

Unfortunately, no SSG documentation or further third-party accounts survive. It is likely that the move by so many of the USALs to become MVNOs, along with the delays in securing CDMA spectrum and launching services, would have spelled trouble for the initiative. By the time CDMA services became a possibility, several of the participating USALs had already collapsed. As a result, the SSG seems never to have got off the ground.

The degree to which the failure of the SSG contributed to the failure of the USALs is speculative. It would certainly have presented management, co-ordination and accountability challenges. Amatole, which eschewed its services, is still a going concern. Two others that did likewise, are not. The concept of establishing an SSG does, nevertheless, present an intriguing and potentially viable cost-saving model in a marginal market environment.

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[576] These four, along with Ilizwi Telecomms, were planning to roll out CDMA networks. It is not clear why Ilizwi was not party to the agreement.

[577] Respectively, operational support systems (computer systems used by operators to control and manage their networks, and which support network management functions, including network inventory and configuration, fault management and service provisioning) and business support systems (IT systems used by operators to manage customer-facing business operations, including product and customer management, orders and billing).

8.6.3 Funding and the Subsidy Scheme

A third pillar of support for the USALs, as noted above, was the provision of financial support for the licensees from the Universal Service Fund. The small size of the subsidy - R 15 million in three annual tranches - has been identified by a number of commentators as being insufficient to ensure viability for the USALs (MyBroadband, 2005; Gillwald, 2005a, p. 11). Worse, the insistence by SARS that the subsidy was taxable (Thornton, 2006, p. 13), meant that each USAL would effectively receive only a little over R 10 million in total[578].

The source of the problem is that the quantum of USF subsidy has no empirical basis: the figures in the draft policy are simply presented (USA, 2003a) without analysis or justification, possibly determined by the level of contributions to the fund at the time[579]. The later USAASA report contains limited information on planned capital expenditure for each of the seven USALs, but it appears that the cost of constructing a network would amount to at least R 60 million. Ilizwi Telecomms and Kingdom Communications had budgeted respectively R 60 million and R 63 million, while Bokone Telecomms was seeking funding to the value of some R 70 million (Thornton, 2006, pp. 87, 112 & 69). KaraboTel elsewhere corroborates the figure of R 60 million (MyBroadband, 2005). R 15 million over three years was clearly never going to be enough to launch a USAL in the absence of a further substantial capital injection. As noted above, many of the USALs reported facing severe financial constraints. As a result, the USAASA report recommended that the USF subsidy be "increased substantially" and "operating expenditure and capital expenditure be availed and administered separately" (Thornton, 2006, p. 2). The latter recommendation emanated from the fact that many of the USALs had been forced to utilise the USF grant, earmarked for network rollout, simply to keep themselves afloat.

There were also problems with the implementation and monitoring of the funding agreements signed by the Agency with the first seven USALs. Unfortunately, none are available in the public domain, and their exact provisions remain unknown. But, apart from a few isolated

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[578] With the corporate tax rate at the time being 30%, nearly R 1,5 million of each tranche would have had to be paid over to SARS. It is not clear whether any of the USALs actually paid any tax on their subsidies f m

to SARS

[579] As noted previously, operator contributions towards the Fund in 2003/4, while the cap was still in place totalled just under R 30 million. The actual appropriation to the USF in the same year was just under R 25 million. A careful analysis of the likely impact of the revised levy regulations soon to be introduced by ICASA would have shown that the funding available was soon to increase dramatically.

instances[580], there is almost assessment of progress in the annual reports of USAASA, and no further monitoring and evaluation studies were ever commissioned or conducted. Only R 61 million of a potential R 105 million was disbursed, and that only four USALs ever received a second tranche, with two of these receiving their full R 15 million. This is most likely due to the fact that most of the USALs were already on the verge of collapse by the time they were finally licensed, but several reported subsequent difficulties and delays in receiving their funds from USAASA. In addition, beyond the first seven, not one of the subsequent USAL licensees ever received any funding from the USF, for reasons that were never given.

Finally, the failure, for reasons that have already been discussed, of any of the USALs to secure additional external funding - seemingly in contravention of their licences - despite promises from the IDC and suppliers like Lucent, meant that they were doomed for the most part to slide slowly into financial collapse.

The subsidies from the USF, in summary, were poorly conceptualised, under-funded, ill executed and badly monitored. This failed provision of financial support to the USALs was clearly another contributing factor in their demise.

8.6.4 The Spectre of Spectrum

As noted above, most of the USALs planned to deploy CDMA networks, with two opting for WiMax. This would have been apparent in the bids submitted to ICASA during 2003. It is therefore inexplicable why the USAL licences were issued without spectrum having been assigned.

Given the delays in the licensing process, ICASA had ample time to complete the necessary spectrum groundwork. And it is true that ICASA had initiated a stakeholder consultation process in July 2002 into the feasibility of CDMA licensees such as the USALs and the SNO sharing certain frequency bands between 790 and 854 MHz with broadcasters in order to deliver local wireless loop access (ICASA, 2004a). However, it took the regulator a full year and a half to get sufficient agreement to initiate "full-scale research into these sharing possibilities", commencing in April 2004 (ICASA, 2004a, p. 8). However, it was only in February 2006 - nearly two years later and more than a year after the USALs had received their licences - that ICASA gazetted its intention to open Channel 65 (822 – 830 MHz) for "non-broadcasting services", and a further 10 months before it formally determined to open

[580] Cf (USAASA, 2007, pp. 12-14; USAASA, 2008c, p. 16)

up Channels 65 and 66 (822 – 838 MHz) (ICASA, 2006d). The delay - more than four years in total - is both inexplicable and inexcusable, and had a deep and fundamental impact on the ability of the USALs to roll out their own networks and services timeously. It also undermined their ability to approach funders and to secure finance (Thornton, 2006, p. 11).

It is unclear which of the USALs were actually issued with spectrum, since ICASA has been delict in publishing comprehensive, accurate and up-to-date information - as regulatory lawyer Dominic Cull notes, "Very little information is available regarding spectrum usage in South Africa, and there is a reasonable suspicion that such published usage statistics as do exist are inaccurate" (Ellipsis, 2016). However, a spreadsheet released by ICASA in 2010 (copy in the possession of the author) does list two of the original USALs as holding spectrum - Amatole (7,0 GHz upper) and Bokone (1,9 GHz DECT), along with another unnamed "USAL (regional)" (3,5 GHz) and Platitel (7,0 GHz lower), which was licensed in the second cluster[581].

The failure to release and assign spectrum to the USALs timeously clearly was inimical to their achieving rollout targets and securing commercial viability. It is an impact often overlooked by commentators (Gillwald, 2005a; Lewis, 2013), but one which surfaces repeatedly in trade press accounts (Mngcungusa, 2005; Senne, 2006a; Guest, 2006). It was one of the USAASA report's main recommendations: that "Icasa make spectrum available to USALs, immediately or very soon thereafter" (Thornton, 2006, p. 2).

By that time, however, it was already too late for most of the USALs. Delays in securing access to spectrum, therefore, can be seen to be yet another key contributor to the demise of the USALs.

8.6.5 Market Morass

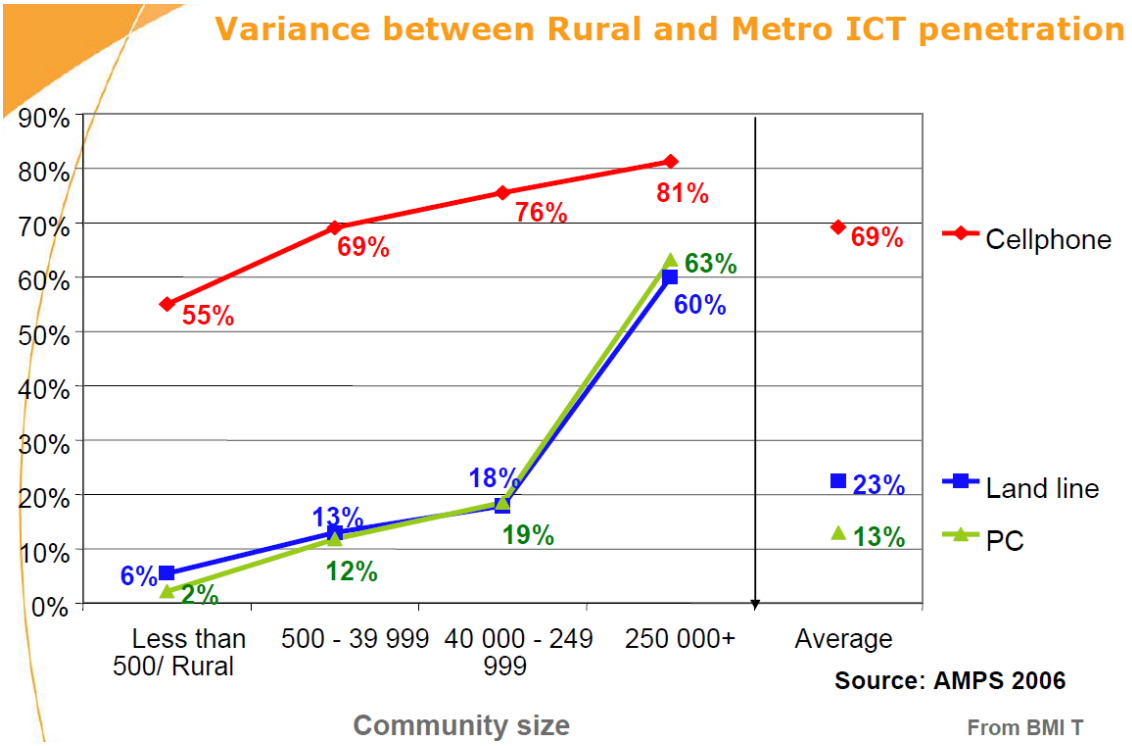
As we have already noted, between the gestation of the concept of under-serviced area licensing around 2000 and the final issuing of the first seven licences from late 2004, there had been dramatic swings in the market. By the time the USALs were ready to enter the market, fixed-line teledensity, upon which their licensed areas had been predicated, was already in terminal decline. By 2005 Telkom's rollout had shrunk to 4,7 million mainlines, down 14% from its peak in 2000, largely due to the mass disconnection of subscribers unable to pay their bills, and to the failure of Telkom's DECT model. By contrast, mobile subscriptions

[581] None of these assignments is in the band freed up for the USALs in 2006.

had increased dramatically, surpassing 23 million in 2005. Fixed-mobile substitution was clearly under way to a very substantial extent (Hodge, 2005; Esselaar & Stork, 2005).

The scale of the challenge facing the USALs can be seen in Figure 8.11 below, which shows fixed and mobile penetration in urban and rural areas as at 2006, not long after the USALs came to market. In rural communities and small villages - the very areas that had been determined as 'under-serviced' on the basis of low residential fixed-line teledensity - mobile penetration was already very substantial, almost an order of magnitude greater, with more than half of all adults connected.

Figure 8.11: ICT Penetration vs Community Size



Source: (USAASA, 2008b)[582]

This, then, was the kind of dramatically altered competitive landscape that the unfortunate USALs found themselves facing, attempting to secure market share in an environment where mobile teledensity had already reached 50%. Worse, their initial market entry as MVNOs meant that they were signing up customers, albeit under their own branding, to use the very networks that were to be their competition. With GSM the option globally having eclipsed

[582] The data is drawn from the South African Audience Research Foundation's All Media Products Survey, which uses personal in-home interviews with thousands of people representative of the total South African adult population. In 2006 it was conducted in the first half of the year.

CDMA for connectivity, it is hardly surprising that the USALs, with one exception, were unable to compete.

Even as MVNOs, it seems that the USALs were unable to compete against the very mobile operators whose services they were reselling, principally because of discriminatory pricing. The assertion in the USAASA report that "Bokone discovered that the wholesale rate offered by Vodacom was in fact higher than the retail rate offered to subscribers" (Thornton, 2006, p. 61) is backed up by a similar assertion made by telecomms lawyer Justine Limpitlaw that the "mobile operators (principally Vodacom, but also MTN) were charging the USALs more for calls roaming on their networks than they were charging their own customers" (personal communication, 20 January 2015).

None of the agreements survive, but the USAASA report alludes to a variety of issues with the agreements (presumably similar, if not identical) , including:

- "significant fixed cost components from year two onwards set out in the reseller agreements";
- a "declining percentage in discount [received by Amatole Telecomms] every year";
- Bokone "cancelled [their agreement] after Vodacom decided to cancel all discounts reached";
- the "agreement is very limited and effectively amounts to a reseller agreement [for Kingdom Communications] in respect of only two prepaid Vodacom packages" and contains "no post-paid opportunities" (Thornton, 2006, pp. 19, 33, 77, 123 & 124).

If the reseller agreements were problematic, the broader market environment too had been made less than propitious for the USALs own offerings to make inroads. Gillwald and Esselaar also point to a number of provisions the Ministerial determinations, which came into effect as the USALs were being licensed, as cutting the ground out from under their market and business case (Gillwald & Esselaar, 2004, p. 16). These included: lifting the prohibition on VoIP; liberalising the payphone market; permitting operators to provide their own infrastructure; and the introduction of an e-rate. There are a number of factors at play here. Many had seen the ability of the USALs to provide VoIP as offering them a competitive advantage against the VANS licensees, who had been prohibited from doing so prior to February 2005. Similarly, many USALs' business plans called for entry into Telkom's payphone market. In the event the proliferation of informal, street-side vendors offering payphone services on their cell phone handsets, followed by the proliferation of mobile access, cut the

ground out from under that market[583]. Despite the fact that it was never implemented effectively, the declaration of an e-rate discount to schools acted to undermine the ability of USALs to sell ISP services to schools in the under-serviced areas.

There were, therefore, a number of factors within a dramatically altered telecommunications market environment that were inimical to the business model of the USALs. With South Africa, including its under-serviced areas, already moving towards universal access, and much of the potential competitive advantage removed from the USAL model, it was unlikely they would be able to compete.

8.6.6 Institutional Failures

It is also clear from the analysis above that the USALs were at best let down by the policy and regulatory institutions in the environment. Regulatory analyst Ewan Sutherland describes it as a "political initiative and a politico-regulatory construct, that DOC failed to deliver, indeed, failed even to monitor" (personal communication, 3 July 2017).

The foot-dragging of ICASA in completing the licensing process, and in making available the spectrum upon which the USALs' survival depended, is inexcusable. Likewise, ICASA's failure to devise and implement a suitable interconnection framework, which they had been shown was necessary for the USALs' financial survival, is an evident case of regulatory failure. The licences issued by the regulator were also too rigid, with stringent BEE-inspired ownership and control limitations that prevented the USALs from securing equity investors down the line.

USAASA too can be considered to have failed the USALs. There is little evidence of real practical support or proper business training having been supplied to the USALs. The Shared Services Group, through which the Agency might have offered essential support services, remained a pipe dream. The limited financial assistance from the Universal Service and Access Fund had no any evidentiary basis in a needs analysis, and hence left the USALs under-capitalised, unable even to meet operational expenses. The Agency, a single report, much quoted above, aside, can also be blamed for a lack of zeal in monitoring and evaluating the progress of the USALs, and for failure to intervene in order to remedy problems once these had been identified.

[583] So much so that Telkom is currently planning to phase out pubic payphones entirely.

Lastly, the various Ministers who oversaw the policy and its implementation, need to shoulder a share of the blame. To push ahead with licensing a further 17 consortia, when it was already clear that the first 7 were in serious difficulty, smacks of reckless disregard for the evidence. It further seems clear that little regard was given to the likely impact of the 2004 Ministerial determinations - or indeed of the subsequent Electronic Communications Act - upon the viability and future of the USALs. Finally, the policy zig-zags around the promulgation and subsequent rescinding of the PUSANO model, shows a disregard for the practical consequences on existing licensees of changing policies mid-stream.

8.6.7 Co-operatives

Some commentators feel that the USAL model as it finally found its way into policy, legislation and implementation was a betrayal of the original vision. Former IDRC staffer Tina James, co-author of the NTCA submission that underpinned the model, describes herself as "very disappointed" with the way the concept of "telecomms co-operatives" was lost in the final legislation:

> *The USALs were supposed to be owned by the people in the areas. The model was based on sweat equity and the sharing of resources like engineering skills and financial expertise - but instead you got a whole lot of private sector investors coming in.* (interview, 27 November 2014*)*

It is true that the notion of a small locally-based group of individuals, pooling skills and working together for the benefit of the community, lies at the core of the original proposal:

> *Telecommunications cooperatives are locally owned telecommunications systems that interconnect with the broader national and international network. A telecommunications cooperative is a professionally managed business dedicated to providing its members with quality service at a reasonable cost…*
>
> *Ownership and control of a telecommunications cooperative reside in the community served, and profits are reinvested to improve the system and to expand the range of services offered. Anyone who is willing to accept the responsibilities of membership is eligible to join. Decision-making power is therefore shared among all members, rather than concentrated in the hands of a few. Cooperatives are based on democratic principles. Members elect a board of directors and, when necessary, vote on specific issues.* (NTCA, 2001, pp. 2-3)

The final legislation, by contrast, is imbued with an economic empowerment approach so characteristic of South Africa's democratic transition. It refers only to "small businesses" as potential licensees, privileging "historically disadvantaged groups" and "applicants which are managed and controlled, or owned, by women" (RSA, 1996b, p. Section 40A (2)). As such it plays into the hands of a rent-seeking, managerial enrichment approach to empowerment rather than a broader-based, economic upliftment one (Ponte, Roberts, & van Sittert, 2007; Tangri & Southall, 2008). And the scramble to create consortia and submit bids for the licences was reminiscent of the mêlée surrounding 'black' participation in the mobile licences described much earlier. However, if black economic empowerment was the goal, what eventuated was little short of tragic denouement.

It is not clear if a co-operative model more appropriate to the ruggedly individualistic, entrepreneurial community spirit that animates the American mid-west, where the NTCA co-operative model had its roots and came to bloom. Co-operative sentiment, however, has a continuing appeal. Models more appropriate to the original collective vision of the USALs continue to be touted as a solution to access and connectivity (van Gorp & Morris, 2008; Adeyeye & Gardner-Stephen, 2011; Rey-Moreno, Sabiescu, Siya, & Tucker, 2015).

8.6.8 Into the Sunset

A number of other, less critical, issues have been raised in commentary on the USALs experiment. The USAASA report repeatedly refers to lack of management and administrative skills, lack of regulatory compliance, and lapses of corporate governance (Thornton, 2006). These shortcomings were in part a direct consequence of awarding licences to 'small businesses' in the first place. They would have been further compounded by the emphasis on "ownership and control" and "empowerment" as key criteria in awarding the licence - weighted 20% each - at the expense of the assessment of business and technical competencies, which made up only some 50% of the overall score (Gillwald, 2002a, p. 4). Certainly, lack of business skills and management competence were serious problems for many of the USALs, shortcomings which would have undermined their ability to deal with the wide range of external challenges and constraints outlined above.

Several commentators have laid the blame for the USAL fiasco at the feet of competing and conflicting policy objectives. The USAASA report refers to an IDRC description of the USAL policy intervention as representing

> *a flawed convergence of two distinct goals - an empowerment model to broaden ownership and control of telecommunications to previously disadvantaged individuals residing locally in historically under-serviced and marginalised Districts; and a regulatory model to introduce competition in such Districts as the best way to grow the market. Both of these are laudable goals, and each would work well if part of another model. The flaw lies in trying to achieve them through the same mechanism.* (Thornton, 2006, pp. 21-22).

Similarly van Leijden and Monasso point to a series of policy conflicts relating to the objectives of universal access and service, black economic empowerment, and stimulating competition in the market (van Leijden & Monasso, 2005). However, it is not unusual for a single intervention to be driven by more than one policy objective. The goals listed by the various commentators above are not *ipso facto* contradictory, or even at odds with each other. They did, however, require careful co-ordination between the various policy and regulatory entities within the sector (such as ICASA and USAASA), and for careful integration into other interventions, which may have addressed distinct issues, but which nonetheless held definite consequences for the USAL venture (such as the Ministerial determinations). There seems to have been a lack of impact assessment, together with poor integration within the overall sheaf of policy interventions.

The USAL adventure, then, seems to have been inadequately conceived and poorly executed. The resulting complex of challenges and bottlenecks together resulted in the collapse of the intervention. Today, only one of the original licensees survives, applying a very different business model from that originally envisaged. Years of effort, the expenditure of millions of rands of taxpayers' money, the loss of substantial sums of entrepreneurial capital, have together made almost no impact on universal access and service for the poor and marginalised rural communities that were the intended beneficiaries of the policy. The USALs, indeed, have become a mere footnote to the history of the sector.

9 The Universal Service (and Access) Agency (of SA)

The establishment of a specific, dedicated body not only to oversee and manage the universal service fund, but also to engage in activities of a quasi-policy and quasi-regulatory nature, was, as pointed out earlier, unique at the time. One commentator described it as "a unique institution…. an institutional experiment, keenly watched by some institutional observers in South Africa and around the world" (DNTA, 1999b, p. 3). Other countries overwhelmingly house these functions either within the regulator or directly under the control of the regulator[584]. A few counties, namely Canada, Jamaica, Pakistan and the USA, have placed their USFs under independent administrative and financial control[585]. But only Mauritania's Agence de promotion de l'Accès universel aux services (APAUS) and the Ghana Investment Fund for Electronic Communication (GIFEC), established in 2001 and 2003 respectively, appear to have a similar degree of autonomy (ITU, 2013), but neither is intended to be involved in policy or regulation to the same extent as USAASA.

USAASA was, as has been noted, responsible for the USF, closely involved in providing funding support to the USALs, and had a role to play in relation to the USOs. Telecomms lawyer Justine Limpitlaw has referred to the Agency as occupying a "bizarre regulatory space" (Limpitlaw, 2014, p. 5265). This gave it a unique involvement in South Africa's universal access and service interventions. That set of cross-cutting responsibilities and accountabilities, and their consequent challenges of co-jurisdiction and co-ordination, may also to a degree be responsible for some of the areas of failure within the set of interventions under examination.

It is therefore important to examine the role and functioning of USAASA in order to understand the workings and outcomes of the set of universal access and service interventions in South Africa. It is thus to the Agency that the analysis now needs to turn.

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[584] 65% of the 68 countries surveyed by the ITU in 2013 do so. In a further 16% of cases the USF is under government control. 13% of countries place the USF under an independent Board. (Figures calculated by the author from (ITU, 2013)).

[585] Canada has the Canadian Portable Contribution Consortium, with funding administered Welch Fund Administration Services; Jamaica has Universal Access Fund Company; Pakistan has the Universal Service Fund Company; and the USA has the Universal Service Administrative Company (USAC). (ITU, 2013, pp. 82, 100, 106 & 111).

9.1 Establishing the Agency

Figure 9.1: Universal Service Agency Logo

The establishment of the Universal Service Agency was officially announced shortly after the promulgation of the Telecommunications Act, in February 1997, with SANCO President Mlungisi Hlongwane appointed as its head (Malunga, 1997)[586]. By the time the USA was officially launched in May that year, it had mainly been staffed by cadres drawn from the COSATU-affiliated trade union in the sector, POTWA, or from the ANC-aligned umbrella body for the civics, SANCO. Hlongwane himself was a former POTWA President, as was Lefty Monyokolo, who had also been on the Eminent Persons Group during the drafting of the 1996 White Paper, and who became the USA's head of projects and partnerships. Heading regulatory affairs was Tshepo Rantho, former President of the National Community Media Forum (NCMF) and former member of the ComTask team. Fikile Khumalo, former Secretary General of the National Telecommunications Forum (NTF) headed up research. Others too noted that the USA's 24-member staff came "mainly from trade unions" and had a "strong trade union background" (DNTA, 1999b, p. 8 & 15).

Several commentators have suggested that the appointment of so many former trade unionists was deliberate strategy. Former USA staffer Peter Benjamin suggests it was an "easy" opportunity for Director General Andile Ngcaba to give some role in telecommunications policy to "labour", given the "contestation" for positions on the regulator (interview, 13 August 2014). Former IBA Councillor Felleng Sekha has a rather more cynical view, describing the appointment of Mlungisi Hlongwane as head of the USA, as a "masterstroke" on the part of Andile Ngcaba as it "made it very difficult for the unions to oppose his policies [regarding the privatisation of Telkom]" (interview, 5 December 2014). The considerations of political manoeuvring are not entirely convincing, however, as many of the unionists concerned were those who had been ousted during the transition from POTWA to CWU, and hence were no longer involved in the unions. The fact that COSATU and its

[586] Hlongwane had been General Secretary of the COSATU-affiliated Post Office and Telecommunication Workers' Association (POTWA) in the early 1990s. Having also been involved in the civic movement through the 1980s, he was elected President of the SA National Civics' Organisation (SANCO) in 1997.

affiliates had been firm advocates of universal access and service may also have been a consideration. The motivations were likely complex. The consequence, however, was the appointment of a leadership that were beholden to the Director General.

The appointment of the head of the Agency was at the sole discretion of the Minister (RSA, 1996b, p. Section 60(1)), reinforcing the chain of command. It was only with the adoption of the 2005 Electronic Communications Act, that a Board was introduced to provide good governance and promote fiduciary responsibility (RSA, 2005, p. Section 81), but that too was appointed - controversially so - at the pleasure of the Minister.

A further consequence was the staffing of the Agency with people who, whatever their track record in the mass democratic movement and their passion for universal access and service, had little of the technocratic background and limited managerial skills necessary to administer a fund and engage in policy research and lobbying. Former USA staffer Katharina Pillay agrees, describing the leadership of the Agency as not "strong" enough and lacking "strong backgrounds in research and policy" (interview, 13 January 2015). Former IDRC programme manager Tina James describes the appointments as "problematic", pointing out that the USA staff "didn't have the right background; they didn't have the right skills; they didn't understand tender processes" (interview, 27 November 2014). Former regulator Felleng Sekha puts it more strongly, referring to the Head of the Agency as a "mere figurehead at the whim of Andile's manoeuvres" (interview, 5 December 2014).

In addition, as former unionists, many of the new staff carried with them the baggage of South Africa's fractious and fraught industrial relations history: a highly adversarial mindset towards business and an antagonistic, often confrontational approach. As Benjamin notes, this cost the Agency "much goodwill" in its dealings with the private sector (2001, p. 101)[587].

9.2 Mandate of the Agency

It is worth reflecting on the mandate that the 1996 Telecommunications Act had bestowed upon Hlongwane and his team in order to address the legacy of the *apartheid* digital divide and to ensure the provision of universal access and service.

Noteworthy, and bedevilling the work of the Agency far more than staff appointments, was the level of vagueness with which the functions of the Agency were spelt out. They included:

[587] The point is echoed by former IDRC staffer Tina James (interview, 27 November 2014).

(a) ... promote the goal of universal service;

(b) encourage, facilitate and offer guidance in respect of any scheme to provide… [UAS]…;

(c) foster the adoption and use of new methods of attaining [UAS];

(d) stimulate public awareness of the benefits of telecommunication services. (RSA, 1996b, p. Section 59(1))

Further, the Agency was tasked with assisting the Minister to formalise determinations as to what constituted UAS, viz: "universal access by all areas and communities" and "universal provision for all persons" in respect of telecommunications services (RSA, 1996b, p. Section 59(2)). In addition, the Agency was tasked with undertaking research, making investigations, issuing information and tabling recommendations relating to UAS (RSA, 1996b, p. Section 59(3)). Most importantly, the USA was put in charge of managing and administering the Universal Service Fund (RSA, 1996b, p. Section 59(4)). These functions were to remain largely unchanged, and were carried through into the 2005 Electronic Communications Act[588].

It was a daunting slew of objectives, ranging from advocacy and research, through policy support to the disbursement and management of funding. It was hardly surprising, therefore, that Hlongwane had difficulty articulating it simply and succinctly, when he spoke about the Agency's mandate as being to:

> *co-ordinate stakeholders in the field, research and make recommendations on how regulation and other instruments could be used to promote universal service. Pilot telecentre projects would also be set up to explore sustainable ways of providing practical telecommunications to disadvantaged communities throughout SA (Chalmers, 1997b)*

The emphasis on rolling out telecentres looms large in public statements and press reports at the time (Koopman, 1998; Allchurch, 1998) - this despite the fact, as noted previously, that it was nowhere specified as an area of possible support from the Universal Service Fund. Minister Jay Naidoo's perspective was even more simplistic, and equally *ultra vires*, when he described the USA as an entity "whose objective is to set up 'telecentres' in rural areas which

[588] Other than very minor wording changes. The mandate to 'stimulate public awareness, was, however, dropped.

will ensure access to telephones and the Internet, funded through a universal service fund" (Naidoo, 1997b)[589].

The formal statement of the Agency's future position and purpose was articulated as follows:

> *The vision of the USA is to be the world leader in promoting universal access and universal service to telecommunications and information services as an empowerment vehicle for disadvantaged communities...*
>
> *The USA will promote affordable Universal Access and Universal Service in Information and Communication Technologies for disadvantaged communities in South Africa, in order to facilitate development, empowerment and economic growth (DNTA, 1999b, p. 4)*[590].

According to Benjamin, the first business plan of the newly formed Agency, as adopted in 1997, set out the following objectives for its first full year in operation as follows:

- *Establish the USA as an efficient and effective organisation;*
- *Raise awareness of the issue of Universal Service;*
- *Run and learn from pilot telecentre projects through the Universal Service Fund;*
- *Co-ordinate stakeholders in this field to work together for Universal Service;*
- *Research and make recommendations on how regulation and other public policy instruments can be used to promote universal service;*

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[589] Their blindness to the provisions of the law is puzzling. Telecentres may have provided services to 'needy persons', but they can hardly be described as the individual 'subsidies' that the Act appears to contemplate.

[590] Both statements have undergone a number of subsequent revisions over the years. They are now as follows:

Vision: Universal Access and Service to ICT for All

Mission: To facilitate the rollout of adequate Information and Communication Technology (ICT) infrastructure to enable universal access to under-serviced areas in South Africa.

- To facilitate ICT service to under-serviced areas and thereby contributing to the reduction of poverty and unemployment in South Africa.
- To promote and pursue the goal of Universal Access and Services and contribute to the sharing and preservation of information in order to build South Africa's sustainable knowledge society.

- *Establish procedures for collection of statistics on Universal Access and Universal Service.* (2001, pp. 100-101)[591]

Advocacy (raising awareness and stakeholder co-ordination) and research (limited to policy and regulation, and the 'collection of statistics') do feature amongst the objectives listed, as does an oblique reference to policy support. The management and disbursement of the Universal Service Fund is - astonishingly - limited to 'pilot telecentre projects', *ultra vires* the Act, without any mention of the official legal ambit of the Fund. It is also a business plan with 'objectives' that are worryingly vague and apparently without targets, deliverables or timeframes.

9.3 'Organisational Strengthening'

Recognising the challenges of establishing a new institution, with an untested mandate, headed by staff with limited managerial skill and little experience in administering, disbursing and accounting for project funding, or in undertaking or commissioning research, it was early decided to provide capacity building support to the fledgling USA. Once again it fell to Canada's IDRC, supported by the UNDP, to commission and fund the necessary organisational development intervention (DNTA, 1999b). A team of consultants, led by Daniel Espitia, spent six months working with the Agency and its staff to provide what they termed "institutional strengthening" (DNTA, 1999b, p. 3)[592].

Perhaps the most surprising aspect of their intervention was the headline recommendation that the USA break sharply away from the "traditional focus" of universal access and service "on voice telephone service alone", and - in line with the telecentre implementation plan the consultants were drafting in parallel - shift to a "predominant emphasis on access to the Internet" (DNTA, 1999b, pp. 4,5). This seems to go well outside the 'institutional strengthening' scope of the consultancy. It also borders on altering the legislated mandate of the Agency. While the Act, although it was drafted before the explosion of the Internet,

[591] The document from which Benjamin takes this has not withstood the ravages of time. Likewise, the early annual reports of the Agency, which might have provided a window on the USA's activities and performance, no longer survive, even in the USAASA offices today.

[592] The same consultancy firm was simultaneously busy with developing an implementation plan (DNTA, 1999a) for the USA's telecentre project.

does cover a fairly broadly-defined set of 'telecommunications services'[593] (which would include the Internet), it seems clear that the primary focus of the Agency was intended to be the telephony access gap. At the time, South Africa had some 8,4 million telephony subscribers, 60% of them fixed-line subscribers, in a population of 43 million (ie 20% total teledensity)[594]. The country was still therefore far off universal access or service in respect of voice telephony. And, while it is true that UAS interventions need to pay attention to the full continuum of services (Msimang, 2003, p. 35), such a specifically targeted shift in focus towards the Internet surely requires substantive and in-depth research into access patterns and market dynamics. Possibly the intention was merely to legitimate the Agency's telecentre implementation plan being developed in parallel by the same set of consultants.

The report's organisational development recommendations are more mainstream and contain several useful assessments and interesting proposals, although these should be seen against the consultants' baseline assumption that telecentres were to be the core of the work of the USA.

First and foremost of the report's findings is that the Agency had, under pressure from both the Minister and public expectation to deliver, "deviated" from its core policy mandate to become a "project management organisation", too directly "involved in the process of telecentre implementation" (DNTA, 1999b, p. 8). As a consequence, its staff were "instead… focused on day-to-day logistics and crisis management", for which they lacked the necessary skills and training and were thus "somewhat overwhelmed" (DNTA, 1999b, p. 8).

Elsewhere the report is even more forthright:

> *it is not the job of the USA to implement telecentres nor to do any other type of specific project implementation, unless it is on a pilot project basis. Long terms [sic] project implementation by the USA is contrary to the spirit of the*

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[593] Defined as "any service provided by means of… any system or series of telecommunication facilities or radio, optical or other electromagnetic apparatus or any similar technical system used for the purpose of telecommunication, whether or not such telecommunication is subject to rearrangement, composition or other processes by any means in the course of their transmission or emission or reception" (RSA, 1996c, p. Sections 1 (xxvii) & (xxviii)). The report subsequently implies that the USA should stray well beyond its legal mandate to cover, in addition: computers, photocopiers, television, video and newspapers (DNTA, 1999b, pp. 6,7).

[594] Figures from author's spreadsheet, compiled from operator annual reports etc.

Telecommunications Act and inconsistent with the use of the USF resources (DNTA, 1999b, p. 22)

The consultants go on the recommend that "expertise for tasks such as project implementation and specialised evaluation and monitoring should be outsourced" (DNTA, 1999b, pp. 15-16)[595].

The report's analysis is permeated by concerns over the organisation's union-derived organisational culture, which colours its internal functioning and affects its ability to interface effectively with the private sector. It notes, rather diplomatically, that the "USA's institutional orientation and staff experience is not equipped to fully understand the dynamics of private sector participation in the provision of public services" (DNTA, 1999b, p. 8). As a result, the Agency is enjoined to adopt more of a "protocol of courtesy, cooperation and flexibility" (DNTA, 1999b, p. 15).

The report elsewhere notes that a policy focus is more closely aligned to the "skills and main interests" of its staff of former unionists, and calls for the USA to "return to a strong policy emphasis so that the agency can realise more effective regulation by formulating strategic policy initiatives" (DNTA, 1999b, pp. 8 & 10-11). As a result, topping the list of recommendations was the need to "restructure the USA, creating an agency focused on what it does best: policy making and policy implementation" (DNTA, 1999b, p. 19).

Seemingly aware of the complexities of the relationships between what is describes as the "triad" of entities acting in relationship to universal access and service, the report calls for "close co-operation with SATRA, in order to create a new strategic foundation and focus between the agencies" (DNTA, 1999b, p. 14 & 11). Its final recommendations accordingly call for the establishment of an "external advisory group that includes one delegate from the DoC and one from SATRA" (DNTA, 1999b, p. 19). This was in addition to establishing an internal "advisory committee", which would include "other experts upon need and invitation" (DNTA, 1999b, p. 19). It is not clear whether either of these somewhat nebulous recommendations was the basis for the later introduction of a Board for the Agency.

The report also proposed to "create a flat [organisational] structure" with four programme pillars, viz:

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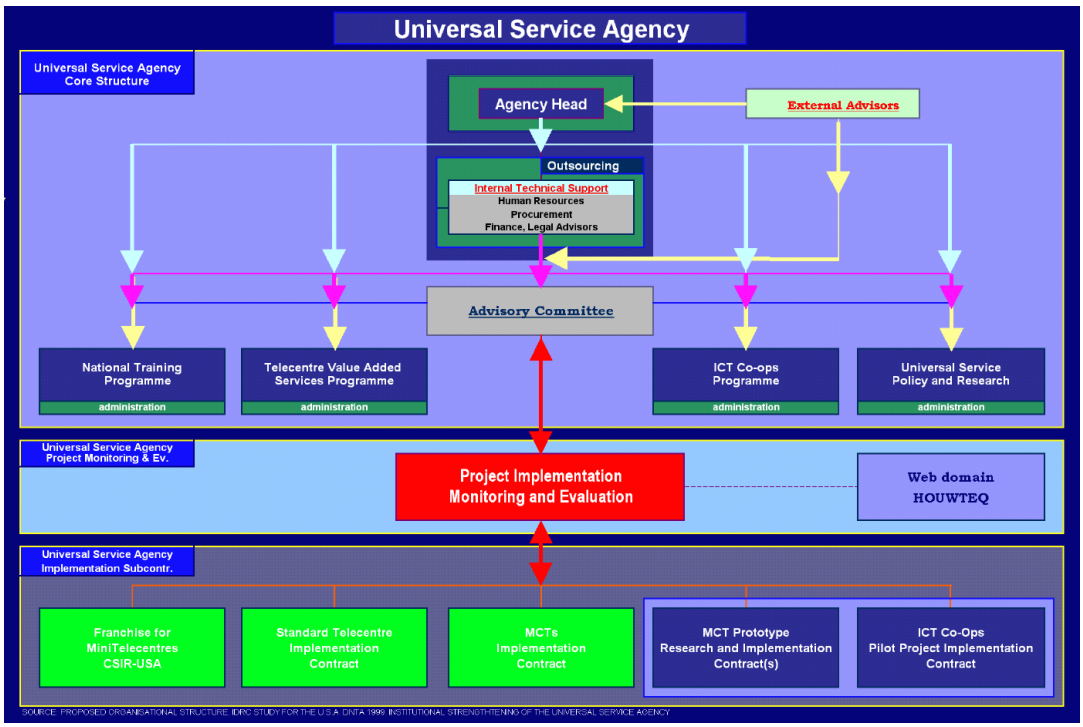
[595] Strangely, and demonstrating a worrying lack of awareness of the principles of checks, balances and audits, they did not see anything amiss with assigning both implementation and evaluation to the same external entity.

- A "national training programme for telecentres" and SMMEs, "focusing on business management and operations skills";
- A "national programme to promote… telecentre value added services";
- A "programme to research and develop ICT cooperatives"; and
- A "a specialised unit… dedicated to universal service policy and research" (DNTA, 1999b, p. 19).

This structure, along with the outsourced implementation, monitoring and evaluation of the USAs telecentre projects, can be seen in the proposed organogram below (Figure 9.2):

Figure 9.2: Recommended USA Organisational Structure



Source: (DNTA, 1999b, p. 20)

Of some concern in respect of this set of recommendations is the failure to ground them in the functions of the Agency as set out in its empowering legislation. Had the consultants done so, the then ultra vires nature of the telecentres project - which is heavily over-represented in the recommended organogram - might have become apparent. There is, for example, no mention of subsidies from the USF for 'needy persons'[596] or for the 'extension' of

[596] Which title the consultants do not like and suggest be changed (DNTA, 1999b, p. 22), in the face of the enabling legislated provision. Elsewhere the report refers to a "need people voucher programme" [sic], suggesting that there was work actually afoot in the Agency - other than the project to determine definitions for 'universal access',

Telkom's PSTS, both of which are specified in the Act, with funding proportions specified by Ministerial Policy Direction. There is also no mention of the kind of careful access gap analysis that is now a mainstay of international good practice in order to determine USF priorities and expenditures (Blackman & Srivastava, 2011b; ITU, 2011).

The flattened hierarchy recommended was also not implemented. By 2016 the initial staff of 14 had swelled to 62, of whom 19 were spread across four different grades of either "top" or "senior" management (USAASA, 2016a, p. 62).

9.4 Organisational Function and Dysfunction

In the absence of almost all the primary documentation from the period[597], the extent to which the consultants' recommendations were adopted and implemented remains unclear. None of the subsequent assessments of the Agency (Stavrou, Whitehead, Wilson, Seloane, & Benjamin, 2001; USA, 2005; USAASA, 2014b) focused in any depth on assessing and evaluating the organisational functioning, performance and effectiveness of the USA[598]. Organisational structure and function are not issues that are covered in the popular press. They can, however, be interpolated to a degree from the organisation's annual reports.

What is noteworthy is that the early surviving annual reports of the Agency reflect an organisational structure that seems to have been reconfigured on an annual basis. The earliest of these shows the Agency after it had "spent the larger part of 2001 redesigning and initiating the restructuring of the organization to enable it to carry out its new responsibilities as outlined in the Ministerial Policy Directions and Telecommunications Act as amended", comprising three divisions, viz: Finance & Administration, Implementation & Delivery, and Research, Marketing & Public Education (USA, 2002, p. 1 & 16). By the following year these had been renamed Finance and Human Resources, Programmes, and Research, Marketing and Public Education (USA, 2003c, p. slide 8). A year later these had become Corporate Services, Projects Services and Information & Knowledge Management (USA, 2004), which in

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'universal service' and 'needy persons' (USA, 1998) - to provide subsidies to 'needy persons'. The 'needy persons' study undertaken by another set of consultants for SATRA only refers to vouchers in relation to schools, libraries, hospitals and clinics (Stavrou & Mkhize, A Telecommunications Universal Service Policy Framework for Defining Categories of Needy People in South Africa, 1998).

[597] The USA's own later case study of the work of the Agency experienced similar problems because of the inability and failure to keep records, forcing them too to "focus on secondary and tertiary sources" (USA, 2005, p. 1).

[598] The recent National Strategy does make a recommendation on the structure of the Agency going forward (USAASA, 2014b, pp. 5-1ff).

turn had been rearranged a mere two years later into Regulatory & Corporate Affairs, Human Resources, Projects Services and Financial Management & Information Technology (USA, 2006d). There are only, in fact, two periods when the main divisions of organisational structure remained unchanged for more than one year: 2010 – 2012 and 2012 – 2014. The Agency is currently busy with yet another re-organisation in line with the organisational development recommendation of its National Strategy (USAASA, 2014b, pp. 5-1ff), although the process has reportedly run into problems due to "labour disputes" (USAASA, 2016a, p. 8). It is hard to see how the organisation could function effectively and deliver on its core programmes[599] and overall mandate if the deck chairs were in a constant state of rearrangement.

It is also hard to see how an organisation can be expected to function effectively and to deliver on its mandate if the top leadership too is continually changing (see Table 9.1 below). In fact, continually changing CEOs is likely the root cause of the lack of stability and continuity in organisational structure and core programmes. From its inception, throughout its lifetime the leadership of the Agency responsible for universal access has been in continual crisis, having gone through no fewer than seventeen CEOs and acting CEOs in its 20-year life span, seven of whom had been in an acting capacity. The longest tenure to date has been that of Dr Sam Gulube, who lasted a little over three years. Considerably shorter was the tenure of Dr Raymond Ngcobo, who lasted a mere two months before resigning (USAASA, 2007, p. 43).

Such turnover in leadership speaks to a troubled organisation, both as cause and consequence. It likely underpins the almost constant state of structural reorganisation, and undermines the ability to create and follow through on sustainable actions and initiatives.

Many of the appointments were based on the 'struggle credentials' of the appointees. As already noted, the inaugural head was Mlungisi Hlongwane, then President of SANCO, and a former President of POTWA (Benjamin, 2001, p. 100). He was succeeded by Fikile Khumalo, former head of the National Telecommunications Forum, site of much of the negotiation for a new sectoral dispensation (Benjamin, 2001, pp. 102-104). Other heads included: former MK and Operation Vula veteran and then SACP Deputy Chair Dipuo Mvelase; MK veteran and former SANDF officer, Dr Sam Gulube; and former ANC Department of Information and Publicity media officer, Cassandra Gabriel.

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[599] The core programmes were seemingly also in a state of constant flux. Two different versions even appeared in two different places in the same annual report on one occasion (USA, 2004, pp. 4-5 & 8),.

What is also striking is the number of appointees serving in an acting capacity, mostly from within the organisation itself, as is the norm in such cases. Such appointments include: the aforementioned Fikile Khumalo (Head of Research and Analysis); Maite Letsoalo (Head of projects); Motlatso Ramadiba (COO); Makhotso Moiloa (Head of Business Development). In several instances, the Chair of the Board acted as CEO, and over one period of particular crisis the role was filled by two senior officials from the Department.

Table 9.1: Heads of USA / USAASA[600]

From	To	Name	Tenure (Months)
1996-12	1998-08	Mlungisi Hlongwane	20
1998-08	2000-05	Fikile Khumalo (acting)	21
2000-05	2002	Maite Letsoalo	?
2002	2003	Dipuo Mvelase	?
2003-04	2006-05	Dr Sam Gulube	37
2006-06	2006-11	Ms Motlatso Ramadiba (acting)	5
2006-12	2007-02	Dr Raymond Ngcobo	2
2007-02	2007-05	Cassandra Gabriel (acting, Board Chairperson)	3
2007-06	2008-11	James Theledi	17
2008-11	2009-03	Phineas Moleele (acting)	4
2009-03	2010-07	Winile Lamani (acting)	16
2010-07	2011-10 / 2012-03	Phineas Moleele	15
2011-10	2012-10-01	Themba Phiri & Sam Vilakazi (DoC caretakers)	12
2012-10-01	2013-03-31	Ms Pumla Radebe (acting, Board Chairperson)	6
2013-04-01	2016-03-31	Zam Nkosi	35
2016-04-01	2016-05-23	Makhotso Moiloa (acting)	2
2016-05-24		Lumko Mtimde	

Sources: USA / USAASA Annual reports, (Benjamin, 2001; OSF, 2007, p. 163).

The circumstances under which the appointments were made is not always clear, since the Head of the Agency was initially appointed directly by the Minister (RSA, 1996b, p. Section 60(1)). Under the 2005 ECA, this responsibility was transferred to the Board, which in turn was appointed by the Minister (RSA, 2005, p. Sections 81 & 83)[601]. In both cases the process is thus effectively removed from stakeholder input and from public scrutiny. With little by way of press coverage in the early years, little is known of the circumstances surrounding the arrival and departure of the early CEOs. It does, however, seem clear that Mlungisi

[600] Due to gaps in the public record, some of the dates are approximate, and represent a best estimate based on the available evidence.

[601] A number of additional provisions, which will be discussed below, were added in 2014.

Hlongwane resigned because of mounting tensions with the Minister. Former USA staffer Peter Benjamin suggests that Hlongwane came under pressure because of the "inability of the USA to set up any telecentres", and that he "resented having to report at a level below the Minister" (2001, pp. 107-108). Consultant Aki Stavrou too was close to the process, and describes Hlongwane's resignation thus:

> *At the time Jay and Hlongwane began locking horns. Hlongwane had been pretty senior in the unions, and he would just go and speak to whoever he felt like. There was a lot of tension. By the end of the year [Hlongwane] was gone.* (Interview, 17 October 2014)

The Agency's longest-serving head, Dr Sam Gulube, had been appointed to the USA, after a stint at the Medical Research Council, during which he had taken an interest in telemedicine, and served on the PNC-ISAD[602]. His resignation coincided with the release of the damning indictment of the USALs project, but was claimed to be unrelated, with "personal reasons" being cited (Gedye, 2006). Gulube himself claimed to be returning to his "first passion, clinical health services", while critics of the USA referred to its "ad-hoc projects and impact" and called for a "restructuring" of the Agency (Gedye, 2006).

Other departures were far more explicitly linked to scandal. In 2008 a new regime, under former Deputy Director General at the Department of Public Enterprises James Theledi, ran rapidly off the rails despite an initially positive reception (Muller, 2008). In September of that year Chief Financial Officer, Keith Keys, was suspended and subsequently resigned, having been found guilty of financial mismanagement (IOL, 2008)[603]. Shortly thereafter, Theledi himself was suspended following a sexual harassment scandal involving another USAASA senior executive (Czernowalow, 2008) and finally axed in March 2009 (Mawson, 2009). His eventual successor, Phineas Moleele, was soon implicated in serious "financial mismanagement", and was amongst a group of six senior managers placed on "precautionary suspension" in October 2011 while a "forensic investigation" (see below for detailed discussion of the episode) was undertaken (Rasool, 2011c). Aside from the CEO, the group comprised CFO Andrew Hlubi, Head of Business Development Services Molefi Mollo, Supply Chain Manager Archie Mbatha, Head of Performance Thandeka Mngadi and IT Manager Thato Matsepe (Rasool, 2012c), and included the four most senior executives of the organisation. An attempt by three of the group to challenge their suspension was "thrown out" of the

[602] The snappily-named Presidential National Commission on the Information Society and Development.

[603] It subsequently emerged that funds had been diverted from the USF to settle a PAYE tax bill.

Labour Court (Rasool, 2012a). Matsepe and Mollo subsequently resigned (Rasool, 2012a; Rasool, 2012c), and Moleele was able to negotiate an exit settlement "once disciplinary proceedings against him [had] commenced" (Rasool, 2012b), which allegedly included a substantial cash pay-out of R 770 000 (Rasool, 2012d)[604]. The fate of the other three is not known.

The second-longest serving CEO of the Agency, Zam Nkosi, also presided over his share of controversy and allegations of corruption. This time the furore concerned his own qualifications and selection for the position, as well as allegations of corruption. Nkosi's appointment was called into question in an open letter from opposition politician Bantu Holomisa to President Jacob Zuma, alleging several irregularities in the process (Holomisa, 2013). *Inter alia*, Holomisa alleged that Nkosi did not possess the required qualifications, that Board Chair Pumla Radebe was improperly involved in his appointment process, and drew attention to allegations of corruption that had accompanied his abrupt departure from his previous employment (2013, p. 2)[605]. Holomisa's letter went on to make a series of possibly more serious allegations of corruption at the Agency (some of which were covered in the earlier discussion on telecentres, others of which will examined below), and led to the establishment of a formal investigation under the Special Investigation Unit (SIU[606]) (RSA, 2014b).

In addition, the irregular circumstances of Nkosi's appointment appeared to have included improper interference by the then Minister for Communications, Dina Pula, through "dictates" imposed on the USAASA Board. As a result of its investigation, as well as based on a "forensic investigation done by auditors SizweNtsalubaGobodo", the SIU filed papers in the North Gauteng High Court asking for the report to be declared unlawful and to be set aside (Bailey, 2014c). The SIU held that "former minister [Dina Pule] interfered in the selection and appointment of the chief executive". When presented with a shortlist of recommended candidates, Pule allegedly "advised the chair to recommend to the board to restart the process of finding a CEO again and to do so by following a headhunting process" (2014c). If true,

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[604] It's not clear why USAASA would agree to such a substantial pay-out if their case against him was strong.

[605] USAASA Chair Phumla Radebe had previously been Chair at Johannesburg waste management utility Pikitup, where Zam Nkosi had served as MD. Nkosi had resigned amidst allegations of tender fraud, which were subsequently handed over to South Africa's priority crimes investigation unit, the Hawks, for prosecution. This in turn had triggered the resignation of Radebe (M&G, 2011; Maake, Hofstatter, & wa Afrika, 2013a; Bailey, 2014a).

[606] The country's Special Investigating Unit is a public anti-corruption body, established by legislation in 1996, tasked to prevent or recover financial losses to the state caused by acts of corruption, fraud and maladministration.

Pule's conduct was clearly unlawful, as the law at the time vested the appointment of the CEO as purely a Board responsibility (RSA, 2005, p. Section 83(1)). The SIU investigation also encompasses charges of mismanagement against Nkosi including "making irregular and or unlawful appointments and promotions of certain officials" (Bailey, 2014c). It is not clear what happened to the court application of the SIU. Its investigation into the more serious allegations of corruption relating to Cell C and broadband tenders - both of which are discussed below - remains ongoing and incomplete (SIU, 2017).

In February 2016, in answer to a Parliamentary question, the new Minister of Telecommunications and Postal Services stated that the case (No 43250/14) was then "defended and on-going" (Parliament, 2016). However, at the end of the following month Zam Nkosi's contract was quietly allowed to lapse (Mzekandaba, 2016b), his erstwhile mentor having herself resigned two months earlier (Moyo, 2015b), and the case was withdrawn (PMG, 2016).

In the light of the events outlined above, it is perhaps an understatement to describe the leadership of the Agency as unstable and lacking much semblance of continuity. Sadly, the two major episodes of collusion and corruption at the very top of the organisation were never prosecuted in court. Those involved were simply allowed to slip away, and take up new positions, and the reports implicating them have yet to see the public light of day.

9.5 Fingers in the USAF Pie

Having looked at the continual state of leadership crisis in which the Agency found itself, it is important to examine how the USF itself was managed. Whilst the available annual reports of the Agency provide separate financial statements for the USF[607], the formal audit reports on these have been relatively unremarkable. The audit opinion from the state Auditor-General's office[608] has largely been 'unqualified[609]' over the years, albeit with

[607] From 2013/14 the annual reports for USAASA and the USAF have been issued as separate documents.

[608] The Auditor-General of South Africa has a constitutional mandate as the supreme audit institution of South Africa to monitor and report on the financial statements of a wide range of state entities, to ensure compliance with the Public Finance Management Act and with Generally Accepted Accounting Principles.

[609] Implying that USAASA's financial records were largely unproblematic.

'emphasis of matter' statements[610] in many instances. The two main substantive episodes of corruption involving the USF, however, found more space in the public gallery than in the dry pages of annual reports. It is, therefore, important to examine each of the scandals in some detail.

9.5.1 Forensics and Fiddles

The first of the two major corruption scandals to have hit USAASA focused on the rollout of telecentre, and has already been outlined in a previous section, which highlighted corruption in the appointment and payment of telecentre suppliers. Without repeating that discussion, it is nonetheless useful to examine the institutional circumstances under which it occurred. In the absence of the forensic audit[611], the details of what actually transpired remain partial and somewhat sketchy.

The scandal first broke in the press in September 2011, but had clearly been brewing for some time (Ncana & Mokone, 2011). A majority of the USAASA Board took began to take action on the basis of the various delivery failures that had been uncovered in mid-2011 during site visits by then Board member Shaun Pather (see previous section), and which pointed to corruption. They clearly believed that more than just a few senior managers were involved, holding, as a result, a number of meetings without informing their Chair Louis Moahlodi. These the latter was to describe as "secret" and "unprocedural" (Ncana & Mokone, 2011). An internal audit report,[612] conducted on their instruction, uncovered widespread misappropriation of funds amounting to at least R 29 million (Malefane & Ncana, 2011). Issues uncovered by the report included:

- Tender fraud, including "irregularities in appointing service providers" without the required "competitive bidding" processes, and "appointment letters [being] addressed to the incorrect service providers[613]";
- Financial fraud, with some service providers "paid for doing nothing", as well as "payments worth millions going to companies that had not completed projects";

[610] These are used to draw attention to areas of significant uncertainty that need to be taken into account when reading the financial statements.

[611] Numerous efforts by the author to source a copy have so far proven fruitless.

[612] Again, this 'internal audit report' was never made public, although a copy was leaked to the Sunday Times.

[613] Presumably this refers to appointing a service provider other than the winning bidder.

- "Duplication of services"[614];
- Problems with documentation, including that "agreements with some service providers could not be found" and that "some agreements did not specify the start and end dates of the contract" (Malefane & Ncana, 2011).

It is a damning list of practices, pointing to organised corruption. The size of the cabal of staffers involved - six were eventually suspended - suggests systematic and active collusion, whether by commission or omission. Former Board member Shaun Pather refers to it as an "entwined web" of patronage and corruption (interview, 27 March 2015). Noteworthy is that the group seems to have enjoyed protection from Board Chair Louis Moahlodi, who is described as having a "close relationship with the suspended officials" (Malefane & Ncana, 2011). Indeed, all (excluding the CEO) had been appointed under Moahlodi's tenure within the short space of a few months: CFO Andrew Hlubi - 2010-06-03; Head of Performance Thandeka Mngadi - 2010-07-16; Head of Business Development Services Molefi Mollo - 2010-09-01; Supply Chain Manager Archie Mbatha and ICT Manager Thato Matsepe - 2010-12-13 (USAASA, 2011, p. Slides 25 & 26).

On the basis of damning evidence from the internal investigation, the Board took a decision to suspend three of the staff closely implicated[615], and approached the Minister requesting that a "forensic audit be instituted as a matter of urgency" (Malefane & Ncana, 2011). The Department promptly ordered a "forensic investigation" (Rasool, 2011b).

The forensic audit was undertaken by SizweNtsalubaGobodo, and duly completed in May 2013 (PMG, 2016). Later described as a "value for money audit", its terms of reference were:

> *a) Investigate and express an opinion on the value for money derived from the listed tenders and/or contracts awarded to service providers*
>
> *b) Investigate and conduct background inquiries of firms or individuals*
>
> *c) Investigate and can conduct the verification of equipment supplied to access centres around the country and determine the value of money thereof*

[614] Presumably this refers to paying more than one service provider for the same service.

[615] Those initially suspended were CFO Andrew Hlubi, Business Development Manager Molefi Mollo, and Supply Chain Manager Archie Mbatha. The Board also informed the Minister of the "impasse between its four members and the chairman", stating that they anticipated "resistance and difficulty in implementing [their investigation]" (Malefane & Ncana, 2011).

d) Gather documentary evidence

e) Review project related documentation, including contract documents of the list of service provider which render the services and/or goods to USAASA with a view of expressing an opinion on the value for money

f) Conduct interviews of involved parties, including the service providers and project managers is [sic] required (PMG, 2016).

But, sadly, the document itself never formed part of the public record, as has been pointed out several times in this study. It does not ever appear to have been tabled before Parliament's oversight Portfolio Committee, even in camera, and repeated attempts by the author to secure a copy have to date proven fruitless. However, what is available in the public record - principally USAASA's own annual reports and their interrogation in Parliament, and trade press reports - does suggest substantial financial mismanagement. Repeated reference to criminal charges also suggests organised looting of the Fund, with possible kick-backs to staff involved. But, in the absence of a forensic audit trail, it is impossible to point fingers with any certainty.

Substantial sums of money were clearly paid for services that were never delivered. The key contract was for 44 telecentres in the first year, with payment of R 19 800 000 tied to the delivery of 20 such "access centres" in the first quarter. However, "only one centre was completed before the end of the first quarter.... the Ulwazi[616] centre in the Western Cape" (Rasool, 2011a). In return for this spectacular shortfall in delivery, the "service provider" was paid R 15 000 000 (Rasool, 2011a). This is certainly at the very least what in audit parlance is referred to as 'irregular expenditure'. And one report suggests it continued even after being exposed, as "in the current year, the service provider was reappointed, and again, funds were already being disbursed" (Rasool, 2011c). In another case, the "signature of a board member, Vusi Ngcobo, was forged to approve a tender of R12-million" (Mokone & Malefane, 2011). Former Board member Shaun Pather suggests that there was at least one other tender irregularity, involving the 'Rapid Deployment' project at uMsinga[617] in KwaZulu-Natal (interview, 1 April, 2015). The tender for this project had been awarded to Umzitel, of the

[616] Ulwazi telecentre had been opened with much pre-election fanfare by Deputy Minister Obed Bapela in May 2011 (Bapela, 2011).

[617] Msinga Local Municipality is in rural KwaZulu-Natal, some 60 km to the east of the infamous Nkandla homestead of President Jacob Zuma.

failed round three USALs[618] - surprisingly, given that national providers Vodacom and Telkom had been amongst the unsuccessful bidders. Pather queried the award, and the Board asked for an independent engineering firm to assess the technical solution. USAASA staff, however, ignored the Board decision, and went ahead and signed the contract, to the value of some R 30 million.

In the face of the evidence, the responses of those implicated sought to prevaricate. The CEO claimed that "USAASA preferred to take remedial rather than punitive action" (Rasool, 2011a), while suspended managers Molefi Mollo and Andrew Hlubi claimed that the Chair of the Board Louis Moahlodi was "on their side and was against their suspension" and had they be given an "opportunity to respond" (Mokone & Malefane, 2011).

The key USAASA annual report, which should have reported on the events outlined above, is unfortunately only available via a presentation to the Portfolio Committee. This document merely contains a tantalising and elliptical summary to the effect that "internal systems were tested and found to be ineffective, including deficiencies in the supply chain management process, information technology and human resources, risk and prevention plan and compliance with approved delegation of authority", and goes on to state that unspecified "corrective action is being taken" (USAASA, 2011, p. Slide 33). The following year's annual report contains numerous references to the "forensic investigation" and its deleterious impact on ongoing project implementation but makes no mention of any actual findings (USAASA, 2012d). Its financial statements list "irregular expenditure" amounting to R 22 669 000 in 2010/11 and R 19 492 000 in 2011/12 "as a result of non-compliance with [supply chain management] policies" and "bidding processes", along with payment of R 2 700 000 to a "supplier without a valid contract" (USAASA, 2012d, pp. 53, 74 & 90). It outlines sanctions being imposed: "dismissal of the CFO, a final written warning for the Executive manager: Performance and a demotion for the Senior manager: SCM. Criminal and civil charges are in the process of being instituted" (USAASA, 2013b, p. 84).

There was, however, some discussion of the forensic audit, when USAASA presented its annual report to the Parliamentary Portfolio Committee. The corruption scheme appears to have centred on a "Project [Management] Office" and a "database of experts", both of which had been established in late 2010 (PMG, 2011a), after the appointments mentioned above.

[618] According to the Department, "UMZITEL, a former USAL, was appointed by USAASA, to implement the broadband network in uMsinga". (DoC, 2011). Then known as Umzinyathi Telecomms, they had been a successful USAL applicant for Umzinyathi District Municipality.

It appears to have been a specific vehicle for nefarious purposes, a "tenderpreneurship tool to create and give out work to targeted individuals and businesses" in the words of then Board Member Shaun Pather (interview, 27 March 2015). The members of the Board had become "extremely concerned by the substantial amounts that were paid to the experts and the [Project Management Office]... [and that] "delegated authority was being exceeded" (PMG, 2011a). It may have been these latter amounts that swelled the amount squandered by USAASA to "approximately R92 million" (PMG, 2012). Later reports were to place the figure as high as R 110 million (Sidimba, 2012).

It is not easy to correlate these figures against the Auditor-General's comments available in the available annual reports. These list "irregular expenditure" amounting to R 19 458 000 and "fruitless and wasteful" expenditure amounting to R 47 326 000 between 2010 and 2012 (USAASA, 2012d, p. 53 & 79). The following year the Auditor-General issued a "qualified[619]" audit opinion because they were "unable to confirm the project… [and] accrued expenses" to the value of some R 57 million and because of the "lack of a [sic] sound and reliable processes in place to identify and measure on the number of completed centres" (USAASA, 2013b, p. 44 & 48).

When USAASA appeared before the Portfolio Committee in late 2011 the Board was accused of having "failed in the execution of its fiduciary duties" and asked to "motivate why the Board as it currently stood should not be dissolved" (PMG, 2011b). Board Chair Louis Moahlodi resigned within a few days (USAASA, 2012d, p. 5). The incoming Minister[620] then dissolved the remainder of the Board and appointed senior departmental officials Sam Vilakazi and Themba Phiri as "executive caretakers" (Labour Court, 2011). As noted previously, the CFO was dismissed, and three others resigned. It appears that the remaining two got off very lightly in the light of the seriousness and the extent of the financial irregularities, with a "final written warning" and a "demotion" respectively (USAASA, 2013b, p. 83). Despite the talk of taking "civil action to recover the money USAASA had lost" and instituting "criminal action… against those involved" (PMG, 2012), and the fact that some 26 charges were reportedly laid

[619] This implies problems with supporting documentation or accounting procedures, or both.

[620] Minister Roy Padayachie was replaced by Dina Pule in a cabinet reshuffle in the midst of the crisis. The reasons behind this surprise replacement are unclear, as Minster Padayachie had widely been viewed as doing an excellent job. The reasons for dissolving the Board are equally unclear, given their role in exposing the corruption. Minister Padayachie has just re-appointed three of them following the stand-off with the Portfolio Committee. (McConnachie & Mawson, 2011)

against three of the managers involved (Sidimba, 2012), nothing appears to have finally come to court, and nothing further seems to have happened to any of the perpetrators.

By then the Agency was embroiled in yet another scandal and forensic investigation, this time at the hands of the country's statutory anti-corruption Special Investigation Unit.

9.5.2 Shenanigans and the SIU

The SIU investigation into the appointment and actions of current CEO, Zam Nkosi, along with improper expenditure from the USAF (RSA, 2014b) had been triggered by an open letter from Bantu Holomisa (IOL, 2014), leader of the opposition United Democratic Movement, directly to President Jacob Zuma[621], setting out a number of allegations of "corruption and maladministration" in respect of USAASA, and going so far as to claim the "looting of State resources" (Holomisa, 2013). The detail of Holomisa's open letter suggests he had received a number of leaked documents from one or more concerned USAASA staffers.

The Board of USAASA was quick to respond to the letter, saying it had decided to "institute an independent investigation into ALL [sic] allegations" and to "place on suspension" two unnamed staff members, as well as to investigate how "confidential third party information" had been leaked (USAASA, 2013a). The Ministry was much slower to respond, largely because embattled Minister Dina Pule was axed in early July, as part of a cabinet reshuffle[622]. It eventually announced that it had appointed "independent investigators to look into the allegations of possible corruption and maladministration" (BusinessTech, 2013a).

The investigation appears to have reported back to the Board and the Minister some months later (Jacobs, No answers yet on USAASA allegations, 2013a), Forensic investigating firm SizweNtsalubaGobodo allegedly recommended that Cell C and USAASA CEO Zam Nkosi be investigated for their respective roles in the aborted deal (ITWeb, 2013b). with the result that a formal SIU investigation (which required a formal proclamation to be issued by President Zuma) was instituted early the following year[623]. The Board's primary action at that

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[621] MP Holomisa bypassed the then responsible Minister, Dina Pule, since she was implicated.

[622] Although she had been implicated in a number of scandals, including accusations of nepotism, maladministration and corruption, the primary cause of her dismissal appears to have been the 'ICT Indaba' scandal, which saw substantial amounts of conference funding siphoned off to a company owned by her romantic partner, Phosane Mngqibisa.

[623] Pule's successor, Yunus Carrim, may have chosen the SIU route because of the unit's far greater law enforcement powers than those of a forensic audit. These include powers of search and seizure, and to subpoena

stage seems to have been disciplinary action against the "whistleblowers" (Jacobs, 2013a). The mandate of the SIU proclamation is terse, covering the three main areas set out in the Holomisa letter, instructing investigation into:

- *maladministration in relation to the recruitment process [leading to the 2013 appointment of the CEO]…*
- *The Agency's funding, by way of a subsidy in the amount of R 500 million, to a service provider for the construction and expansion of an electronic communications network for Emalahleni Local Municipality… and any related unauthorised, irregular or fruitless and wasteful expenditure…*
- *The procurement by the Agency of services in relation to the Rapid Deployment of Public Access Facilities Programme… and any related unauthorised, irregular or fruitless and wasteful expenditure…* (RSA, 2014b)

Once again analysis of what transpired hampered by the non-availability of the final report from the SIU. As noted previously the investigation remains ongoing and incomplete (SIU, 2017), forcing us once again to rely on what third party documentation is available.

The issues relating to the appointment of CEO Zam Nkosi have already been analysed above.

The second area of investigation relates to an allegation involving mobile operator Cell C. An amount of R 500 million of irregular funding was apparently nearly granted for a Cell C project to construct an electronic communications network in eMalahleni Local Municipality in the Eastern Cape[624]. The leaked documentation cited by Holomisa[625] lends credence to his version

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witnesses and to institute prosecutions. Carrim was to earn himself a reputation as hard-working, tough and effective during his tenure.

[624] Not to be confused with eMalahleni Municipality in Mpumalanga, this is a sprawling rural area within the Chris Hani District Municipality, which in turn is one of the USAL areas in the former Transkei. It has a population of some 120 000, almost exclusively Black African, currently with about 3% household access to fixed-line telephony and 79% household access to mobile telephony.

[625] Holomisa lists, with commentary, the following:

e. CELL C letter to Minister Dina Pule : Funding Request, dated the 20th of January 2013.

f. Minister Dina Pule's response dated the 7th of February 2013 with her directive, "NORMAN PLEASE DEAL WITH THIS."

g. CELL C presentation document to USAASA management dated the 23rd of April 2013.

h. USAASA Chief Executive Officer, Zami Nkosi's instruction to Mr Mmatlou Morudu, USAASA Executive: Business Development Service, for the CELL C proposal to be implemented and Mr Mmatlou Morudu's

of the events. It appears that the project began with an unsolicited request for funding directed to Minister Dina Pule, who in turn passed it on to USAASA. Cell C then presented their proposal to "USAASA management", leading to an instruction from CEO Zam Nkosi to Business Development Manager Mmatlou Morudu to proceed with the necessary funding. Morudu, however, refused to authorise the payment, citing his "duty of professional care and competence", and pointing out that the instruction was ultra vires - "the Act clearly articulates that such application must be adjudicated via a competitive tender" (Holomisa, 2013). Whilst Morudu's principled and procedural stance had the effect of blocking the payment of R 500 million from the USAF to Cell C, it appears that it in turn led his dismissal of Morudu and a subsequent court case on his part against USAASA (BusinessTech, 2013b)[626]. Morudu went on to allege that he had been threatened by both CEO Zam Nkosi and Board Chair Pumla Radebe for his refusal to sanction the Cell C project, and fired shortly thereafter (Bailey, 2014b).

Cell C, for its part, insisted that the proposal, which had "stemmed from [Head of Regulatory Affairs] Mothibi Ramusi" was fully above the board, describing it as a "'transparent application' in terms of section 88 of the ECA"[627]. Cell C went on to wash its hands of culpability, stating "we will cooperate with authorities if requested to do so as we have acted completely within the law at all times" (ITWeb, 2013b).

Strangely, no-one seems to have commented on the price tag for the proposal, accepting the inflated R 500 million figure without question. Whilst it is true that the USF had about R 750 million in it at the time, almost all of this was earmarked for Set-top Box subsidies, and it is doubtful that the diversion of much of these funds to Cell C would have passed audit muster.

The second strand of corruption allegations dealt with tender manipulation on a multimillion rand contract awarded in 2012, in part to Mthinte Communications (the other successful bidder being Hawkstone Marketing) (USAASA, 2012c). Hawkstone and Mthinthe had been

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"negative" response to his CEO instruction, dated the 16 of April 2013. He said: "I have a duty of professional care and competence that I seek to abide by, in all my dealings." Wow, give that man a Bells! [his emphasis] (Holomisa, 2013).

[626] There appears to be no ruling in respect of the case, and so the court documents are not publicly available.

[627] This section of the ECA allows for licensees to be paid subsidies "for the purpose of financing the construction or extension of electronic communications networks in under-serviced areas" (RSA, 2005a, p. Section 88(1)(b)). ICASA had recently gazetted a set of definitions, but USAASA had done nothing to give effect to this clause, making Cell C's letter to the Minister a somewhat cheeky approach.

selected from an initial field of 22 companies (USAASA, 2012b) that had submitted reverse subsidy[628] bids for a "Rapid Deployment Project" to roll out what are described as "public access centres" but which look suspiciously like the failed USA telecentres of old (USAASA, 2012a). Accusations of non-delivery and overpayment were also reported in the press in respect of both companies, with one report apparently having had sight of leaked documents additional to those referenced by Holomisa: it cites an internal USAASA document as stating that Hawkstone had been overpaid by R 3,8 million despite delivering only 8 out of its contracted 32 telecentres, whilst Mthinte has been overpaid by R 7,5 million despite delivering only 19 of its contracted 33 telecentres (de Klerk, 2013). Holomisa gives little detail on Hawkstone, or the issue of non-delivery, but alleges that Mthinte was overpaid to the tune of over R 10 million on what should have been a R 24 million tender. The allegations of tender fraud include paying Mthinte 100% of the cost of the rollout, despite their winning bid being pegged at an 80% subsidy[629], and irregularly adding additional "branding" to the original contract (Holomisa, 2013).

USAASA's own reaction to the investigation bordered on the incoherent. After the preliminary investigation had been completed, a spokesperson described the allegations as "just hallucination", labelling the whistle-blowers as "habitual liars", and claimed that "to prosecute [USAASA] in the public gallery without following procedures is tantamount to character assassination". (Jacobs, 2013b). Following the SIU proclamation, USAASA issued a further statement on the inauspicious first of April. On the one hand it stated that the "Boards have instructed management to cooperate fully and truthfully with the SIU", but on the other it went on to label the allegations as "unfounded" and a "desperate ploy". It went on to allege a bizarre conspiracy concocted by nameless parties seeking to take control of the USF - a "cloud peddled in the media [as] a deliberate and unfortunate creation in the quest for control over the organization's existing as well as future funds" (USAASA, 2014a).

In the absence of the final report from the SIU investigation, it is impossible to be certain of the full extent and nature of the corruption around the USF. The Hawkstone and Mthinthe allegations certainly seem to point to a repeat of the fiasco of the Project Management Office several years earlier. If not outright tender fraud, there seem certainly to have been major

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[628] This was not a pure reverse subsidy auction since the level of subsidy requested comprised just under 50% of the bid evaluation scorecard. With the exception of ISP iBurst, and possibly failed USAL Umzinyathi Telecomms, the list of bidders mostly comprises hitherto unknown entities.

[629] The original request for proposals had stipulated that the "Agency will not subsidise 100% of the costs required to deploy a public access facility" (USAASA, 2012a, p. 19).

lapses in financial management and corporate governance. Other recent instances of corruption, such as the late 2014 suspension of another (unnamed) USAASA staffer on charges of "corruption and maladministration" (USAASA, 2014e), simply underline the point. Likewise, the uncovering by opposition parliamentarian, Marian Shinn, of an illegal transfer of R 4,7 million from the USAF to cover USAASA's PAYE tax bill does suggest chaotic financial controls (MyBroadband, 2012). Shinn notes with some disappointment that once "the tax payment from the USAF was paid back to Treasury from USAASA's funds and accounted for in their books, Treasury saw no need to take further action taken against the officials concerned" (personal communication, 10 February 2015).

A fresh round of corruption allegations has recently surfaced at USAASA, this time involving tenders for the set-top boxes needed in the country's migration to digital terrestrial television. The tender to manufacture these devices runs to over R 4 billion, and was unaccountably awarded to a "panel" comprising all 27 bidders (van Zyl, 2015). An investigation into the tender was instigated by Treasury, and has led in turn to yet another forensic investigation. This appears to have uncovered substantial contraventions of supply chain management policies, and went so far as to recommend that the "production process of STBs be stopped with immediate effect and a process that will lead to the integrity and value for money be initiated" (DoC, 2016) - as clear an indication of substantial corruption in the process as any. The investigation continues to simmer, with the Competition Commission allegedly investigating price collusion between bidders, and recent press reports alleging bidder Altech agreed to pay a bribe of R 54 million to one of the sons of President Jacob Zuma in order to secure the contract (wa Afrika, 2017). With the Minister keeping the report under wraps, the shadow Minister of Communications has called for the Public Protector[630] to investigate (Shinn, 2017).

Under the management of USAASA the impacts and achievements of the USF have been, as the analysis has shown, extremely limited. The rollout of telecentres was ill-conceived, well short of targets, plagued with problems and unsustainable. Further, no subsidies were ever paid to needy persons. No subsidies were paid for the extension of communications networks, aside from the near-miss involving Cell C. Payments to the USALs were insufficient and

[630] One of the six independent institutions set up under Chapter Nine of South Africa's Constitution to support and defend democracy; empowered to investigate and make rulings in relation to government maladministration, improper conduct by government functionaries, and corruption and other improper acts with respect to public monies.

ineffective. Despite being considered as part of the canon of international good practice, the implementation of the USF in South Africa thus appears to have been a barely mitigated failure of policy implementation.

There were clearly a number of factors contributing to the failures of the Agency in respect of the USF. In the absence of stringent financial procedures and controls, those overseeing the USF seem to have been concerned less with the impact of their interventions upon South Africa's communications poor and more with exploiting the Fund as an avenue for personal enrichment. The constantly changing and unstable leadership of the Agency, coupled with poorly qualified staff, and a lack of skilled financial and management expertise, seem to have contributed to an environment where staff placed private, corrupt agendas above the public interest. It is true that the Agency has belatedly developed a formal Manual setting out funding guidelines and operating procedures for the Fund (USAASA, 2014b), but its existence has not been widely publicised, and it is not available via the Agency's website.

There seem to be inherent structural challenges facing institutions such as the Agency, charged with allocating, disbursing and accounting for public funds. Opportunities for corruption seem to be engendered in any environment where this trusteeship is not subject to either adequate public scrutiny or the necessary organisational checks, balances and controls. Surprisingly, international good practice does not appear to have taken account of or examined the potential for corruption and misappropriation of funds in respect of USFs worldwide. Both recent global studies on USFs (GSMA, 2013; ITU, 2013) remain strangely silent on the issue. Yet is difficult to believe that the expenditure of substantial sums of public money through USFs has not been seen as an opportunity for illegal personal gain in countries other than South Africa.

9.6 Research, Advocacy and Policy Support

Although the primary responsibility of the Agency has been the oversight, expenditure and accountability of finds via the USF, its mandate is, as has been noted, far wider than a financial and fiduciary one. The Agency's mandate includes advocacy, research, and policy support. It is therefore important to look at the performance of the Agency in respect of each of these functional areas.

9.6.1 Research

The enabling legislation[631] of the Agency sets out a number of areas of research focus, including requirements that it:

a) *undertake such investigations into matters relating to its functions as it may consider necessary…*

b) *conduct research into and keep abreast of developments…*

c) *continually survey and evaluate the extent to which [UAS has] been achieved…*

d) *issue information from time to time…* (RSA, 2005, p. Section 82(4))

Former USA researcher Katharina Pillay has suggested that research should have been the primary mandate of the Agency (interview, 13 January 2015). That may be overstating the case, but research is clearly an important pillar for the work of the Agency. Ideally it provides the data and information necessary for the Agency's own functioning in other areas, and serves as an input for the policy-maker and the regulator. However, the Agency's publications output - an obvious indicator of research activity - belies this. In fact, research it has consumed less than 3% of USF expenditure to date[632]. Moreover, the list of formally issued research reports and documents[633] is, by any standard, a paltry output over its 20 years of existence. It comprises:

- Affordability of Telecommunications Services and Categories of the [sic] Needy People in South Africa (Feb 2006) (USA, 2006a);
- Analysis of the Extent to which the Objectives of the Telecommunications Act (103 Of 1996), As Amended, were Achieved (in the Period 1997 To 2004) (Schofield & Sithole, 2006);
- ICT Penetration in South Africa Project Report (Feb 2006) (USA, 2006b);

[631] The wording cited here and below is from the current Electronic Communications Act of 2005, as amended. The functions of USAASA as set out in the ECA are almost entirely unchanged from those assigned to the USA in the 1996 Telecommunications Act.

[632] Arguably, this too is *ultra vires* the Act, which provides that the Fund must be "utilised exclusively for the payment of subsidies", and should have been funded from the core USAASA budget rather than via the USF.

[633] Research related to formal regulatory notice and comment procedures (USA, 1998; USAASA, 2008d) has been omitted from the list, but is equally sparse.

- Recommendations on How the USA and other Stakeholders Might Assist USALs to Ensure Sustainability (May 2006) (Thornton, 2006);
- Community Telephone Services Market Study (2006) (USA, 2006c);
- The National Strategy on Universal Service & Access Report (2014) (USAASA, 2014b);
- Universal Service and Access Fund Manual (2014) (USAASA, 2014b).

Formal research activity seems to have taken place only in two brief spurts, around 2006 and again in 2014. None of the reports appears to have been formally published and issued. Only one report (Thornton, 2006) appears to have enjoyed any level of coverage in the trade press. Others made only a brief appearance on the website of the Agency. None is currently available for download. Further, some of the research (Schofield & Sithole, 2006; USA, 2006c) seems to have focused on issues unrelated to the mandate of the Agency. Only one report (USA, 2006b) can be said to evaluate the extent of universal access and service in South Africa. None examine the rollout and effectiveness of the Agency's flagship telecentre programme, on which over 62% of USF funding to date has been expended.

This is not to say that there was no ongoing internal research activity and capacity at USAASA over the years. However, the Agency has never had a section or division with research as its primary mandate. Further, lack of access to the necessary data and information to enable the Agency to assess, monitor and track progress in respect of universal access and service has been widely reported as an ongoing problem (Ngubane, 1999). A particular bottleneck has been the persistent refusal of the operators to release rollout data on the grounds that it was "commercially sensitive", and the failure to audit their USO compliance (Stavrou, Whitehead, Wilson, Seloane, & Benjamin, 2001, p. 2). As a result, the USA was unable to establish a "national Geographical Information System (GIS), crucial to the monitoring of such a roll-out". In fact, despite later claims that "a Geographical Information System is currently being developed" (USA, 2002, p. 2), and that "maps can be accessed through the link on the Agency website called GIS Mapping" (USAASA, 2008, p. 24), it remains on the wish-list.

9.6.2 Advocacy

The Agency's mandate also includes several advocacy objectives. These include injunctions to:

a) strive to promote the goal of universal access and universal service…

b) *encourage, facilitate and offer guidance in respect of any scheme to provide [UAS]…*

c) *foster the adoption and use of new methods of attaining universal access and universal service. (RSA, 2005, p. Section 82(1))*

The original 1996 Act contained and additional advocacy injunction to "stimulate public awareness of the benefits of telecommunication services" (RSA, 1996b, p. Section 59(1)(d)), which was not carried through to the 2005 ECA.

An early evaluation of the work of the Agency was scathing in its assessment of performance in this area, stating that "creating public awareness…. has simply not occurred" (Stavrou, Whitehead, Wilson, Seloane, & Benjamin, 2001, p. 3). It went on to find that

> *Advocacy, through representation to the Ministers office, DoC and ICASA, was yet another function that the USA should have undertaken. The record shows that these rarely happened, and when they did they tended to be of an adversarial nature* (Stavrou, Whitehead, Wilson, Seloane, & Benjamin, 2001, p. 3).

The stance of the Agency may have mellowed somewhat in subsequent years, but its advocacy track record has remained scant and relatively low-key. Whilst it has made formal submissions on an ongoing basis to the various notice and comment processes in the sector, and has conducted a number of workshops over the years, its profile as an advocate of universal access and service has largely flown beneath the radar.

9.6.3 Policy Support

Finally, the Agency is enjoined to provide support for policy-making and regulation. Specifically, it is required to:

e) *make recommendations [on request] to the Minister in relation to policy on any matter relating to universal access and universal service…*

f) *advise the [ICASA on request] on any matter relating to universal access and universal service…*

g) *continually evaluate the effectiveness of this Act and things done in terms thereof towards the achievement of the goal of universal access and universal service…* (RSA, 2005, p. Section 82(4))

The track record of the Agency in support of policy and regulation has been rather better, despite a number of hiccups, and albeit only in respect of a single area. The two sets of processes by which the Agency sought to secure definitions for universal access, universal service, under-serviced areas, and needy persons have already been charted. The first (USA, 1998; USA, 1999a; USA, 1999b) was conducted in terms of the 1996 Telecommunications Act, and, as noted, ultimately floundered on the desk of the Minister whose responsibility it was to issue the necessary regulations[634]. The Agency's second attempt (USAASA, 2008d; USAASA, 2009b; USAASA, 2009e) was, again as noted, rather more successful, as it led to a corresponding Ministerial determination this time around (DoC, 2010), and ultimately a set of regulations from ICASA defining under-serviced areas (ICASA, 2012b).

The Agency has done little, if anything, when it comes to evaluating the impact of legislation and its consequent sets of regulations on achieving universal access and service. Arguably this ongoing watchdog role is amongst the central functions of the Agency, one which would have allowed it to influence and shape policy pronouncements, legislative amendments and regulatory interventions. However, there is simply no evidence that the Agency ever conducted a regulatory impact assessment of this nature and scope.

9.7 Assessing the Work of the Agency

In late 2000, with the Agency approaching the end of its initial lifespan[635], a task team was appointed by Director General Andile Ngcaba to review the work of the USA and to make a recommendation on its future (Stavrou, Whitehead, Wilson, Seloane, & Benjamin, 2001, p. 1). Somewhat surprisingly, given its assessment of the performance of the Agency, the team was unequivocal in its insistence that the Agency should continue to exist until "it is deemed that universal access and service in telecommunications and related information services has been achieved". The report was strident in its condemnation of any attempt to close the USA down, branding this as "immoral and a crime of negligence towards the constituents [sic] of South Africa" (Stavrou, Whitehead, Wilson, Seloane, & Benjamin, 2001, p. 6 & 4).

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[634] To its credit, the USA's recommendation to the Minister addressed all four definitions, although there was at the time no formal requirement for 'under-serviced area' to be defined, and the responsibility for defining 'needy persons' rested with the regulator.

[635] The 1996 Act provided for the USA to be collapsed into the regulator, at the discretion of the Minister, but not before the passage of five years (RSA, 1996c, p. Section 64) - November 2001.

This was despite an assessment which is damning. The report itemises a litany of failures in respect of the core objectives of the Agency. Three of these were cases where the "performance was within the control of the USA", and which "failed because of incompetence". In a further eight instances, objectives were judged as ones which "could not have be met because their performance was linked to both support and performance of other institutions and organisations" (Stavrou, Whitehead, Wilson, Seloane, & Benjamin, 2001, pp. 1-3).

Surprisingly, the USA escapes very lightly on its lead project, the telecentres, which is listed amongst the areas where failure is attributed to external factors. This is despite the project being described as "ad-hoc" and having a "number of inherent problems", resulting in "one-sided dependency relationships between the telecentres and the USA that have largely resulted in their breakdown" (Stavrou, Whitehead, Wilson, Seloane, & Benjamin, 2001, p. 2). However, the Agency's disastrous track record with telecentres has already discussed in detail in a previous section, and it is unnecessary to revisit that discussion here. Suffice it to state again that this represented a departure at the outset from the official mandate of the Agency. Ministerial pressure does explain this, even if it does not excuse it.

The assessment also deals with the failure at the time to achieve definitions for 'universal access', 'universal service' and 'needy persons', all which have also already been discussed. However, this area of failure does highlight the extent to which the Agency was dependent upon the regulator and the Minister in carrying out its work. ICASA, in particular, is singled out for lack of the "socio-political will" to establish and convene the necessary co-ordinating structures (Stavrou, Whitehead, Wilson, Seloane, & Benjamin, 2001, p. 2)[636].

The report also highlights some of the staffing and leadership problems that have already been discussed above. It describes problems of "staff turnover, particularly that of the Head" as being "far from acceptable". And it goes on to point to internal organisational development problems - the "reshuffling of portfolios… [with the result hat] skilled personnel have found themselves in positions that they neither desired nor are equipped to handle. (Stavrou, Whitehead, Wilson, Seloane, & Benjamin, 2001, p. 3).

The report does make some interesting recommendations, amongst them:

- That the Agency take over monitoring of the USOs of the operators;

[636] Given that the report had been commissioned by the Director General, criticism of the Minister is by veiled implication.

- That the governance of the Agency be assumed by a Board of Directors to be appointed by the Minister;
- That the universal service levy be hiked to "2% of gross revenue", but that a "'play or pay' principle" be adopted, with a "financial incentive [for operators] to play;
- That the name of the Agency be changed from the rather unfortunate USA to "Universal Service Development Agency (USDA)" (Stavrou, Whitehead, Wilson, Seloane, & Benjamin, 2001, pp. 7, 11, 14 & 15).

There were a number of other recommendations, mainly reconfirming the status quo in respect of the Agency. Of those above, only the establishment of an oversight Board was implemented directly in the 2001 amendment to the Act. The USA did change its name, however - to the even more unfortunate and cumbersome Universal Service and Access Agency of South Africa (USAASA).

However, the value of this assessment was limited by its primary mandate to pronounce on the future of the USA as an institution. As a result, the authors seem far more concerned with arguing for the USA's continuation than with exposing its failings and proposing corrective actions.

The establishment of a governing Board for the Agency was adopted as policy shortly afterwards in a Ministerial directive, which dealt, *inter alia*, with the "restructuring" of the Agency, emphasising its role to "evaluate and monitor implementation of universal access projects" and setting out a Board to "provide oversight" (DoC, 2001b). The Board was duly established when the Act was amended (RSA, 2001c), although, as noted, the functions of the Agency were left almost entirely unchanged.

The work of the Agency was again evaluated some years later through a 2005 'impact' study, commissioned by USAASA itself. This rather rambling assessment describes itself as a "written, in-depth case study of South Africa's Universal Service Agency" (USA, 2005, p. 1)[637]. The report's assessment of the USA's track record in relation to the various areas of its mandate is unremittingly negative. In a detailed catalogue evaluating each of the USA's functional areas, the report finds a number "too vague to permit a meaningful assessment",

[637] The report examines a number of areas of the work of the USA in some detail, including telecentres (USA, 2005, pp. 76-79) and the USF (USA, 2005, pp. 65-74). As these have already been discussed in some detail above, those aspects of the evaluation will not be dealt with again.

and judges the Agency as having neither "capacity or budget" in respect of others (USA, 2005, pp. 42-54).

The overall conclusion of the report is both strident and damning. Contextualising its final assessment somewhat tendentiously against the "consensus in professional, academic as well as telecom sector literature… that South Africa s telecommunications policy is a failure", it characterises the USA as a "creature of [that] policy" and views its legislated "mandate [as having] set the Agency up to fail" (USA, 2005, p. 93). Key identified areas of failure on the part of the USA include:

- Having "made [telecentre] implementation its core function";
- Neglecting to "monitor and analyze the RSA telecom sector" (USA, 2005, pp. 93-94).

The report goes on to call for:

> *The mandate for the Universal Service Agency [to be] improved…*
>
> *The Agency's budget and the funds allocated to the Universal Service Fund [to be] increased dramatically…*
>
> *The USA's human resource capacity [to be] increased, particularly with respect to research and analytical skill sets* (USA, 2005, p. 95).

9.8 Conclusion

On the basis of the preceding discussion it is hard to see the Agency as anything short of a failed institution caught up in failed policy implementation.

To be fair, the Agency was placed in a difficult structural position from the outset. It was, as noted, caught between the Ministry and the regulator and the operators, with much of its mandate outside of its own control, with neither enforcement nor regulatory powers. It shared overlapping co-jurisdiction with the regulator on many aspects of UAS implementation, monitoring and enforcement, without any sort of formal co-ordinating structure[638]. This is the sort of situation Limitlaw is referring to when she refers to USAASA as being in a "bizarre regulatory space" (2014, p. 5265). Similarly, the USA assessment report describes the Agency as "weakly embedded in South Africa's regulatory space" (USA, 2005, p. 20). BMI-Tech CEO

[638] Khumalo had pointed out the challenges of "joint responsibility" with the regulator "on monitoring universal service provision" (Ngubane, 1999) in the very early days of the USA.

Denis Smit likewise bewails the "conflicting mandate" between the Agency and the regulator (interview, 20 November 2014). In addition, the work of the Agency was then also undermined by a debilitating combination of lack of support from the Department on the one hand, and continual Ministerial interference on the other. Such structural limitations have made it very difficult for the agency to be effective and to make an impact.

Nonetheless, there was much the Agency could have achieved had it not tripped up on its own internal limitations. Lack of capacity and inappropriate skills sets have been enumerated above. Combined with a weak, unstable and constantly changing leadership, with several CEOs embroiled in one form of misconduct or another, this left the entity unable to intervene systematically and effectively. It also opened the door to financial mismanagement and corruption. From the earliest irregularities involving the IDRC funding, through the forensic audit and subsequent SIU investigation, both involving misappropriation of telecentre funding, there has hardly been a period when the Agency has been free from the taint of scandal.

Arguably, external pressures exacerbated the personal enrichment opportunities that were presented through managing large sums of money in the absence of competent management and the necessary strict financial controls. As noted, there was considerable pressure on the Agency from Ministers looking for the glamour of flagship projects and an opportunity to make political mileage out of cutting telecentre ribbons. Sustainability of access and lived benefits to disadvantaged communities took a back seat to showcase politics.

As a result, over R 600 million of funding available in the USF has been spent, but with almost nothing by way of tangible, sustainable results to show for it. Contrast this with over R 2 billion in operator contributions over the same period. Funding on this scale, properly and judiciously spent, might have made a real difference in providing access to communications services and content to the digitally disadvantaged in South Africa.

In consequence, the Agency has failed to deliver on so many of the core areas of its mandate. Its research related to universal access and service in South Africa has been almost non-existent, and what there was, lacked both profile and impact. In advocacy, the Agency has been weak and ineffectual. It is only when it comes to support for and input into regulation that the Agency can claim any level of success: several sets of definitions were developed and promulgated. However, the Agency's influence on the broader policy agenda has been non-existent.

It remains unclear as to why the creation of a separate institutional entity to drive universal access and service was so strongly driven. It does seem likely, though, that the primary motivation was to ensure that universal access and service remained at the forefront of policy implementation. Providing an institutional counterweight to the sector regulator in order to offset the possibility of regulatory capture, given the ANC's mistrust of much of the bureaucratic baggage likely to be carried over into the new state environment seems also to have played a role. Using the Agency as a vehicle to reward an important labour nd community constituency through the initial staffing appointments may also have been a consideration. The very motivations behind the creation of the USA then likely consigned it to the margins of policy implementation.

It seems highly unlikely that the establishment of the USA was in any way related to an agenda of corruption. The opportunities for personal plunder were comparatively small and piecemeal (particularly in early years when the Fund was capped), and pale into insignificance against those presented by the arms deal, and via high spending state institutions such as Eskom, PRASA and SAA. In any event, the beneficiaries of corruption via the USF appear to have been a very different set of individuals, unconnected to those who established the USA in the first place. What does seem clear that access to, and the ability to manipulate, the expenditure of large sums of a money makes the lure of lucre shine brightly. This is especially so in an environment that is slowly sliding towards becoming a kleptocratic state.

It is further unclear why corrective action has been so slow and so limited in scope. It is true that some legislative amendments seem to have been triggered by specific events or particular reports. But, for example, the introduction of a governing Board seems a fairly limited response to the 2000 review of the USA (Stavrou, Whitehead, Wilson, Seloane, & Benjamin, 2001). , even if that was more concerned with ensuring the continuation of the USA as an entity than with identifying weaknesses and proposing corrective action. Similarly, the SIU investigation seems to have been the trigger for the insertion into the Act of a number of clauses stressing the fiduciary duties of the Board and the appointment, conditions of employment and removal of the CEO (RSA, 2005, pp. Sections 81A, 82A-82E). The fundamental structural issues and institutional shortcomings of the Agency seem never to have been properly analysed or adequately addressed. It is only with the recent White Paper that a decision has been taken to dissolve USAASA, and to assign its policy-making functions

to the Department and its regulatory functions to ICASA (DTPS, 2016, p. 171)[639]. As a consequence, regulatory interventions to achieve UAS may be strengthened and streamlined, but at the expense of UAS becoming far less of a policy priority.

USAASA appears therefore to have come to the end of its lifespan. It has become an institution that seems to have failed on almost every level. It is hard to point to a single, sustained instance where its programmes can be said to have succeeded. As an entity, its processes and procedures have become tainted with corruption, and it has become politically discredited - so much so that the Ministry intends closing it down and reassigning its functions.

The creation and work of USAASA is viewed by many as having been "fatally flawed" (Denis Smit, interview, 20 November 2014). It is hardly surprising, then, that former IDRC staffer Tina James can conclude thus:

> *I think the USA is one of the most shameful things this country has done. I can't believe how we wasted so much money for so long and where the need was so great. (interview, 27 November 2014)*

[639] At the same time the USF is to be replaced by a "Digital Development Fund', far broader in scope and resourced by a significantly higher levy.

10 Policy: from Conception to Outcomes

The preceding chapters have documented the evolution of a canon of international good practice in relation to universal access and service policy, together with how those precepts and prescriptions were adopted and adapted in South Africa, and how the implementation of each of the major interventions played out over the last twenty or so years. The period has witnessed the slow silting up of the deep digital donga separating 'white' and 'black' South Africa when it came to access to telephony, leaving a barely noticeable scar across the landscape. At the same time, the ICT environment has transformed fundamentally from basic telephony connectivity towards ubiquitous Internet access and the widespread availability of high-speed, high-bandwidth broadband. National broadband strategies have become the new *de rigueur* form of international good practice, both in South Africa (DoC, 2013) and indeed globally (Oliver, 2015), thus opening up new fissures in access, new axes of deprivation (McHenry, et al., 2016). Whilst income may today have replaced race as the primary determinant of deprivation (World Wide Worx, 2017, p. 7)[640], an Internet digital divide (and, by extension, a broadband one) remains a central obstacle to providing ICT infrastructure, services and content to all South Africans.

What has been presented in the preceding chapters is both a structured historical exposition of events and an analysis of their consequences and outcomes. The tools of regime theory and policy transfer have been used to organise and reconstruct these events on the basis of the available evidence, drawing on key informant interviews and analysis of the extant documentation. The lens of policy success and policy failure then provides a heuristic tool to assess the extent to which the series of UAS interventions described in the preceding chapters met the RDP's stirring telecommunications vision of "universal affordable access for all" (ANC, 1994b, p. Section 2.8.4). Those lessons, in turn, hold important implications for future policy and regulatory interventions designed to ensure nationwide, reasonably-priced access to high-speed, high-bandwidth broadband infrastructure, services and content. Finally, on a more

[640] As we noted earlier, the rise of an affluent 'black' middle class is likely responsible for the relative decline of the *apartheid* dimensions of the digital donga. However, poverty - the principal access of the Internet divide - remains largely 'black': some 93% of "poor" South Africans are 'black' (Stats SA, 2017a, p. 57) whereas they comprise some 80% of the total population. And racial category remains a powerful predictor of lack of Internet access: in 2013 only 3,8% of 'black' South Africans had Internet "at how", compared to 51,3% of their 'white' counterparts (Stats SA, 2015, p. 39).

theoretical level, the presentation and analysis also yield insights as to the applicability and value of the conceptual framework adopted and deployed in the preceding chapters.

This chapter opens by applying McConnell's policy success and policy failure heuristic to the series of interventions that have comprised universal access and service policy and regulation in South Africa over the last 20 years. It then proceeds to reflect on both the limitations and strengths of the research as presented, before turning to an examination of the research questions as presented at the outset. The chapter concludes with a reflection on the conceptual and analytical tools deployed.

10.1 Policy Success or Policy Failure?

As noted in the preceding chapters, South Africa adopted and implemented a series of policy and regulatory interventions designed to achieve universal access and service in respect of ICT infrastructure, services and content, and drawn from international good practice. The imposition of universal service obligations (USOs) upon licensees (Chapter 6) and the deployment of a universal service fund (USF) (Chapter 7) are the clearest and most direct examples of this. The two remaining planks of South Africa's UAS policy were, as noted, less directly derived from international good practice, but remained consistent with its principles and practices. They were: the awarding of rural licences to under-serviced area licensees (USALs) (Chapter 8); and the establishment of an institutional entity dedicated to UAS, now the Universal Service and Access Agency of South Africa (USAASA) (Chapter 9).

The implementation of each of these interventions, along with their associated developments and consequent outcomes has been set out in detail in the analysis above. As presented above, each has been beset by problems of formulation, implementation and monitoring, and bedevilled by areas of outright failure. Indeed, as noted previously, the effectiveness of each has been the subject of widespread public criticism and academic scepticism. Equally importantly, the policy-makers themselves effectively abandoned one of the interventions, when policy directions regarding the future of the USALs were withdrawn (DoC, 2009b), and are currently proceeding to dismantle another, with the announced dismemberment of USAASA (DTPS, 2016, p. 171).

It is, however, important to move beyond blanket judgements, and to undertake a far more nuanced assessment of the effectiveness of each of the interventions, highlighting degrees and areas of success and failure in each case. As suggested previously, McConnell's

conceptualisation and framework for evaluating policy success and policy failure (2010) appears to offer a useful tool for undertaking such a granular assessment, for shining a light on precisely the 'grey' areas he refers to. Indeed, the assessment in terms of McConnell's framework, as set out below, is perhaps rather more mixed than might be expected.

The analysis in each case draws on the preceding chapters where each of the policy programmes was discussed in great detail, reflecting the assessment and conclusions set out there with recapitulating in detail the actual evidence. The reader is thus referred back to each of the individual chapters for a fuller discussion.

10.1.1 The Process of UAS Policy in SA

When it comes to the policy process, evaluation in terms of McConnell's heuristic (2010, p. 352), suggests an outcome that is fairly evenly balanced between success and failure, as Table 10.1 below reflects.

Table 10.1: UAS - Policy as Process Evaluated[641]

Category	Summary of Outcome	Assessment
Preservation of goals & instruments	Preserved, despite minor refinements	Resilient Success
Policy legitimacy	Difficult and contested issues surrounding policy legitimacy, with some potential to taint the policy in the long-term	Conflicted Success
Sustainability of policy coalition	Coalition intact, despite some signs of disagreement	Resilient Success
Level of innovation & influence	Appearance of being out of touch with viable, alternative solutions	Precarious Success
Level of support vs opposition	Opposition to process and support are equally balanced	Conflicted Success

[641] The tables derive from McConnell, with the column 'Category' added by this author as a label for the issue under consideration in each case. The 'Summary of Outcome' draws its the wording from the applicable - in the judgement of this author - description of McConnell in each case. 'Assessment' reflects the corresponding placement of this along McConnell's 5-point scale, and uses his terminology, ranging downwards from full-blown 'Success', through 'Resilient Success', 'Conflicted Success' and 'Precarious Success', to outright 'Failure'.

Preservation of goals & instruments

It seems clear that the overall policy goal of achieving affordable universal access and service for all, especially for rural areas and poor communities, remains unchallenged. In part, this may be because it is politically untenable to question the need for UAS in South Africa, given where this would position the questioner in the face of the country's *apartheid* legacy of glaring socio-economic disparities[642]. There seems to be widespread acceptance of the remaining specific interventions themselves, now that the USALs have faded from the public memory into the mists of historical oblivion, and with the planned closure of USAASA. The outcome of ICASA's 2010 review of the USOs is illustrative. Although the major licensees with existing USOs were predictably unanimous in their critique of the existing USOs, preferring to see the Universal Service Fund as the chosen form of intervention, there was no opposition to UAS interventions in general. The words of the Internet Service Providers' Association perhaps best sum up the position: "ISPA believes that there is no real debate that USAOs [broadly speaking]… have a role to play in meeting UA and US objectives" (ISPA, 2010, p. 5). ICASA was therefore able to re-impose the existing USOs - albeit with some adjustments, including the "removal of the SIM card and handset distribution obligations as well as the reduction in the number of schools to be connected" and the undertaking of a regulatory impact assessment (Ellipsis, 2017). More recently, although a number of aspects of Government's White Paper proved highly controversial, there was little if any criticism of the plan to strengthen and broaden the current USF into a new Digital Development Fund (DTPS, 2016). It therefore seems fair to conclude that the goal of UAS policy remains intact, despite minor refinements to the specific instruments themselves.

Policy legitimacy

Having said that, there remain a number of difficult and contested issues with some potential to taint the legitimacy of UAS policy in the long-term. As noted, the initial enthusiasm for the USALs experiment rapidly turned into dismay, scorn and ridicule before the policy was finally abandoned. The poorly-performing and corruption-riddled USAASA has similarly remained a consistent object of public scorn, with its recently announced demise seen as the logical outcome of years of maladministration and ineffective inactivity (Mzekandaba, 2016c). And, whilst the deployment of a USF remains widely acceptable, both the long-standing

[642] Similarly, it is untenable to question the need for 'black economic empowerment'. In as different vein, see, for example, the public furore that erupted after the tweet by opposition politician Helen Zille to the effect that the "legacy of colonialism" was not "only negative", and her subsequent public apology (Nicolson, 2017).

maladministration of the existing fund by USAASA and the proposal to hike the levy to 1% of licensees' turnover have been widely condemned (Gopal, 2015). Similarly, the regulator's ongoing moves to tinker with the existing USOs by way of undertaking a regulatory impact assessment, as well as proposing amendments in some cases (Ellipsis, 2017)[643], suggests less than universal satisfaction with the mechanics of the current regime.

Sustainability of policy coalition

The situation set out above suggests a policy coalition of stakeholders that remains broadly intact. There is agreement on the goals of UAS policy, broadly shared acceptance of policy successes, shortcomings and failures, albeit a fair degree of disagreement on remedies and alternatives.

Level of innovation & influence

Largely because of the policy track record in respect of both the USALs and USAASA, in particular - where the myth of policy success continued to be peddled in the face of mounting, indeed overwhelming, evidence to the contrary - the Department and the Regulator are perceived as being out of touch with the evidence of implementation in practice, reluctant to acknowledge policy failures, and lacking any vision for viable, alternative solutions. For example, the recent ICT Policy White Paper (DTPS, 2016) remains very thin, almost silent, on concrete and specific measures to undercut maladministration and looting in respect of the proposed, and much more lucrative, Digital Development Fund. In similar vein, the recent proposals by ICASA to amend the USOs imposed on Telkom, WBS and Sentech (Ellipsis, 2017) show little by way of measures to obviate the shortcomings of their predecessors.

Level of support vs opposition

Despite the qualifications and criticisms above, the process of policy formulation and implementation itself remains largely supported. A number of factors contribute to such an assessment. Despite recent high-profile shenanigans around President Zuma, 'state capture' and the '#GuptaLeaks', the rule of law has enjoyed a relatively strong track record in South

[643] ICASA is currently proposing to reduce Telkom's payphone obligation from 120 000 to 25 000 - the company currently claims to have a mere 20 000 in service (McLeod, 2016b) - and amend the educational connectivity obligations for WBS and Sentech. There appears to have been no movement on the regulatory impact assessment since the deadline for licensee responses closed over 18 months ago in January 2016.

Africa (Dyzenhaus, 2007), with the independence of the judiciary widely recognised. Although the country's ICT sector is highly litigious, primary legislation and secondary regulation are only occasionally challenged in court on fundamental grounds of process[644].

Although there has been a considerable amount of grumbling at the process of overall policy formulation over the years, the outcomes have largely been accepted. The public furore around the various drafts of the White Paper was clearly evident in Chapter 7 - but the resultant 1996 Telecommunications Act was accepted and implemented without formal challenge. There were similar rumblings leading up to the 2005 Electronic Communications Act (Buckland, 2004), and, more recently, a degree of furore around several of the controversial positions in the 2016 ICT White Paper (McLeod, 2017)[645]. And, although both Parliament and the Regulator adhere to strict notice and comment procedures, some commentators continue to express fundamental reservations around the agenda and transparency of policy in the sector (Horwitz & Currie, 2007, p. 458). However, the legitimacy and process of UAS policy formulation and implementation have to date escaped fundamental challenge. One may therefore conclude that opposition to and support for the process of UAS policy are more or less evenly balanced.

The overall picture that emerges from this discussion of UAS policy as process, therefore, is one far more nuanced and evenly balanced between success and failure.

10.1.2 UAS Programmes in SA

Much of the extensive exposition of South Africa's UAS interventions in the preceding chapters (6 – 9) has been an account from a programmatic perspective, focused on a series of related measures and activities with a specific UAS goal in each case. In each case the modalities of implementation were set out, with the analysis accounting for the relative degree of success and failure. As such, it has been an account of success and failure from the more standard

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[644] That said, there have been a number of court rulings dealing with procedural and process issues. Perhaps the earliest was the 1997 Pretoria High Court's finding of procedural violations in the Regulator's ruling that the Internet was open to competition. Procedural issues also underpinned the landmark 2008 Altech judgement, and the June 2017 Constitutional Court Set-top Box ruling under the Broadcasting Digital Migration Policy. There have also been several instances jurisdictional litigation between the Regulator and the Minister, notably over the latter's 2000 withdrawal of SATRA's Interconnection Guidelines, and more recently over the former's pre-emptive attempt to auction off spectrum.

[645] For example, the proposals in relation to spectrum, and for the establishment of a so-called Wireless Open Access Network (WOAN), have been particularly the subject of condemnation.

programmatic perspective. Drawing from this account, an assessment of the UAS policy as programme is set out in Table 10.2 below, with the outcomes drawn from the preceding chapters, but summarised in McConnell's phraseology.

Table 10.2: UAS - Policy as Programme Evaluated

Category	Summary of outcome	Assessment
Implementation vs objectives	Minor progress towards implementation as intended, but beset by chronic failures, proving highly controversial and very difficult to defend	Precarious Success
Achievement of outcomes	Some successes, but the partial achievement of intended outcomes is counterbalanced by unwanted results, generating substantial controversy	Conflicted Success
Realisation of benefits	Partial benefits realised, but not as widespread or deep as intended	Conflicted Success
Consistency with policy domain criteria	A few minor successes, but plagued by unwanted media attention e.g. examples of wastage and possible scandal when the criterion is efficiency	Precarious Success
Level of opposition vs support	Opposition to program aims, values, and means of achieving them is equally balanced with support for same	Conflicted Success

Implementation vs objectives

Although each of the four core features of UAS policy was duly carried out in accordance with the legislative mandate, implementation in almost every case, as noted, seems to have been at odds to differing degrees with the objectives of UAS policy.

The USOs, as noted, were duly written into the operator licences. However, when it came to carrying out the obligations, the operators were largely left to their own devices. The necessary co-ordination structures and clear implementation guidelines never materialised, either because of weak and overlapping mandates between ICASA and USAASA, or as a result of regulatory inefficiency and lack of capacity. Monitoring and enforcement of compliance was either almost entirely ineffective from the side of the regulator - for many of the same reasons - or actively obfuscated and blocked by the licensees. As a result, the execution of the USOs has remained haphazard, and only very loosely in line with objectives.

Although the USF was established relatively expeditiously, with the necessary regulatory measures put in place to ensure a somewhat circuitous flow of funding towards UAS projects, the actual disbursement of UAS funding has been, as noted, little short of disastrous. Expenditure was heavily skewed in favour of the highly problematic telecentre programme - which was, at least initially, outside the legal mandate of the Fund - at the expense of support for 'needy persons'. Worse, the Fund has continued to be bedevilled by repeated episodes of alleged corruption, with some four substantial incidents stretching across its entire 20-year lifespan.

The USALs project, intended to license commercially viable operators to provide telecommunications services under-serviced areas and communities, similarly did not take place in accordance with its envisaged objectives. Based on a questionable assessment of the market in the first place, the project was plagued by delays, undermined by policy and regulatory moves towards greater liberalisation, weakened by lack of financial and capacity-building support, and overtaken by the burgeoning prepaid mobile market, before being finally abandoned as a policy.

Finally, the Agency, USAASA as it is now titled, failed dismally to live up to its projected flagship role in defending and advancing the cause of universal access and service. Again, as noted, its institutional mandate and legislative positioning placed it on a weak footing from the outset. Coupled with low levels of skilled capacity and repeated leadership turnover, this led the organisation to fall victim to financial maladministration and corruption. As a result, what was delivered fell far short of the envisaged objectives, so much so that the entity is now slated for closure.

Taken together, the picture that emerges suggests that, although there was progress in implementation across the four programmes, this fell far short of the intentions of the policy. Too many aspects of the programme were undermined by a catalogue of failures. Implementation of the policy became the subject of much controversy, as noted in the preceding chapters. Operationalisation of the policy thus became highly controversial and very difficult to defend.

Achievement of outcomes

As noted, the desired outcome of universal affordable access to ICT infrastructure, services and content, has largely been achieved in South Africa, certainly in respect of voice telephony. However, this has occurred largely despite, rather than because of the various components

of the UAS programme. Whilst it is true that the USOs and the USF did achieve some rollout and provide some measure of ICT access to those who would otherwise not have enjoyed this, the overwhelming bulk of the over 96% of South African households with functional access to telephony (Stats SA, 2017b, p. 49) do so as a result of market forces, because of the post-2000 explosion of prepaid mobile[646]. Indeed, but for this uptake, which saw UAS outcomes achieved by unintended means, the overall UAS policy programme might have generated far more controversy than has in fact been the case. The overall progress towards universal access and service has nevertheless been offset by too many unintended outcomes and a substantial level of controversy around each of the programmes - with the possible exception of the USOs, which appear to have enjoyed at least a partial measure of success[647].

Realisation of benefits

Certainly, as has been shown, universal access to telephony has been achieved in South Africa. And, although some disparities remain, the digital divide has been substantially deracialised. Even the remaining Internet divide, and the growing broadband one, are now largely, with the caveats from our earlier discussion, a consequence of income levels and geographic location. The country's 'black' majority was clearly the target benefit group, and substantial benefits have been accrued over the intervening 20 years, even if much of this was not as a consequence of the various UAS programmes themselves. Whether these benefits will continue to be perceived as having realised remains an open question. This is especially so with the market's centre of gravity rapidly tilting towards data access via the Internet and broadband, where, as noted, substantial access gaps remain, and where SA Connect's already ambitious targets look increasingly unrealisable. While there have been a number of relatively high-profile stories around the failures of the telecentre programme to benefit its target communities, and tales of bankruptcy for the luckless USAL licensees, active damage to beneficiaries has been limited.

[646] As pointed out earlier, it can be argued that the USO coverage requirements in the mobile licences laid the groundwork in establishing a nationwide network upon which such an explosion could take place.

[647] The fixed-line USOs appeared initially to be successful, as new lines and payphones were rolled out, but ultimately collapsed in the face of technological advances and market forces as mobile voice burgeoned, and as a consequence of failures of monitoring and evaluation.

Consistency with policy domain criteria

The overall criterion for policy success is surely the achievement of universal, affordable access. However, when one considers the programmatic aspect of policy success, efficiency becomes a key criterion. This includes the ability to deliver within the specified timeframes, in accordance with the planned budget, and in alignment with the functional specification of the programme. The preceding chapters have shown problems in a number of these areas. For example, what little monitoring and evaluation there was of the licensee USOs, suggests grave functionality problems. Most of the lines within Telkom's USO rollout were disconnected shortly thereafter; and high percentages of the mobile CSTs were, as noted, either untraceable or out of operation. The various sets of investigations and allegations surrounding the USF suggest widespread misappropriation of funds. And, as far as can be ascertained, 23 of the 24 USALs collapsed, a failure rate of some 96%, at the price of nearly R 62 million in wasted USF funding, let alone the financial impact on the luckless bidders and their employees. The resultant unwanted and negative media attention visited on these three programme components, and on the Agency itself, has overshadowed the relatively limited successes across the overall UAS programme.

Level of opposition vs support

As noted in the previous section, there is little opposition to the aims and values of the UAS programme as a whole. Stakeholders are in agreement that addressing the *apartheid* digital divide was correctly a matter of policy priority over the last 20 years, and that ensuring availability, affordability and accessibility of infrastructure, services and content are core principles. Disagreement centres largely around the means of achieving these goals, the means, modalities and track record of implementing that policy. For example, the imposition of USO targets on the operators has widely been criticised as poorly conceptualised and ineffective in execution. And, although a USF remains a vehicle of choice for almost all stakeholders when it comes to funding UAS interventions (witness the proposed and uncontroversial mutation of the USAF into the Digital Development Fund), there has been widespread opposition to how the disbursement of money from the Fund has been handled, and widespread condemnation in particular for the attendant corruption and financial mismanagement. And, despite much early enthusiasm for the USALs in principle - support which largely in all likelihood stemmed more from the welcome market liberalisation that the intervention represented - this quickly changed to criticism and opposition as the mismanagement of the USAL rollout became apparent. Finally, disenchantment with USAASA

has become almost universal, with few if any bewailing its imminent demise. Taken together, this suggests that opposition to and support for the various interventions is fairly evenly divided, with much of the opposition directed at the concrete and specific means of achieving the broadly supported UAS goals.

Once again, despite the numerous and evident instances of programme failure, and much evidence of the programme as one significantly tainted with failure, a somewhat more nuanced assessment of the UAS policy as programme does emerge. Programme implementation has been tainted with numerous faults and flaws, as noted. This has offered too much room for public and expert criticism, and resulted in limited instances of success and only minor progress towards intended programme outcomes. Although predominantly negative, the resultant conclusion is nevertheless somewhat more evenly balanced between success and failure than the preceding account might suggest. Further, the categories of the analytical framework assist in casting a more systematic light on both flaws and feats.

10.1.3 The Politics of UAS in SA

McConnell's heuristic is somewhat more difficult to apply when evaluating the political impacts of the various UAS interventions. This is in part because this dimension McConnell's heuristic is largely focused on governance and concerned with the political consequences of the policy for government. The complex and inchoate lines of accountability in South Africa's ICT sector - it is not always readily apparent where policy responsibility lies between the Minister, the Department, Parliament, the regulator, the Agency - do obscure the casting of blame. As a regulatory agency, for example, ICASA is intended specifically as a body removed from electoral politics, albeit subject to both perceptions by the various stakeholders and the public at large in respect of its performance (McLeod, 2006; Moyo, 2015a) and more academic appraisal of its regulatory effectiveness (Lloyd, 2013; Hawthorne, 2014). But UAS interventions as policy derive from national sector policy and legislation, in terms of which they form but one component. The line minister and department - formerly the Department of Communications (DoC), now the Department of Telecommunications and Postal Services (DTPS) - under which they are located, have similarly been the subject of ongoing political comment and criticism (Horwitz & Currie, 2007; Vegter, 2009; Tubbs, 2013) over the years[648]. One should therefore interpret the political dimension of policy success and failure rather

[648] Interestingly, the multi-party Portfolio Committee in Parliament, to whom the Minister, the Department, the regulator and the Agency, are formally politically accountable, has largely escaped the critical public eye.

broadly in terms of reputational assessment, but with the emphasis on the Minister and the Department.

Table 10.3: UAS - Policy as Politics Evaluated

Category	Summary of outcome	Assessment
Reputational impact	Despite small signs of benefit, policy proves an overall electoral and reputational liability	Precarious Success
Effect on policy agenda	Policy proving controversial and taking up more political time and resources in its defence than was expected	Conflicted Success
Impact on policy direction	Direction of government very broadly in line with goals, but clear signs that the policy has promoted some rethinking, especially behind the scenes	Conflicted Success
Level of political benefit	Opposition to political benefits for government outweighs small levels of support	Precarious Success

Reputational impact

As already noted, much of the criticism of ICT sector policy has focused on areas other than universal access and service, issues of more direct relevance to business, to investors and to the more affluent users and consumers[649]. The level of competition, the interconnection regime, access to spectrum and the cost to communicate have all enjoyed far more coverage and generated far more indignation than the various components of UAS policy.

However, where licensee views on UAS issues have been canvassed, the responses have largely been negative. Whilst this is certainly self-interested, it does suggest that the policy must be viewed as a reputational liability. ICASA's 2010 review of what it referred to as the 'USAOs' (the review covered both the USOs and the USF levies imposed by ICASA) does not seem to have been due to stakeholder pressure, but many of the responses do suggest that the policy agenda was under some pressure. For example, the country's largest mobile operator bluntly referred to the "failure of the existing USAOs to deliver genuine benefits for South African citizens [unlike] competitive markets" (Vodacom, 2010, p. 25). Most argued for USOs to be dropped, since they had "proven to be ineffective", in favour of contributions

[649] This does suggest that UAS policy is approached by many stakeholders more as a lip service obligation, than treated as a social and economic imperative.

to the USF - subject to the development of a "clear framework identifying how the funds are to be utilised" (ICASA, 2012a, p. 7 & 10)[650].

Government's more recent ICT policy review process posed a series of questions dealing with affordability, UAS policy, the USOs, the USF and USAASA (DoC, 2014a, p. 77), which some 28 stakeholder responses. Answers were often less than concise or skirted some of the issues, but none offered a clear endorsement of UAS policy (DoC, 2014b, pp. 80-90). The political consequences and growing disenchantment with the USO policy can be seen in the changing stakeholder perceptions of regulatory effectiveness in respect of USOs, which dropped from being amongst the top scores in 2006 to being ranked the worst area of performance in 2011 (Gillwald, Moyo, & Stork, 2013, p. 11). Taken together, this suggests that the reputational impact of the various components of UAS policy has been equivocal, with many aspects of the policy seen by stakeholders as a reputational liability.

Effect on policy agenda

It is thus clear that many aspects of the policy have proven controversial, with one influential stakeholder, the South African Communications Forum, describing the "current UAS model [as] ineffective" and consultancy Research ICT Africa calling instead for the "use of market forces to extend access" (DoC, 2014b, pp. 80-81). The ICT Policy Green Paper consultation elicited very limited support for the continuation, and widespread calls for dissolution of USAASA (DoC, 2014b, pp. 80-90). Most stakeholders viewed the USF as the most viable of the UAS intervention options, with many calling for it to be made more effective and efficient. Some controversy thus attends at least three of the four areas of the UAS policy agenda.

Impact on policy direction

It is true that government has had to concede that "growth in South Africa's ICT sector has not brought affordable, universal access to the full range of communications services [and that the] performance of most state interventions in the ICT sector has been disappointing" (NPC, 2012, p. 190). Nevertheless, universal access and service continue to enjoy prominence in most areas of ICT policy going forward. For example, the National Development Plan reaffirms the "priority goal of achieving affordable and truly universal access" (NPC, 2012, p.

[650] This assessment predates both the forensic audit and the SIU investigation into corruption at the USF, which may well have changed stakeholder perceptions of the Fund. Nevertheless, the 'framework' caveat does suggest stakeholder scepticism as to the effectiveness of the Fund.

191). Similarly, South Africa's national broadband plan, SA Connect, sets "universality… universal access to broadband services" (DoC, 2013, p. 17) as one of its ten guiding principles, and the recent ICT Policy White Paper deals extensively with what it refers to as "universal service and access" (DTPS, 2016, pp. 25-36).

Government, through the Minister and the Department, is not wont to expend a great deal of time or resources on defending specific aspects of ICT policy. However, actions in this case speak louder than words. The abandoning in 2009 of the ten-year long failed USAL experiment (Vecchiatto, 2009; DoC, 2009b) has already been noted. More recently, USAASA faces being merged with ICASA, and the USAF is to be repurposed into a Digital Development Fund (DDF) (DTPS, 2016).

Although South Africa's UAS policy direction remains broadly in line with its original goals, a number of programmatic failures and the resultant controversies and political fallout have thus led to considerable rethinking. This, in turn, has led to several major policy adjustments, but without abrogating the overall direction and trajectory of UAS policy.

Level of political benefit

Accordingly, the level of political benefit to government as the policy-maker, and the institutions tasked with policy implementation, ICASA and USAASA, has been mixed. Government, as noted above, has been able to sustain its commitment to the broad and general moral imperative of providing universal access and service, as evidenced by the degree to which that commitment remains prominent in ongoing policy formulation. One of the perhaps unintended benefits of the regulatory state with its arms-length entities responsible for policy execution is that criticism for process and particularly programme failures, is deflected onto those institutions. Indeed, such deflections allow government to escape or delay accountability in many areas and respects. For example, the programmatic failure of Telkom's line rollout and payphone USOs has largely been attributed to ICASA's failures of specification and enforcement (Hodge, 2004). Likewise, the wastage and corruption surrounding the USF has rebounded to the discredit of USAASA, its weak governance structures and processes, and its lack of effective financial processes and controls (Lewis, 2013, pp. 101-102). Similarly, government has been able to escape much of the direct blame for the collapse of the USALs experiment and for the institutional failures of USAASA itself. In addition, as noted previously, the issues of policy furore and contestation have tended to lie in areas of more direct financial consequence to operators and users, such

as competition in the market, regulatory independence, licensing and pricing of services, and access to spectrum (Horwitz & Currie, 2007).

Conversely, however, the levels of support for government accruing from any successes in respect of UAS policy must be judged as extremely limited. Certainly, the earlier abandonment of the USAL policy and the proposed dissolution of USAASA have gone some way towards mitigating criticism of government's overall UAS policy. And continued support for the imposition of USOs, weak though it is, and for the proposed establishment of a more stringently managed Digital Development Fund, is predicated on the absence of more innovative and better good practice alternatives.

A political evaluation of UAS policy as politics once again offers an opportunity for a more granular discussion of the mixture between success and failure. Whilst UAS policy is not the unmitigated disaster it might be labelled in some quarters, its degree of political success must surely lie somewhere between conflicted and precarious.

10.2 Reflections on the Research

Before considering what the research presented here reveals in relation to the research questions posed at the outset, it is important to reflect on the limitations of the research itself.

Some limitations stem from the adoption of semi-structured interview as a data gathering approach. This was recognised to some extent at the time, and occurs in several ways, which are worth restating here.

Firstly, many of the events described and analysed in the preceding chapters occurred many years ago - up to 20 years before the interviews were conducted. Much of the data collection from the interviews was accordingly limited in accuracy by the flaws of human memory. Few of the interviewees were able to recall in precise and fine detail the specific unfolding of events. Details had been forgotten, or were incorrectly recalled, or had become blurred, elided and confused.

Secondly, the understanding of interviewees was often limited by the very nature of the stakeholder process itself. In the complex unfolding of the kind of socially negotiated outcomes recorded here, where multiple and competing agendas are often at play, with final positions often negotiated through multiple interactions in a variety of forums and a series of

meetings, any individual's position and participation within the process unavoidably gives a less than complete perspective of events and their conclusions.

In addition, key informants' perceptions of history are coloured by their own perceptions of their place and role within the events. There is an unavoidable degree of subjective self-justification in the recall of a history within which the interviewee was a participant and role-player. One's own level of contribution and influence may well be magnified, especially when the outcomes are viewed to have been positive. Conversely, criticism and critiques may be amplified in processes that are perceived to have been failures in one or more of the ways examined in the sections above.

Finally, interviewee perceptions may well be subject to *post hoc* re-interpretation in the light of the present environment and of actual outcomes. Thus, debates and commentary may be framed in terms of the concepts and categories of the current discourse. Similarly, alternative outcomes that may have seemed plausible and likely or desirable at the time, may be downplayed in favour of what actually transpired.

Some of these problems have been alluded to in Walford's discussion of the process of ethnographic interview techniques:

> *The interviewee may have incomplete knowledge and faulty memory. They will always have subjective perceptions that will be related to their own past experiences and current conditions. At best, interviewees will only give what they are prepared to reveal about their subjective perceptions of events and opinions. These perceptions and opinions will change over time, and according to circumstance. They may be at some considerable distance from any 'reality' as others might see it.* (Walford, 2007, p. 147)

The value of the interviews undertaken for this research may further have been complicated by the fact that the author was a participant and role player in many of the events under the scope of analysis, from his early role as Head of IT with COSATU, through his academic research and teaching work, to his latter-day participation in South Africa's ICT Policy Review Panel[651]. Many of the interviewees had known and interacted with him in one or more of these

[651] The author was Head of IT at COSATU from 1994 to 2001, was a Senior Lecturer at the University of the Witwatersrand from 2001 to 2016, and a member of South Africa's national ICT Policy Review Panel from 2012 to 2015.

roles. This inter-personal history may have had some influence on the interviews themselves, or may have coloured the perceptions shared during the course of the interview.

Whilst this personal history may have assisted in securing some of the interviews, it may also have influenced some of the key informants in their refusal to be interviewed. Senior staff at USAASA are particularly conspicuous by their absence from the list of interviewees. Whilst there was some response to emailed queries, mostly through the sharing of documents, no USAASA staffer was prepared to commit to an interview: repeated requests were simply ignored or deflected onto others, with equally limited result.

A related possible weakness in the use of interviews, lies in the possible presence of selection bias in the choice of interviewees. The research process did attempt to control for this, however. Key informants were selected on the basis of their involvement in the development and implementation of universal access and service policy, either as stakeholders with particular sets of interests and biases, or as somewhat more detached analysts and commentators (see Appendix D for list of key informants). 'Snowball' questions directed at each of the interviewees, however, sought to ensure that the interview sample covered all the major role players. Interviews were also supplemented by emails, either with specific additional or follow-up questions, or seeking additional information.

Despite some limitations, the interviews were valuable for a number of reasons. They did reveal high level participant and stakeholder assessments of many of the universal access and service interventions, offering valuable insights into processes and personalities, events and their outcomes. They were also often able to direct the attention of the research towards some of the key documentation and reportage associated with the events under scrutiny.

As a result, document analysis began to assume a greater degree of importance as the research progressed. Documents sourced, examined and analysed included: official legal documentation, such as legislation, regulations, consultative documents; formal organisational documentation, such as annual reports, research reports and other similar publications; unofficial documentation, such as memos and draft reports; third party documentation such as trade press accounts and academic analysis and commentary. Document analysis was thus able to provide a critical triangulation perspective, corroborating or contradicting what had emerged from the interviews. There is nowhere, of course, a single authoritatively 'correct' version of the events under analysis here, at best a series of participant perspectives that loosely cohere around a multi-faceted interpretation of what transpired, for what reasons and in what ways, and with what significance. A consideration

of the range of contemporary documentary resources, pieced together with the insights from the interviews, was thus able to produce a more or less coherent analytical account of the interventions under consideration.

Of course, the documentation itself contained a number of limitations. Chief amongst these was the alarming and much-bewailed number of lacunae in the record. Too many primary documents have simply disappeared from the public record. These include older annual reports of organisations, research reports and consultation documents. In some cases, this is due to the two-sided nature of the Internet. On the one hand, more documents than ever before are available online, easier to locate, access and analyse than ever before. On the other, the ephemeral and changing face of the Internet has meant that documentation is too often transient, available today, only to disappear tomorrow. Further, the prevalence of the electronic incarnation of documentation appears to have generated a cavalier disregard of the value of the document repository and the official archive. Too much key material has disappeared when key individuals have left organisations or changed computers. Document analysis, therefore, has been limited by the fact that certain key primary documents are no longer part of the record. Wherever this has been a known issue in the analysis above, it has been noted for the consideration of the reader.

A further, more minor, qualification that may have limited the value of document analysis involves the provenance of certain documents. It is not always possible to establish the status of a document within a process. This goes beyond cases where there are sometimes multiple revisions to, and versions of, a particular document. The purpose behind a specific document, the objectives and agendas underpinning its drafting, may not be apparent. Likewise, the degree of importance attached to a particular document by the various stakeholders within a specific process may be unclear or may vary. Nonetheless, the documentary trail and its analysis have proven to be valuable tools in reconstructing and analysing the key universal access and service interventions in this account, and any known issues affecting the provenance of the documentary trail have been drawn to the attention of the reader.

The rich tapestry of contemporary reportage in the popular trade press has proven another valuable resource in this analysis. South Africa is indeed fortunate to have an active and vibrant trade press, with many of the processes and events under discussion covered in the

print press[652], or, latterly, online[653]. Those windows on and interpretations of events have been invaluable, although they too have their limitations. Whilst some reporters and commentators have a lengthy pedigree in the sector, some others are prone to misunderstanding of what has transpired or misperception of the issues. Again, as far as possible, this has been taken into account when sources from the press have been referred to.

Gaps in the documentary record, both primary and secondary, do introduce the possibility of interpretation bias. However, the consistency and coherence of the available documentation, as reflected in the account above, does suggest that the omissions are minor and any misinterpretation minimal.

At a more general level - as a case study of universal access and service policy interventions in South Africa over a defined period - the research set out here is circumscribed by the limitations perceived by some as applicable to the case study approach per se. This critique, as was noted at the time, has been rebutted by key proponents of the case study approach (Yin, 1994; Flyvbjerg, 2011), who defend the value of a detailed examination of social phenomena, such as that undertaken here. As noted in Chapter Three, the research set out above avowedly avoids the kind of scientific and statistical generalisability that is embraced by more quantitative, positivist approaches. The level of detail, the triangulation of data, and the granularity of the account are all intended to contribute towards the kind of "analytic generalization" argued for by Yin (1994, p. 10). What has been presented here has been "deliberately and centrally designed to illuminate a decision, a policy, and a practice" (Schramm, 1971, p. 6) - the first fully documented history of universal access and service policy in South Africa, from genesis, through adoption and implementation, to outcomes and impacts.

Further, it is argued that the research presented above adheres to the notions of scientific rigour put forward by Riege (2003, p. 81) and discussed in Chapter Three. As far as possible, the research has attempted to achieve construct validity by analysing the data clearly and

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[652] The author was fortunate in having access to an archive of press reports covering the sector, covering the years between 1975 and 1999, and painstakingly put together by the South African Labour Development Research Unit (SALDRU) at the University of Cape Town. Publications such as the *Cape Times*, the *Cape Argus*, *Business Day*, *the Financial Mail* and the *Weekly Mail* are all represented in the collection.

[653] The key pioneer in the ICT sector was *ITWeb*. Latterly, *MyBroadband* and *TechCentral* have also proven valuable. Online reportage, though, does sometimes suffer the ephemeral fate of the rest of the Internet.

logically and without prejudgment. Similarly, internal validity has been sought through the adoption of an internally coherent, systematically related analytical framework. Correspondingly, the systematic presentation of the research, together with the internal coherence and consistency of the analysis, suggests the reliability of the findings and conclusions. Finally, the implications of the analysis for UAS policy formulation and implementation in other jurisdictions, together with the value of the analytical framework adopted for analogous policy analyses, suggest a degree of external validity.

A final potential limitation to the research arises from the adoption of the high-level analytical framework adopted at the outset. The conceptual and analytical framework adopted inevitably becomes itself a theoretical sieve in both the selection and interpretation of data, from interviews and documentation alike. Information thus tends to be selected that fits within the conceptual categories presupposed by the framework. Analysis likewise tends to proceed in accordance with the logic and consistency of the framework adopted. As a result, the presentation of the research and the value of its findings may to some extent become a self-fulfilling prophecy guided and shaped by the *ab initio* adoption of a particular conceptual and analytical framework. Although this is to some extent inevitable in a case study such as this, it is to some extent counterbalanced by the discussion of the theoretical underpinnings of the framework, with which this chapter concludes.

10.3 Universal Access and Service Policy in South Africa

Having discussed some of the possible limitations of the research, it is now important that attention is brought to bear on the set of research questions that underpinned and animated the entire research project over the preceding several hundred pages.

The overall research question was formulated as follows:

> ***What were the major factors, both internal and external, that underpinned the adoption of universal access and service as a key component of telecommunications reform policy in post-1994 South Africa, and how did their complex interplay influence and shape the consequent policy implementation, and affect its outcomes?***

It is a complex and comprehensive research question that is probably best answered by addressing each of its more specific sub-questions in turn and in detail.

10.3.1 UAS: The Rise of International Good Practice

As was noted at the outset of the research set out in the preceding chapters, South Africa's pursuit of universal access and service as a central pillar of its ICT policy, did not occur in a vacuum. Although the lack of access by so many of its population to telecommunications infrastructure and services, was particularly acute and coloured by the country's unique *apartheid* past, South Africa was by no means the only country to have grappled with a stark and glaring digital divide.

As noted, the challenge of universal service (as it was then referred to) was already confronting a wide range of countries and international groupings. Chapter Four set out to identify the universal service strategies that were beginning to coalesce into a canon of international good practice, and to discuss the factors driving their emergence and codification. The first of the research sub-questions, below, is what animates the line of enquiry in that chapter.

1. ***What factors led to the emergence of certain universal access and service strategies as international best practice?***

In the early 1980s, as noted, a number of powerful pressures associated with the advent of neo-liberalism - economic, technological, geo-political and social - began to force changes in the structure of global telecommunications market, hitherto largely consisting of state-owned national monopolies. Riding on the back of the series of technological changes that had been enabled by digitisation and the rise of IT, the drivers were nevertheless fundamentally economic, as businesses sought to exploit the new technologies on the one hand, and to gain access to the new markets spurred by technological change. What was at stake was firm ownership, market structure and governance of the sector, with demands for privatisation and the introduction of competition at the forefront.

The contestation for change played itself out at several levels. Domestically, it led to the privatisation of British Telecom in the UK, and to the AT&T divestiture settlement in the US. But the pressures soon spilled over into international fora, including the European Union (EC, 1987) and the OECD (OECD, 1991), before being taken up at the International Telecommunication Union (ITU) (ITU, 1991), as well as, to a lesser extent, and through the

World Bank and the IMF. The same pressures were subsequently to feature prominently at the post GATT negotiations leading up to the creation of the WTO (WTO, 1995). Together, these various institutions acted as a relatively coherent if disparate international regime, loosely aligned to the broad perspectives of the 'Washington consensus', sharing many "implicit or explicit principles, norms, rules, and decision-making procedures" (Krasner, 1982, p. 186). It was this cluster of transnational institutions that provided, as noted, the broad arena in which international stakeholders could contend for codification and hegemony of a reformed telecommunications regime.

The key features of the new regime involve, as noted:

- Privatisation of the state-owned incumbent providers of telecommunications services;
- The introduction of competition into the telecommunications market;
- The establishment of an independent regulator to oversee the market (Wallsten, 2001, p. 3).

Universal service came to be raised, as noted, in defence of the continued monopoly provision of telecommunications services by the state-owned incumbent. This was a regime, it was argued, that was necessary in order to finance the roll out of infrastructure and services to poor customers and remote communities at affordable prices - to provide for universal service.

To counter this, those pushing for reform of the sector began to propose a series of universal service interventions that were compatible with liberalised markets and where the incumbent operator had been partially or fully privatised. Specifically, two principal forms of intervention stand out in the documentation and the literature, to an extent that they may be viewed as the two key planks of international good practice, viz:

- The imposition of universal service obligations (USOs) on licensees;
- The establishment of a Universal Service Fund (USF) to finance UAS interventions (ITU, 2003b)[654].

[654] A number of other options - such as licensing rural payphone operators (Wellenius, 2002a) and a variety of telecentre models, including those based on Grameen phone principles - were mooted, but none achieved the level of definition, status and traction of these two, which remain current as international good practice.

Much of the formulation of this body of knowledge came at the hands of a series of research reports, organisational documents and academic journal articles, many of them authored by members of a loosely coherent epistemic community of experts and academics.

What, then, were the factors underpinning and enabling the emergence of these various components of telecommunications reform and universal access and service international good practice? Clearly, the pressures towards sector reform - technological, economic, political and social - were key drivers. But the existence of important global regimes, including the global multilateral forum dealing with the sector, the International Telecommunication Union, provided the battlegrounds in which the old principles and norms could be assailed, vanquished and displaced. And the epistemic communities of practice, research and writing provided the weaponry that enabled victory in many of the individual clashes, a growing body of countervailing international good practice.

10.3.2 UAS: Adoption and Implementation

Chapter 5 documented and discussed the advent of telecommunications reform in South Africa, from its first tentative pre-1994 steps up to the 1996 passage of the landmark Telecommunications Act. In particular, the chapter examined how universal access and service came to be at the forefront of policy and enshrined in legislation, along with the specific and key UAS provisions embodied in that legislation, and set out in its associated set of telecommunications licences.

2. ***What factors shaped South Africa's adoption of universal access and service at the forefront of its telecommunications policy?***

3. ***What factors underpinned South Africa's choice of the specific set of universal access and service interventions that were implemented?***

The global pressures towards telecommunication reform described above had also been felt in *apartheid* South Africa, despite its global isolation, leading the regime to undertake its first, faltering steps (de Villiers, 1989) towards reform of a sector historically characterised like so many others by a state-owned, integrated monopoly provider of telecommunications and postal services. International good practice began to filter through more strongly (Coopers & Lybrand, 1992) into the policy direction of the sector in the first few years after the 1990 unbanning of the ANC. Posts and telecommunications were separated, Telkom corporatised, and two GSM licences awarded. But these faltering steps towards sector reform had been

highly and bitterly contested by the newly unbanned ANC, which viewed telecommunications reform as a key component within its overall socio-economic vision (ANC, 1994b).

As noted in several places, it was the political, economic and social landscape facing the incoming ANC government that dictated the pre-eminence of universal access and service within the its telecommunications policy prescriptions after 1996. In particular, a stark and glaring historical division cut the overwhelming majority of 'black' South Africans off from the economic and social benefits enabled by the kind of access to telephony[655] enjoyed by almost all their 'white' compatriots[656] - a 'digital donga' created and perpetuated by decades of *apartheid* oppression. As the voice of the hitherto disenfranchised majority, recognising this context of telecommunications deprivation, the ANC government thus came to place the "universal and affordable provision of telecommunication services" (RSA, 1996b, p. Section 2(a)) at the forefront of ICT sector policy as part of its commitment to a better life for all - although it did seek to balance this with ensuring that the benefits of telecommunications provision also accrued to business and the economy.

As a result, therefore, the ANC fought bitterly against the imposition of early telecommunications reform measures by the still-governing National Party. This was partly driven by political hostility towards the regime, but also by mistrust of its underlying agendas[657], as well as a deep desire to impose its own stamp on the timing, pace and content of reform. For example, only the inclusion of strong universal service measures - and BEE requirements[658] - in the mobile licences persuaded the ANC to back down from its implacable hostility to them.

The ANC was, as noted, perhaps uniquely positioned in the face of telecommunications and the global and institutional pressures alluded to above, given the degree to which its head of ICT policy, Andile Ngcaba, had been involved within the structures and processes of the ITU. At the same time, it was acutely aware of a dire shortage of skills and experience in this key

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[655] The economic, social and cultural benefits of access to ICTs (ITU, 1985a, pp. 7-13) have a lengthy pedigree as well as current provenance.

[656] The first post-*apartheid* national census pegged the average SA telephony penetration for 'black' households at 11% compared to 89% for 'white' households (Stats SA, 1996, p. 80). An urban vs rural disaggregation, were one available, would have made the access gap even starker.

[657] As an active participant in the ITU at the time, the ANC's head of telecommunications policy, Andile Ngcaba, would have been deeply aware of and largely antipathetic to the forces driving sector reform globally.

[658] As noted previously, the BEE features of the agreement were an early example of rent-seeking accommodation within the emerging post-*apartheid* state, an eerie premonition towards 'state capture'.

area. As a result, Ngcaba moved rapidly to set up an ICT policy think tank, the Centre for the Development of Information and Telecommunications Policy (CDITP), and to recruit and develop a cadre of expertise, while engaging in policy research and development towards the transformation of the sector. The resultant epistemic network, which included international exposure and progressive expertise, was able further to entrench universal access and service within the policy debate and in opposition to a simplistic liberalisation of the sector.

In parallel, and partly as a counterweight to the influence of business interests and the power of the existing fixed licensee in particular, the ANC then moved to set up the National Telecommunications Forum as a multilateral stakeholder forum to discuss and agree future policy for the sector. The ensuing process, which ran until the passage of the 1996 Telecommunications Act, albeit one of vicissitudes and controversy, led to the negotiated compromise between stakeholder elites so vividly characterised by Horwitz (2001).

The 1996 Act, then, was one that set South Africa firmly on the road to telecommunications reform, establishing an independent sector regulator, and paving the way for the subsequent partial privatisation of Telkom and the gradual introduction of more competition over the years - in a process later to be infamously characterised as 'managed liberalisation'.

The Act also embodied the key components of international good practice. In particular, these included: the imposition of universal service obligations upon licensees, Telkom specifically; and the creation of a universal service fund, under the direction of a dedicated Agency, financed by a levy imposed on licensees, and intended to subsidise 'needy' users and to support network rollout. The creation of the Universal Service Agency, despite its unfortunate acronym, was, as noted, an innovation upon international good practice. Together this was a slew of UAS interventions widely welcomed and warmly applauded (ITU, 1998)[659].

The much later introduction of non-overlapping rural licensees, the infamous USALs, albeit the outcome of direct lobbying on the part of the US-based NTCA (2001) and a consequence of alignment with similar international good practice initiatives (Kayani & Dymond, 1997; Wellenius, 2002a).

The adoption of universal access and service, along with key UAS interventions, can then be seen as the outcome of a complex interplay of factors, rather than simple policy transfer.

[659] This key ITU report repeatedly points with approbation to South Africa as an international practice exemplar.

Driven by the realities of a peculiarly South African digital divide, along with the political imperatives of contesting for and achieving power, the ANC was uniquely positioned to place universal access and service at the forefront of telecommunications policy. Wary of simple-minded adoption of international practice, it sought to develop a model of ICT sector reform grounded in the country's unique economic and social context, accommodating the overall direction of ICT sector reform whilst imbuing it with national characteristics. The resultant policy mix was, as has been shown, a uniquely compelling example of policy learning and adaptation in the context of a hegemonic international telecommunications reform regime.

10.3.3 UAS: Outcomes and Impacts

South Africa's engagement with ICT sector reform and the new global regime preaching its tripartite gospel of privatisation, competition and regulation via the ITU, the WTO and the World Bank, thus led to the adaptation and adoption of its key policy precepts, albeit with a specifically South African flavour. Telkom was partially privatised[660], firstly through a strategic equity partnership, then via an IPO. Competition, in the form of the first two mobile licensees, was accepted and gradually expanded under the doctrine of 'managed liberalisation' (Ngcaba, 2001). At first it was ISPs and VANS that began to infiltrate the market (Lewis, 2005), but from 2001 additional mobile, fixed and USAL licences were awarded[661], before government effectively lost control of the process following the 2008 Altech ruling[662].

In order to achieve its stated policy objective of providing universal affordable access to ICT infrastructure, services and content, government adopted a slew of UAS measures, some directly derived from prevailing international good practice, but others rather more innovative. Four main areas of intervention were undertaken. A series of universal service obligations

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[660] Government's direct shareholding currently stands at 39,3%, with a further 11,9% held by the Public Investment Corporation (PIC), a quasi-public asset management entity, mainly administering the state pension fund. An additional 3,3% is held by Telkom itself for employee allocation purposes. With the equity partners, SBC and Telekom Malaysia, having long since offloaded their stakes, the remaining 45,5% are free float stock exchange shares. Government has recently announced its intention to offload a portion of its shareholding to finance its swelling budget deficit.

[661] Cell C received the country's third mobile licence in 2001, following a protracted process, both controversial and litigious. The 27 USALs began to receive their licences from 2004 onwards. The second fixed licence was awarded to what is now Neotel in 2005.

[662] Although there are now over 400 tradeable individual infrastructure (iECNS) licences in the market, effectively rendering it fully liberalised, the awarding of additional licences still requires a Ministerial ITA, as in the case of the mooted but controversial Wireless Open-Access Network (WOAN) operator.

(USOs) were imposed upon providers via their licences. Levies were imposed upon licensees, aggregated into a universal service fund (USF), and expended on a variety of UAS interventions. A dedicated entity was created to superintend the achievement of universal access and service and to administer the USF. Finally, from 2001, a series of licences were awarded to operators to provided infrastructure and services in defined areas of low teledensity.

It is this set of interventions that is discussed and analysed in Chapters Six to Nine, with particular emphasis on the relative levels of success and failure in their implementation, and their ultimate outcomes and impacts. These four chapters, then, speak to the following research sub-questions:

4. ***What were the outcomes and impacts of the implementation of South Africa's chosen set of universal access and service interventions?***

5. ***What factors account for any slippages between policy conception and policy implementation in respect of universal access and service in South Africa?***

The detailed chronicle and analysis set out in these four chapters suggests that the implementation of the interventions was flawed in every case, beset by programmatic failures in particular, unable to achieve the intended outcomes.

For example, the impact of the USOs imposed via the operator licences has been limited at best, as noted. Initially these comprised access line rollout and payphone installation in the case of Telkom, and network coverage and community service telephone (CST) provision in the case of the mobile licensees. This was later supplemented by the distribution of SIM cards and handsets, and the provision of Internet access to public schools and institutions for people with disabilities. Of these, only the mobile geographic coverage targets have had any long-term and lasting benefit, albeit an indirect one. The fixed-line network is now in terminal decline, with the very existence of payphones under threat. Whilst CSTs appear relatively thriving, they form a very small percentage of the market. The SIM card and handset distribution was largely abandoned[663], and the provision of Internet access failed to get any real traction due to failures of co-ordination. It was only the required rollout of a mobile network with extensive geographic coverage that produced any lasting and substantial

[663] Aside from their probably illegal distribution for the 2010 Soccer World Cup.

impact. It was this network that provided the infrastructure which was the basis for the explosive uptake of prepaid services from around 2000. As a result, the mobile market was able to eclipse the most optimistic USO projections, and to achieve universal access to telephony.

The USOs might have performed better, had they been better conceived and executed. They were often, as noted, poorly specified, which allowed licensees to dodge compliance, inflating numbers, fudging counts and gerrymandering locations to meet reporting targets. The USOs were also poorly monitored and enforced, with lack of regulatory capacity to conduct independent audits of operator reports, and a failure of political will to enforce proper compliance.

The universal service fund, as noted, fared little better. As in the case of so many other jurisdictions (GSMA, 2013, pp. 101-104), it has proven far easier to impose a USF levy on licensees and to accumulate a substantial pot of money, than to expend the funds thus earmarked upon meaningful and effective UAS interventions. Having said that, it is necessary to note that even the imposition and collection of the levy, more especially the onward transmission to the actual bank account for the Fund, was not without its difficulties. However, it was the expenditure from the Fund that proved to be highly problematic, in terms of both project choice and programme management, with corruption a particular blight on the latter. Indeed, the Fund, as noted, has failed in almost every aspect of its mandate, with little to show for some R 730 million spent since its inception.

Under pressure from the Department, and paying loose attention to the strictures of the Act[664], the focus of the Fund came to rest on telecentre implementation, an intervention that was to consume nearly two thirds of all expenditure from the Fund over the years, despite repeated and overwhelming evidence of rollout and sustainability failures of this model. Indeed, as recently as late 2017, an ICASA connectivity audit of an USAASA project to connect schools and clinics in the under-serviced Chief Albert Luthuli Local Municipality in rural Mpumalanga province produced a shocking finding: of 21 sites audited, "only one (1) clinic was found to have [both] installed equipment and Internet connectivity" (USAASA, 2017b, p. 60). What makes the audit finding all the more shocking is that it measured only raw connectivity,

[664] We have previously noted that it was only in 2001 that the then Telecommunications Act was amended finally to add in a formal legal foundation for telecentre support.

included no examination of service access, uptake or usage, and hence gives only the most basic indication of actual project effectiveness[665].

Direct subsidies to 'needy persons' to fund access ICT infrastructure and services, originally intended, as noted, to be the primary focus of the Fund, never eventuated - unless one counts the recent launch of the hand-out of subsidised television set-top boxes to poor households (News24 Wire, 2015) as part of South Africa's troubled rollout of digital terrestrial television. Similarly, with the exception of some subsidies to the hapless Under-serviced Area Licensees, nothing was ever paid to any other licensee for the extension of the PSTN.

Although establishing a USF continues to be seen as good international practice, in South Africa at least the outcome has been largely at odds with the intention. Chapter seven shows a critical disjuncture between the Fund's legislated scope and actual expenditure: project areas outside the original purview were actively pursued while core mandate areas were simply ignored. As a result, apart from showcasing institutional ineptitude and offering opportunities for corruption and rent-seeking, the USF has little of enduring substance to show for its 17 years of existence.

The process of awarding of a series of Under-serviced Area Licences to some 24 luckless consortia marks the third area of substantive policy and programme intervention by South Africa in support of universal access and service. Chapter eight chronicles the trajectory of that ill-fated experiment from enthusiastic inception in 2001 to ignominious demise in 2009. It provides a clear example of UAS policy that was noble in conception but hapless in execution. As noted, today a solitary USAL continues to exist, albeit operating in a market far removed from its original mandate. The USAL venture was a programme that fell foul of a number of implementation failures. Implementation was slow and haphazard, a key failing for a UAS model that was dependent on a complex mesh of interlocking critical success factors: financial backing, managerial capacity and administrative support, access to spectrum, the provision of an asymmetric termination regime. But, critically, the USALs were dumped into a market that was on the cusp of a transformation that was to undermine the entire model, as prepaid mobile overtook and then left fixed-line telephony floundering in its wake. The resultant market pressures were to force upon the policy-makers further liberalisation of the market that further crippled the ability of the USALs to compete. The

[665] Of course, without equipment or connectivity, there can be neither access, uptake or usage.

USAL venture today is little more than a ghost ship adrift on the sea of UAS policy, wallowing, abandoned and derelict.

The final plank of South Africa's UAS policy - the establishment of a dedicated UAS institution - has similarly proven to be riven by cracks and warps. The Agency created in 1997 continues in 2017 to exist, marking time as it awaits the legislation that will mark its demise (TechFinancials, 2017). Its imminent closure comes in consequence of a long history of organisational weakness and implementation failure, chronicled in Chapter Nine. The failure has already been shown of the Agency comprehensively or effectively to discharge its principal mandate: the management of the Universal Service and Access Fund. In part this has been, as noted, due to weaknesses in staffing, administration and management, coupled with a continual turnover of leadership. These organisational development weaknesses, in turn, opened the door to maladministration in respect of the public funds entrusted to the Agency, and created opportunities for rent-seeking activities in the form of corruption and venality. No fewer than four such major episodes have occurred over the Agency's 20-year history: ranging from the debacle of the early IDRC-funded telecentres, through the 2012 forensic audit and the 2014 SIU investigation, up to the latest set-top procurement scandal. The converse of these manifest and high-profile scandals has been the Agency's neglect of several key areas of its mandate: research, advocacy and policy support. What started as a flagship institution in the digital divide and standard-bearer for universal access and service, became, over its lifespan, a synonym for organisational ineffectiveness, financial mismanagement and project failure.

Whilst the programmatic outcomes set out above are overwhelmingly negative, consideration from a process and political point of view (as per McConnell's heuristic) does suggest a rather more nuanced approach. Although the UAS programme has in many instances been a case of so little achieved with so much, the processes of policy formulation, legislation and regulation have largely been able to retain their legitimacy, as has the political status of both UAS as a policy imperative and the main international good practice models of USOs and the USF[666].

As has been shown, a number of commentators and analysts have documented the fractures between UAS policy and its execution (Benjamin, 2002; Hodge, 2004; Gillwald, 2005a; Lewis,

[666] The political standing and reputation of government, however, has been, as noted, considerably tarnished by repeated programme failures.

2013; Bate, 2014), but few if any have been able to account for the implementation slippages in substantial and explanatory detail. Several analyses (Horwitz, 2001) have been concerned with the political dynamics underpinning policy formulation. A number have pointed to problems underpinning policy formulation itself: political interference (Horwitz & Currie, 2007) or, commonly, failure to introduce sufficient competition (Gillwald, 2005b; Horwitz & Currie, 2007; Bate, 2014, p. 292). But limited attention has been given to the possible structural causes of implementation failures, the systemic disconnects that allow policy so well-intentioned and so closely aligned to international good practice to go so badly astray[667].

On the one hand, policy design works relatively well, the caveats of the commentators cited above aside. Consultation and negotiation with stakeholders is robust, and does lead to modifications of policy design, as Horwitz has so clearly shown (2001), and as the current public controversy surrounding the ICT White Paper suggests (Schofield, 2017). Legislation and regulation are drafted by skilled ICT lawyers and consultants of international standing, and are promulgated at the outcome of notice and comment procedures that are usually robust and well-informed.

On the other, as has been shown, it is in the implementation of the resultant policies, laws and regulations that things have so often gone awry. Further, the roots of so many slippages between UAS policy design and UAS programme outcomes, are manifold, multi-faceted and complex, as the chapters above have sought to show. Nonetheless, there do appear to be some common denominators to this cluster of policy failures.

One of the problem areas lies in the lack of articulation and interaction between various policy strands. Policies have too often been adopted with limited understanding of their dependencies, or without any attempt at regulatory impact assessment. For example, the dependence of the USAL business model on an asymmetric interconnection regime was never factored into the legislative mandate or the regulatory regime. Neither does there seem to have been any attempt to appreciate and deal with impact of subsequent moves towards greater liberalisation on the viability of the USALs.

In addition, legislation, and sometimes regulation, has on occasion failed to anticipate how the modalities and exigencies of implementation might unfold. For example, the poor specification of USOs opened the door to creative compliance on the part of the operators,

[667] Strangely, the literature on the causes of failures in programme implementation in other spheres of policy seems strangely lacking.

and weak monitoring and enforcement provisions weakened the ability of both the regulator and the Agency ensure adequate compliance.

Further, there seems to have been a failure to appreciate the complexities of the interplay between the various institutions, and the difficulties of managing overlapping mandates in respect of complex implementations. For instance, there are too many areas of UAS intervention where ICASA and USAASA have interlocking mandates. These include: the imposition, monitoring and impact of the licensee USOs; collections for and expenditure from the USF (where the Minister too has a directive role); and the licensing of and provision of support for the USALs. The former two are also noted by Bate (2014, p. 293).

Moreover, lack of co-ordination and consultation seems to have bedevilled implementation where more than one responsible entity was involved. For example, in the implementation of the USOs to public schools, where the involvement of the responsible Department was clearly necessary, the regulator seems to have been unable to either establish the necessary structures or to ensure they were functional. Proper co-ordination would have been all the more essential, given that so many parties were involved[668], as well as because schools were being provided with connectivity from two major, disparate sources: the licensee USOs, initially covering some 20 500 schools (later slashed to 5 250), and funding from the USF, covering both schools and FET colleges to the tune of over R 150 million. A similar lack of co-ordination between ICASA, USAASA and the DoC clearly undermined the management of the USF.

The lack of capacity within the various policy formulation and implementation structures is an oft-cited factor underpinning many of the implementation problems and failures, both in the ICT sector (Lloyd, 2013; Hawthorne, 2014, p. xvii & 90; DTPS, 2015, p. 157) and more generally (Nengwekhulu, 2009; Walters, 2014; Franks P. , 2014). It is hard not to lay much of the blame for the slippages between UAS policy formulation and UAS policy implementation on a lack of institutional capacity. Chapter 9 showed that USAASA was undermined by problems with staffing and poor organisational design and development from the outset. Similarly, ICASA's poor level of regulatory and administrative capacity at levels below that of top management is the stuff of legend. The Department too, particularly since the departure of Director General Andile Ngcaba at the end of 2003, was afflicted by serious capacity

[668] ICASA (2014b) lists the Department of Basic Education and the then Department of Communications in addition to itself, the licensee and USAASA.

constraints. Mistrust of the bona fides and agendas of civil servants inherited from the previous regime, coupled with the changes in demographic profile under the policy of 'black economic empowerment', aided by attractive severance packages offered to *apartheid*-era bureaucrats, had all left cadre short on skills and thin on institutional memory[669]. As a result, there were few in management with a deep appreciation of the environment and an in-depth grasp the issues. This in turn has led to slow implementation of policies, an inability to move expeditiously and decisively, poor understanding of and co-ordination of linkages between programmes, compounded by extensive reliance of external experts and consultants with limited levels of embedded awareness. It has also led to poor management and administration of programmes, as well as a lack of monitoring and enforcement, which together have opened gaps for corruption and venality. The more general comment of Franks rings sadly true

> *Coming together, these issues have resulted in poor management, deficient and partial decision-making, casual selection and placement of staff, excessive staff turnover, frequent misuse of training opportunities, and high levels of financial and administrative corruption. (Franks P. , 2014, p. 52)*

This is not to downplay the role of the major operators in the overall ineptitude of UAS policy implementation. The limitations in regulatory and implementation capacity, together with the resultant lack of monitoring and enforcement, created many opportunities for creative compliance by licenses, particularly in respect of their USOs. Whilst licensees are impelled publicly to acknowledge the need for USOs and to support their imposition, commercial bottom-line imperatives exert countervailing pressures. Since every USO means in effect an enforced internal cross-subsidy, using revenue from high-revenue customers to finance the delivery of services to uneconomic areas and customers and to support pilot projects, they cut into profit margins. The resultant financial pressures incentivise licensees to cut the costs of USO implementation, for example, by locating community service telephones in areas closer to the existing network rather than in areas of greatest need, or by skimping on costly technology or expensive post-implementation support, or through looking for opportunities

[669] To his credit, ANC ICT policy head Andile Ngcaba, had, as noted, recognised this and embarked on a programme of capacity building under the CDITP. A subsequent approach to the University of the Witwatersrand had seen the launch in 1996 of a training programme to prepare the new cadre of bureaucrats, the highly regarded Certificate in Telecommunications Policy, Regulation and Management, still running annually today. Sadly, as the author (who ran the programme for 15 years) can attest, few attendees in later years came from ICASA, USAASA and the DoC.

for commercial arbitrage, or simply by looking for ways in which to fudge the numbers. Similar accounting pressures exist in relation to contributions to the USF, where the confusion surrounding the 2009 contribution changes was eagerly grasped by all except Vodacom, with resultant savings of millions on annual report balance sheets.

10.3.4 Interventions to Secure Universal Access and Service

The resultant overall picture that emerges is one UAS policy design and intervention that was well-intentioned - largely influenced by the international good practice regime, but shaped in important ways by localised policy learnings that imparted a uniquely South African flavour - but one that was weakened and undermined by multiple instances of implementation failure. The question then arises whether the international good practice models should still be considered as such.

Significant problems have been shown to exist with the imposition of USOs on ICT sector licensees. First off, overly specific and excessively detailed specification of the USOs has created difficulties. Tight specification appears to encourage creative compliance, as noted when Telkom was able to dodge its line targets, and the mobile licensees were able to fudge their community service telephone targets by including those in peri-urban areas[670]. Moreover, precise definitions are easily overtaken by technology shifts and rendered redundant by changes in the market. It has really only been the relatively generalised network coverage targets of the mobile licensees that have had a lasting impact on UAS. Further, close specification requires close monitoring from the regulator, something which has proven beyond the capacity and political will of ICASA to enforce.

This is a lesson the regulator seems reluctant to learn. ICASA has recently issued draft revisions to the USOs imposed on WBS, Telkom and Sentech. These will see: a substantial downwards revision in Telkom's payphone targets (from 120 000 to 25 000, with various categories of priority locations such as ports of entry) as well as a new requirement to provide Internet connectivity to 3 631 "public health institutions" (ICASA, 2017a)[671]. Sentech will now be required to develop and "provide [an] eLearning Solution Platform" to all Technical & Vocational Education & Training Colleges (TVETs) within 4 years, as well as implement

[670] As an additional example: WBS claimed have met its target of providing Internet connectivity to 1 000 public schools, by having handed out 1 900 modems, but as ICASA wryly points out, these were "without leaner [sic] and educator devices" (ICASA, 2017c) and thus effectively useless.

[671] The Draft Regulation has a typo wrongly listing these public health institutions as "allocated to Sentech".

"Internet access provisions" to TVETs allocated by ICASA (ICASA, 2017b). WBS will be required to provide "connectivity" to 62 TVETs allocated to it by ICASA (ICASA, 2017c)[672].

USOs also impact on the market, sometimes in unexpected ways. As has already been noted, USOs are effectively an enforced internal cross subsidy, redirecting revenue derived from existing customers towards subsiding potential customers. In some cases, USOs operate at a market price: Telkom's rollout of its 2,69 million new lines was expected to earn revenue at the prevailing rates for installation, rental and calls. In other cases, USOs operate outside and below the retail market, introducing market distortions: for example, the CSTs imposed on the mobile licensees had to be funded by them, and generated revenue for the recipients via asymmetrical, discounted tariffing, allowing for a substantial retail mark up.

Both approaches have the potential of raising prices, albeit likely marginally, of existing and potential customers. They also cut into profit margins, providing the incentives for creative compliance in the absence of stringent regulatory enforcement alluded to above. The discounted CST tariffing also presented possibilities for commercial arbitrage, which Cell C recognised and was quick to exploit, as noted. Cell C was also quick to recognise that the SIM handout USO offered it an opportunity to reach millions of potential new customers and to increase its subscriber base quite dramatically.

And yet policy-makers remain wedded to the concept of obliging licensees to provide services to remote areas and poor communities. Australia for example, although phasing out its "anachronistic and costly" funding for incumbent Telstra to provide universal service[673], it plans to replace this with a "Universal Service Guarantee" (Reichert, 2017), which appears very much akin to what has been described as a 'universal service obligation'. Others have argued for shifting the universal service obligation away from an administrative imposition towards a market-based, 'pay or play', contestable model (Reynolds, Ockerby, Janssen, & Hird, 2008, p. 31ff).

International spectrum management good practice is now moving towards the imposition of rural coverage obligations attached to high demand spectrum on auction of spectrum, a proposal first advanced by Cave and Hatta (2008). This hasn't always been successful, as

[672] It is unclear how this will work, considering there are only 50 public TVETs, albeit spread across 264 campuses, plus an unknown number of private ones (many unregistered fly-by-night establishments, unlikely to be the beneficiaries of ICASA's largesse. It is likely ICASA's count refers to the 264 public TVET campuses.

[673] The Australian government currently subsidises the cost of the provision of universal service rollout by Telstra.

Brazil's 2012 spectrum auction demonstrates. Although there were four successful bidders (the country's mobile incumbents, unsurprisingly) in the valuable 2,5 GHz band, there were no bids for the 450 MHz spectrum, more suited to rural deployment. As a result, the regulator (Anatel) decided *post facto* to allocate 450 MHz spectrum to the winning bidders, and to impose rural rollout obligations upon them (TeleGeography, 2012). A recent assessment describes the practice as "commonplace" and concludes that, although "there have been some difficulties in enforcement… operators have generally been forced either to comply or return the licence", and hence that the "approach does seem to be a workable and competitive means of 'buying' the attainment of equity objectives" (Cave & Nicholls, 2017, p. 377). The approach has indeed been widely adopted in the EU, with recent spectrum auctions in Denmark, Germany and Sweden having sought to impose rural service obligations on successful spectrum auction bidders (Ricknäs, 2010; Siong, 2012). Rural coverage obligations have also recently been attached to spectrum auctions by the French regulator, ARCEP (MobileEurope, 2016), and with the UK's Ofcom having announced plans to do so (Ofcom, 2017). As with any USO, its imposition implies an increased regulatory burden in respect of monitoring and enforcement, as the establishment by ARCEP of an 'observatory' for this purpose illustrates. A slightly different approach in the USA proposes to redirect auction income towards universal access and service, requiring that "ten percent of the proceeds be directed toward wireless infrastructure projects in rural areas" (Szal, 2018), presumably via something similar to a universal service fund.

The continued value and relevance of such funds remains open to question. A global assessment undertaken by the GSMA - whose members have something of a vested interest in the outcome - describes the USF model as "inefficient and ineffective" and concludes that "USFs do not appear to be the most appropriate mechanism to achieve universal service and further social and economic development" (GSMA, 2013, pp. 4-5). Certainly, some of its key criticisms of USFs apply to USAASA's USAF: namely, that "levies… have been established without any substantive analysis regarding the actual service funding or subsidy levels needed'; that expenditure has been subjected to "political intervention or interference" and has "failed to take into account… sustainability concerns". Further it that "alternative approaches [amongst which it lists USOs] to achieving universal service goals are often more effective than USFs" (GSMA, 2013, pp. 4-5). Surprisingly, questions of corruption and maladministration receive no attention. This is indeed surprising, since it seems most unlikely that USAASA staffers would be the only ones licking their lips at the opportunities for lucrative diversion of the substantial sums of money under their fiduciary care.

By contrast and perhaps equally unsurprisingly, given its role in the global international good practice regime purveying the USF model, the ITU's own assessment, which came out in the same year, presents a far less gloomy picture, and make no such recommendation for the abolition of the model. Instead, recognising the "numerous challenges and pitfalls" besetting USFs, and setting out some 12 key critical success factors for their implementation, it concludes with a series of recommendations intended to "'future proof' USFs to the greatest practical extent". These include the need for: "flexible" responsiveness to the changing environment; greater "transparency, visibility and accountability"; and, more emphasis on "sustainability" of their interventions (ITU, 2013, p. 116ff). This report does include a rather more substantive reference to "allegations… of financial mismanagement associated with a number of funds"[674] (ITU, 2013, p. 13), but falls short of specifics as to how this might be addressed for the future".

A recent analysis of USFs in several countries around the Indian sub-continent bases itself on an examination of "disbursement rates" (the ratio between USF collections and actual fund expenditures), and concludes that "universal service schemes in the case-study countries are failing" (Samarajiva & Hurulle, 2017, p. 23). USFs are thus viewed as a rent-seeking initiatives in effect, with "money… being extracted from current consumers of telecom services and… being kept unspent (or used for purposes other than the intended) in government accounts" (Samarajiva & Hurulle, 2017, p. 23). The authors further point to a World Bank assessment of UAS more generally, which pointed out the "universal access programs [have been] largely superseded by the rollout of phone services by the private sector" (World Bank, 2011, p. ix), something which was also noted in the case of South Africa, in respect of prepaid mobile in particular. Whilst it is a truism that it is far easier to amass levies into a USF (as noted in the chapter on South Africa's USAF) it is perhaps too early to say that there is no important role for a carefully conceived USF, efficiently managed, based on a research-based assessment of the 'true access gap' beyond the market[675], publicly accountable and subject to clear sustainability management. And disbursement ratios are clearly a key metric of USF performance, it is surely clear that they cannot be the only one, and that both qualitative research (into issues such as user perceptions, social and economic impact, successes and failures, and more) and quantitative indicators (numbers of telecentres, schools, clinics

[674] Aside from a brief mention of Pakistan, USAASA case is the sole specific case cited in any detail, although the report does claim that in several instances "entire senior fund management teams have been replaced".

[675] The 'true access gap', by definition, lies beyond the scope of the market to address.

sustainably implemented, bandwidth consumed, and more) need to be undertaken, examined and used for policy learning.

Even though the USALs were, as noted in Chapter 8, largely an unmitigated failure, the notion of licensing small-scale rural or community providers in areas where the major operators are reluctant to venture (Ó Siochrú & Girard, 2005; Mathee, Mweemba, Pais, Van Stam, & Rijken, 2007; Westerveld, 2012; Rey-Moreno, Sabiescu, Siya, & Tucker, 2015; Heimerl, Hasan, Ali, Parikh, & Brewer, 2015; Navarro, et al., 2016), continues to linger. Some approaches focus on the economic impacts and challenges of technological choice (Johnson & Roux, 2008; Zaidi & Lan, 2017), which, as noted, was one of the key challenges undermining the ability of the USALs to get off the ground in the face of the explosion of prepaid mobile access. Most argue in favour of a bottom-up approach, either co-operative or community-based (Ó Siochrú & Girard, 2005; Rey-Moreno, Sabiescu, Siya, & Tucker, 2015; Heimerl, Hasan, Ali, Parikh, & Brewer, 2015), along the lines of the original approach argued for by the first proponents of the USAL model.

Even in respect of the co-operative "community ownership" approach, favoured ahead of a more entrepreneurial model by Ó Siochrú and Girard, it is clear that the success of pilot projects like these is dependent upon a conducive policy and regulatory framework. They identify the need for the elaboration of a "specific national policy strand" in support of the community-based model, supported by an enabling "regulatory environment", together with concrete mechanisms for "financing and investment" and a range of training and "capacity-building" interventions (Ó Siochrú & Girard, 2005, pp. 45-53). It appears to be a model deserving of far greater policy protection and regulatory support than was afforded South Africa's luckless USALs, but it is likely to remain a small-scale model, able to meet demand, provide access and deliver returns at the shoestring end of the market.

Finally, it seems unlikely that experimenting with institutional arrangements in the way that was attempted though the creation of the USA (now USAASA, and soon to be defunct) is likely to produce much by way of benefit. The comment of Blackman and Srivastava in respect of the USA and similar bodies, alludes to the "bizarre regulatory space" (Limpitlaw, 2014, p. 5265) occupied by such entities, and provides a succinct summary of the value of the approach:

> *While a completely separate agency elevates the status of UAS and creates at least the appearance of even greater independence, it may come at a higher*

cost as well as with increased complexities of coordination. (Blackman & Srivastava, 2011b, p. 173)

Whilst it seems that none of the main UAS intervention practices is entirely without merit, many are fraught with built-in challenges and pitfalls. Policy-makers and regulators embarking on this route - either *de novo*, or in respect of new services such as broadband - would therefore do well to approach with caution. Creative compliance is an obvious obstacle, particularly in respect of USOs. Careful anticipation of unwanted outcomes, driven by the desire of licensees to game the system, seems absolutely essential. Regulators might do well to adopt scenario planning and modelling of options and outcomes *ex ante*. A similar approach has been recommended in a different context by spectrum auction design expert Peter Klemperer (2004, pp. 103-122). Likewise, it seems that excessively detailed and technology-specific specification of USO targets is a recipe for obsolescence. When it comes to expenditure from USFs, it seems that there is much room for improvement. Intervention design and implementation management needs to be underpinned by far greater reliance on needs assessments and access gap research. Addressing UAS shortfalls needs to be seen far less as an infrastructure, supply-side problem, and far more as a question of dealing with ongoing sustainability and demand-side challenges through providing long-term support structures, building skills and capacity, and developing demand. The potential for corruption needs to be recognised as an inherent, structural consequence of USF design, and specific management, accountability and transparency measures put in place to counter it. In all cases, UAS interventions need to include an inbuilt, independent, publicly available research component to identify implementation shortcomings and to assess short-term impacts and longer-term outcomes, so that proper policy learning and feedback can increase effectiveness.

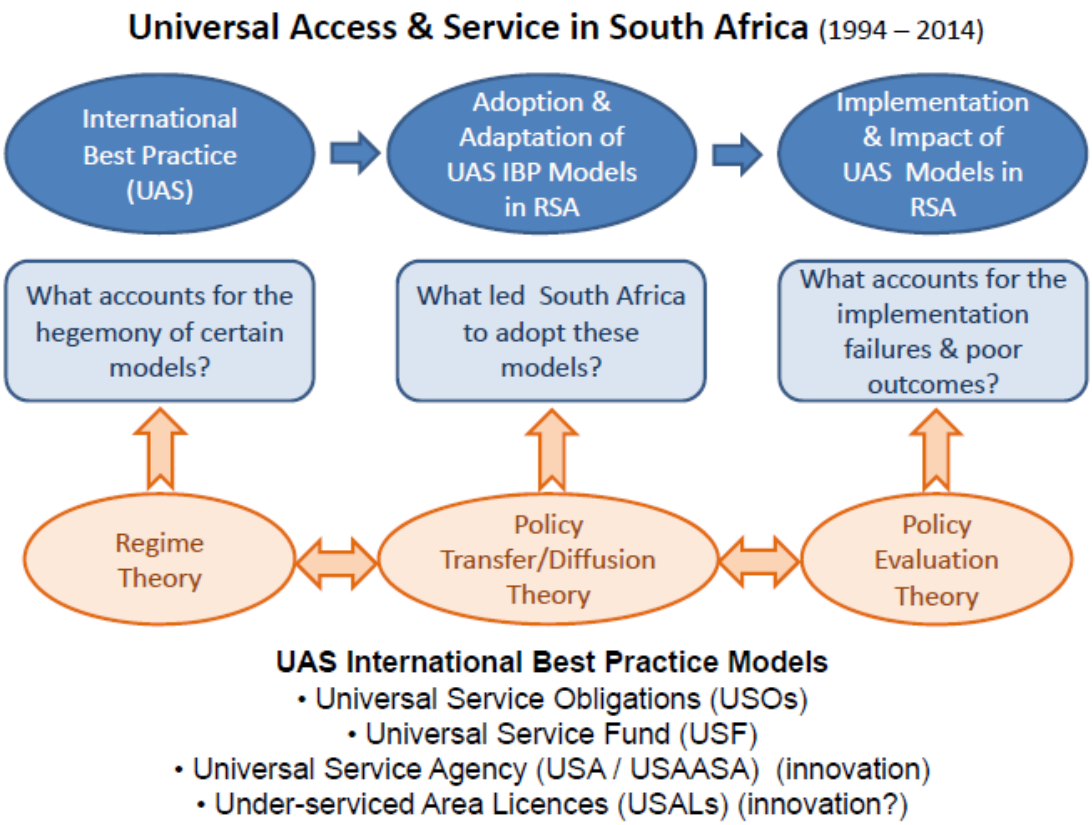
10.4 Through the Lens of a Conceptual Framework

The conceptualisation and execution of the research undertaken here was informed by a conceptual model intended to guide and structure our enquiry. It is finally important to examine the value and effectiveness of that heuristic tool in shaping and illuminating the investigation. The final research sub-question deals with the issue, viz:

6. ***To what extent does the conceptual model proposed here provide an effective analytical tool to understand and evaluate the implementation of international best practice policies, such as those dealing with universal access and service?***

The research set out in the preceding pages was informed by a relatively complex, three stage conceptual and analytical framework. It was a framework informed by the nature of the research enquiry undertaken in these pages. Given that the focus of the research was to analyse and assess the implementation of the key interventions undertaken by South Africa in support of the goal of universal access and service, it was necessary firstly to reach an understanding of how the constellation of UAS interventions arose and came to be considered international good practice, and secondly how these were adopted and adapted by South Africa's policy-makers. As can be seen from Figure 10.1 below, regime theory was adopted as a useful lens to illuminate the former, whilst policy transfer and diffusion theory appeared to offer important insights in respect of the latter process. Finally, the literature dealing with policy success and policy failure was used to inform the description and analysis of specific UAS interventions and their concrete outcomes.

Figure 10.1: Forces Driving Reform of the Telecommunications Sector



It is to a discussion of the various components of that analytical framework that the analysis now turns.

10.4.1 Regime Theory

Our analysis considered the cluster of institutions associated with developing and propagating the set of practices associated with 'telecom reform' (Melody, 1997) - principally the International Telecommunication Union (ITU), the World Trade Organisation (WTO), and the World Bank - as a global regime constituting an hegemonic set of "implicit or explicit principles, norms, rules, and decision-making procedures around which actors' expectations converge in a given area of international relations" (Krasner, 1982, p. 186). The concept of a regime in this sense can be construed as underpinning the very notion of the 'Washington Consensus' (Williamson, 1990)[676]. Whilst regime theory, in our case, does help to conceptualise the cluster of practices associated with ICT sector reform more generally and with universal access and service more specifically, and to clarify the roles played by the various global institutions in formulating, codifying and disseminating these as international best practice, it is not without its weaknesses.

Hills, for example, attempts to demolish regime theory, contending that "the concept of 'international regime', hegemonic since the 1980s in any discussion of international regulation, is out of date - that the theory was a product of its time" (2007, p. 2). Her argument is largely based on the role of consensus within regimes. She suggests that the notion of a regime depends on consensus - by which she means agreement - and cites actions both within and without that imply that powerful actors (the USA, in particular) are more than willing to threaten or undermine that consensus by acting unilaterally and outside the 'regime' where they perceive this may better serve their interests.

However, the very nature of global regimes - in particular, the shift from one regime to its successor - implies that a regime is a site of struggle, at best a compromise between contending actors, rather than a happy consensus. Dominant actors will always seek to impose the regime on others. Those marginalised or disadvantaged by the consensus will seek to change or overthrow it, or attempt to move the site of negotiations to another forum where the balance of forces is more in their favour and the prospects of success more likely. Regimes are also subject to a wider range of actors than many give credit to. For example, Singh has argued that global institutions themselves should be considered to be actors (2002a, p. 19ff), and Cogburn has emphasised the role of epistemic elites as actors (2004). The contending sets of stakeholder interests are therefore complex and shifting. Every

[676] Although Williamson himself, however, does not acknowledge any specific debt to regime theory.

participant in the rule-making and decision-making processes has an axe of interest to grind, a differential vested interest to advance, and a different degree of power and influence to wield. Seen like this, a regime is more of a precarious and shifting entity, an arena subject to evolution, to change, to overthrow.

Note that the focus of the analytical approach adopted in our exposition here is not on the institutional arrangements adopted by state and other actors seeking an accommodation of mutual interests in the face of a complex and uncertain multilateral environment (Axelrod & Keohane, 1985), but one interested in the more 'ideological' aspects of the global telecommunications regime. As such, it leans more on the role of 'epistemic communities' (Haas, 1992; Cogburn, 2004) in articulating and codifying the interests of dominant stakeholders through the development of the prescriptions of 'international best practice'. In our case, these were primarily in relation to 'telecom reform' (Melody, 1997; Wallsten, 2001), and, more specifically, universal access and service (ITU, 2003b; Blackman & Srivastava, 2011b).

Whilst regime theory is less widely applied today, having to an extent been supplanted by governance studies (Frederickson, 2004), it remains widely in use. Its particular value is more of a historiographic one: in its ability to trace the formulation and rise to hegemony of a set of ideas and practices, driven by the complex interaction of a range stakeholders and their vested interests. It is thus associated with the dynamics of global and domestic power struggles, with the cognitive frameworks adopted to cloak and advance the contending sets of interests, and with the epistemic communities researching, analysing and advancing those frameworks and positions. It has proven a useful conceptual tool in those sections of our analysis that sought to chart the development and rise of universal access and service best practices. Regime theory should, however, be considered more of a broad approach than a precise analytical scalpel. Behind the non-nonsense practicality of its common-sense approach, there does lie a degree of terminological inexactitude. Rules and decision-making procedures may be formally codified or operate at an informal level; principles, norms and values are likely to be even more informal, open to interpretation, and a shifting, subjective ground. It has, however, been a most useful lens through which to conceptualise, chart and understand the rise of international best practice in universal access and service policy implementation.

10.4.2 Policy Transfer and Diffusion Theory

International best practice by its very nature implies policy transfer, the process of cross-border transmission of concepts, policies, institutional arrangements, and practical interventions, from one jurisdiction to another. The theories of policy transfer and policy diffusion provided the conceptual lens through which the adoption and adaptation of the set of models and interventions prescribed by the international ICT regime, took place in South Africa, as described in Chapter Five. Although the key proponents of policy transfer theory (Dolowitz & Marsh, 2000) do not make an explicit link, policy diffusion and transfer are a logical consequence of the existence of an international policy regime. Indeed, the broad alignment of the key facets of South Africa's UAS interventions with the recommendations of the ITU and its ilk, presupposes the existence of some degree of policy diffusion or transfer.

However, the existence of policy diffusion as an objective process, seems a difficult phenomenon to verify in the absence of a clear evidentiary trail. Something that looks like a duck and quacks like a duck, is not necessarily copied from someone else's duck. The further down the spectrum one moves from coercive policy transfer towards active policy learning, the harder the task becomes. In part, this is likely to be due to a lack of clear linkage by way of documentation and documented meetings or similar engagements. But it is also because diffusion at the policy learning end of the spectrum becomes a more inchoate, distributed process, involving a multiplicity of policy players, with differing degrees of interest and power, interacting through a complex series of policy engagements. Like regime formation, policy diffusion is rarely either simple or simplistic.

The nature of the institutional environment within which polices are adopted and adapted, also has an important impact on the balance between policy transfer and policy learning. For example, securing an IMF loan is likely to involve compliance with a strict series of conditions, some of which may involve policy transfer in the form of structural adjustment programmes. Accession to the WTO similarly comes with the obligation to make commitments in respect of trade in goods and services. The ITU's consensus-based approach, on the other hand, is far more amenable to either 'lesson drawing' or policy learning. To some extent, however, the various approaches work in tandem, with the different institutions within the global regime propagating a largely similar set of policy prescriptions for 'telecom reform' in general and for universal access and service more specifically.

The complexity of the international institutional terrain was mirrored by the complex nature of South Africa's policy formulation in respect of telecommunications, with its unique universal access and service focus. Not only was the range of stakeholders, contending interests, and role players, diverse and shifting - as noted - but the forums in which agreements were forged, broken and re-negotiated formed likewise a complex and shifting terrain. Moreover, the South African policy regime was itself undergoing a profound transformation of both political direction and decision-making personnel at this very policy-making juncture, as *apartheid*-era politicians and bureaucrats were supplanted by a new ANC-led cadreship.

However, in many ways the incoming ANC government was being pressurised and pushed by the same forces as everyone else: technological change, demands from business users for greater sector liberalisation, calls from incumbents (now including mobile operators Vodacom and MTN) for protection of their market share, the union voice demanding job protection and an end to privatisation. It is, therefore, hardly surprising to have seen a slow backpedalling on nationalisation, and a gradual embrace of many of the pillars of ICT sector reform, albeit tempered by the uniquely overriding imperative to deliver universal access and service.

What, then, would constitute policy diffusion in such a fluctuating landscape? Smoking guns in such an environment are hard to come by. Objectively, a substantial degree of policy coincidence and alignment is clearly necessary, but not sufficient on its own. Policy similarity is merely circumstantial; and could be coincidental. Some specific degree of active engagement with the global policy regime and the international good practice precepts it promotes - as noted in the case of South Africa in Chapter Five - would seem to constitute more direct evidence at the *prima facie* level. Further, a degree of active interaction with the international policy regime and its associated epistemic community - as noted in the case of ANC ICT policy supremo Andile Ngcaba - would seem to provide some level of corroboration. In addition to objective pointers, subjective correlation too is needed: it is equally important to what the policy players themselves have to say. For example, Ngcaba himself declares that the ANC looked at international best practice, not just from the ITU, but also at the OECD, Mexico and Brazil (interview, 28 January 2015). Stavrou too confirms that the ANC's policy think tank, the CDITP, undertook research on international best practice (interview, 17 October, 2014), although former Green Paper co-ordinator, Willie Currie, was rather more non-committal, suggesting the influence was far more diffuse and indirect (interview, 18 September, 2014). The extent of active policy learning as distinct from more passive diffusion is thus clearly hard to pin down.

Together, therefore, this seems to point to an evidentiary lacuna in the literature on policy transfer and diffusion. A formal heuristic, linking forms and categories of evidence to a typology of degrees of policy diffusion, would greatly assist in analysing and categorising, and, ultimately, in understanding the degrees, levels and modalities of any process by which policy prescriptions diffuse from one jurisdiction to another. For example, coercive transfer would seem to require evidence of coercion, through public pronouncements, international agreements and the like. Policy learning, whether bounded or rational, would require some evidence of engagement with and modification of international good practice, either in documentary format, or in the subjective accounts of the policy actors. Identification of policy learning would also need to include some consideration of the epistemic communities involved, including via joint participation in negotiations and forums, conferences and meetings.

10.4.3 Policy Success and Policy Failure

Much of the research set out in these pages examined the adoption and implementation of a series of UAS policy interventions (the imposition of universal service obligations on licensees, and the establishment of a universal service fund, in particular), largely in the context of the country's adoption of international best practice models advocated by the global telecommunications policy regime centred on the International Telecommunication Union, but influenced also by policy inputs from the European Commission, the OECD and the WTO. Driven by the imperative to provide universal affordable access to telecommunications networks and services to the hitherto disenfranchised majority of the country's population, often poor and in rural areas, the country also dallied with a number of policy innovations, less directly consistent with international best practice: the awarding of rural under-serviced area licences, and the establishment of a dedicated universal service agency.

The description and analysis of this series of interventions occupies the bulk of the research undertaken here, viz Chapters Six to Nine. As has been shown, each of these policy interventions is widely, if loosely, considered to have failed in one or more respects. Drawing on the three-category heuristic developed by McConnell (2010), the analysis has been able to elaborate and assess each of the components of this UAS policy cluster in relation to the 'process' adopted, the 'programmatic' outcomes, and the 'political' impacts.

It seems clear from the analysis above, however, that, while the McConnell framework assists to frame and structure the discussion, it is not entirely without its problems.

Firstly, it seems clear that there is some merit to the contention of Bovens and 't Hart that McConnell's 'process' dimension operates at a level qualitatively somewhat distinct from that of the 'programmatic' dimension (2010). As noted through our analysis in the preceding chapters, much of the focus of attention for policy failure resides at the programmatic level. Specific problems with implementation can be discerned and analysed at the very detailed micro-level of each of the specific policy components interventions. 'Process' assessment, on the other hand, is better discerned and analysed at a much more overall and macro level, that of the entire package of policy components, and in relation to the overall policy cycle. Much the same seems true of the 'political' dimension of policy, where assessment of the political impacts and outcomes also tends to cohere around the policy cluster as a whole.

Howlett, by implication, makes a similar point in regard to McConnell's 'process' dimension, which he links to the various stages of the standard policy cycle (Howlett, 2012, pp. 545-547), thereby giving rather more substance to McConnell's somewhat flimsy original characterisation of the issue. Useful though this may be, the question needs to be asked: whether or not some of the components of the policy cycle ('implementation' and 'evaluation' in particular) do not more naturally align with McConnell's 'programmatic' dimension. If so, the adoption of a policy cycle approach may be considered as part of 'policy as process', and the concrete 'implementation' of the policy, along with its 'evaluation' as part of viewing 'policy as programme'.

What the introduction of the policy cycle into the debate does suggest is that there may be a temporal sequence to McConnell's framework. Whilst the causal concatenation is not necessarily simplistic or uni-directional, 'policy as process' does tend to precede and shape the implementation of 'policy as programme'. This, in turn, influences political impact. Thus, the features of 'policy as process' tend to be more pertinent in relation to the framing and formulation of a policy or cluster of policies, whereas 'policy as programme' provides an analytical tool to assess the implementation of the policy, and 'policy as politics' offers insights into the long-term impact of the policy. And failure in any one of the three conceptual areas tends to have a knock-on effect further down the chain[677], mitigating against the likelihood of success in consequent stages. This, in turn, opens up the possibility of developing a best practice framework drawing on these insights.

[677] Whilst it is possible to have 'programme' success in the absence of a high quality 'process', 'process' failure is likely to spark problems at the 'programme' level.

Recent literature has introduced a number of additional concepts into the debate as to what constitutes policy failure. With the debate about the analytical status of 'policy as process' yet unresolved (Bovens & 't Hart, 2016), and with the introduction of new concepts to the debate such as the 'policy cycle' and the questions of 'salience' and 'magnitude' (Howlett, 2012), much remains to be settled if a fully coherent theory of policy failure and success is to be constructed. Insights that come from differing planes of analysis are not always readily integrated.

Further, new issues may well need to be introduced, considered and debated. For example, to what extent and in what ways is policy failure path dependent? In South Africa, it was apparent within its first five years that the universal service agency was an ineffectual institution at best (Stavrou, Whitehead, Wilson, Seloane, & Benjamin, 2001), but nearly 20 years after its establishment the necessary policy learning and corrective action from the decision-makers is still awaited, despite the recommendations of the ICT Policy Review Panel (DTPS, 2015). The question of the degree to which analytical frameworks for policy failure and success may be context specific, as suggested above, may also need further investigation. An analytical framework that goes beyond providing a narrative framework to possess predictive power at anything but the most general of levels, is still some way off as well. For the present, however, the frameworks offered by Bovens and 't Hart, McConnell, Howlett and others, nevertheless provide valuable lenses through which to structure the narratives of policy failure and policy success, and from which an explication and analysis of the possible causes of policy failure, along with the potential policy learnings can be attempted.

It appears, therefore, that the cluster of policy interventions adopted and adapted by South Africa from the global international best practice regime, and implemented in the twenty or so years since the advent of democracy, can largely be assessed to have failed in their own terms. As 'process' they may have started well, but they largely came unstuck as the process moved towards implementation. As 'programme' they were, almost without mitigation, policy fiascos. As 'politics', because of their relatively micro level and because of the nature of South Africa's body politic, the jury remains rather more out.

What is of interest, however, is the fact that, although the universal access and service 'programme' has largely proven a failure, the policy paradigm that animated this cluster of interventions remains largely intact and continues to enjoy political legitimacy. Few today would gainsay the need to extend access and promote universal service to the full range of ICT services and content.

But access to the Internet and to broadband is already firmly on the agenda. And, with a number of companies rolling out fibre to the home in affluent households in the major cities of South Africa (Sidler, 2016), a new digital divide looms. A new set of policy interventions - hopefully evidence-based and informed by policy learning derived from analysing the degrees of policy success and policy failure from the past - will be required to ensure that interventions designed to ensure universal access to the full range of high-bandwidth services, applications and content emerge as policy success rather than policy failure.

10.4.4 Through the Glass Darkly

A final question needs to be posed in relation to the analytical framework adopted in our analysis here: to what extent do the conceptual and heuristic frameworks adopted presuppose and preconfigure the analytical outcomes? The adoption of a particular set of assessment categorisations - whether derived from regime theory, from policy diffusion analysis, or from the assessment of policy success and failure - automatically predetermines which elements in the chain of evidence will be identified for scrutiny, and how they will be weighed in relation to other elements. To some degree, one's heuristic tools become self-fulfilling prophecies. It is a recognition of this limitation that underpins van der Heijden's call for a "pluralist approach" in the adoption of theoretical frameworks for policy analysis in order to "provide a richer understanding of policy transformation" (2012, p. 57). He goes on to show how competing theoretical lenses produce both competing narrative structure and interpretative assessment of the same set of events, he argues for pluralism and variety in "narratives of policy transformation to legitimate or question past policy choices, and to influence and steer the policy transformation" (2012, p. 69). It is further true that there is a degree of imprecision and conceptual looseness in the theoretical frameworks of the social sciences, such that they become conceptual signposts rather than positivist scalpels in the hands of the researcher.

This is not to negate or undermine the adoption of any specific conceptual and analytical framework, indeed of the one adopted in this analysis. Without a theoretical framework, the narrative and the analysis lack structure, form and content. It is necessary, however, to ensure that the framework adopted can be shown to be relevant to the analytical enterprise being undertaken, in a way that casts light on the unfolding narrative and provides conceptual tools sufficient to an assessment of the import of the interventions under scrutiny. Hopefully this has been shown above to be the case in respect to South Africa's adoption, adaptation and implementation of its chosen slew of universal access and service interventions.

10.5 Suggestions for Further Research

The research presented here has largely been historical and interpretive. Because it covers the broad scope, albeit in considerable detail, of a range of universal access and service interventions (USOs, the USF, the USAL licensees and USAASA itself) over some twenty years of policy formulation, implementation and evaluation, there is clearly still scope for further, more fine-grained research into each of the case study areas.

Secondly, there is likely to be scope, going forward, for the application of the analytical tools deployed here to the description, interpretation and evaluation of other areas of universal access and service intervention, particularly as South Africa moves towards the implementation of its national broadband plan, which restates from the National Development Plan its goal of a "seamless information infrastructure [that] will be universally available and accessible and will meet the needs of citizens, business and the public sector, providing access to the creation and consumption of a wide range of converged services required for effective economic and social participation" (NPC, 2012, p. 190).

A third opportunity for further research would entail the application of the conceptual and analytical framework adopted here to further instances with a similar policy trajectory, where policies have been developed in accordance with international best practice, and then adopted and adapted. This might be in relation to other areas of policy, where an international policy regime holds a greater or lesser degree of sway, or other jurisdictions where universal access and service policy implementation has been a key component of ICT sector policy. The former area of research is likely to cast greater light on the wider applicability and generalisability of the framework adopted here. The latter is likely to be able to give a more specific appraisal of UAS policy implementation itself, and thus to focus more on the policy success and failure aspects of the analysis set forth here.

Additional research might also proceed in relation to the further theoretical development of one or more components of the conceptual and analytical framework espoused in this study. As such, further exploration of either regime theory or policy diffusion theory or policy success and failure theory, or some combination of these, is likely to be the focus of attention.

This study has also given some attention to the role of epistemic communities in the formulation and dissemination of policy precepts. This might, in itself, be a fruitful area for further exploration.

Finally, the lessons to be derived from the policy analysis in this study are clearly capable of further development. The problems encountered, and implementation errors committed, are an obvious source of input into policy improvement and refinement. The field of universal access and service remains a key focus of ICT policy formulation and implementation, particularly in developing countries, and thus remains a broad field for further research. Newer and more improved models of intervention, enriched by the failures of the past, and appropriate to ongoing changes in the technological landscape, need to be developed, tested and rolled out.

10.6 Conclusion

The preceding pages and chapters constitute an extended and in-depth case study of universal access and service in South Africa.

The analysis has charted the rise of an ICT policy regime, impelled by the forces driving telecommunications reform, formulating and propagating a series of best practice interventions intended to ensure that the liberalisation of markets in the sector remains, despite its turn towards a private-sector, profit-driven model, able to provide widespread, affordable access to ICT infrastructure, services and content to those either too remote or too poor to be able to acquire or sustain such access with their own resources.

The analysis has shown how South Africa's transition to democracy in the early 1990s and the legacy of a racially-determined digital donga, ensured that a commitment to universal access and service was placed at the forefront of ICT policy and its reform by the incoming ANC government. It has further shown how this, in turn, led the country to draw from international best practice, as well as to innovate, with the intention of ensuring that the ICT sector was able to provide economic benefits, social development and cultural enrichment to all its citizens.

Each of the major planks of universal access and service intervention that were adopted, adapted and implemented in South Africa, came, as has been shown, to be marred with greater or lesser degrees of failure, principally at the programmatic, implementation level. Universal service obligations came largely to be a series of empty milestones, creatively complied with by licensees, poorly monitored and enforced by regulators, and ultimately overtaken by technological and market innovation, swept aside in the avalanche of prepaid mobile subscriptions. The universal service fund, so easily collected from licensees, became

mired in expenditure on ill-executed, unsustained project expenditure on telecentres and other poorly-conceived models, swallowed in a quagmire of corruption and maladministration. A well-intentioned attempt to liberalise the market and empower small-scale entrepreneurs through the awarding of rural telecommunications licences foundered in implementation delays and policy vacillation. The establishment of a flagship entity to champion the cause of universal access and service collapsed into ineffectiveness, management weakness and corruption. It is a sad and salutary tale of noble policy intention, animated by international best practice, but substantially undermined by programmatic implementation failure.

The digital donga in respect of telecommunications access has substantially disappeared over the years. But it has not been policy interventions that have filled it in. Rather it has been technological development and market innovation. However, those self-same technologies and markets are now throwing up new digital divides in relation to broadband access and fibre rollout. As policymakers and regulators ponder new interventions to stem the new and widening divides, they would do well to heed the perspective on the now ubiquitous mobile telephone offered some thirty-five years ago:

> *An executive gets into his car and travels across London. As he goes, he talks to his secretary on the telephone. Until now, that scenario has been limited to a privileged 3 000 or 4000. In the PWV area, only 140 mobile phones are in use - though the number is to be increased to 512 by mid-year, says SAPO. The restricting factor has been a shortage of applicable radio channels. Now an ingenious development called cellular radio promises to turn this into a mass market* (FM, 1983b, p. 32)

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A Note on Sources

Several of the documents referred to and cited in this study are either no longer in the public domain (usually because they have since disappeared from the websites where they were first published), or were never in the public domain. Copies in all cases are in the possession of the author, in either printed format or in soft copy, or both. The author has taken all reasonable steps to ensure the authenticity and accuracy of all documents cited, and is satisfied that none were obtained illegally.

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Appendix A: Universal Access and Service Timeline

Table A.1: UAS Timeline

Date	Event	Comment
		1981
1981-10-01	British Telecommunications Act 1981 comes into effect	Creates British Telecom as a state-owned corporation, and provides for the licensing of additional operators
		1982
1982-01-08	United States Justice Department & AT&T sign consent decree settling antitrust (anti-monopoly) lawsuit against AT&T	Agreement provides for break-up of AT&T into 7 regional operators providing local service, with AT&T continuing to provide long-distance services
1982-07-19	Thatcher government announces intention to privatise 51% of British Telecom (BT)	
1982-09-28	International Telecommunication Convention, ITU Plenipotentiary Conference opens in Nairobi	Issues call for "broad international regulatory framework for all existing and foreseen new telecommunication services"
		1984
1984-04-12	Telecommunications Act (United Kingdom) becomes law	Provides for competition, ending monopoly status of BT and establishing Oftel as regulator
1984-08-01	Oftel (Office for Telecommunications) created as regulator for United Kingdom	Establishes independent regulation as the primary governance principle for the telecomms sector
1984-11	51% of shares of British Telecom (BT) listed on London Stock Exchange	World's largest share issue privatisation at the time. By 1997 BT is 100% privatised.
		1985
1995-01-22	Maitland report - The Missing Link - handed to ITU Secretary-General	Draws attention to global disparities in access to telecommunications, paving the way for conceptualisation of the digital divide, and measures towards universal access and service
		1987
1987-06-30	EU Green Paper on the Development of the Common Market for Telecommunications Services and Equipment	Introduces liberalisation in value-added services, retains monopoly in basic services for universal service goals
		1988
1988-11-28	ITU's World Administrative Telegraph and Telephone Conference opens in Melbourne	Adopts International Telecommunications Regulations as ITU's core treaty, opening the way for ICT sector reform
		1989
1989-03-06	De Villiers report: 'Summarised Report on the Study by Dr W J De Villiers Concerning the Strategy, Policy, Control Structure and Organisation of Posts and Telecommunications' tabled in Parliament	First substantial investigation by National Party government into restructuring and reform of SA's telecomms sector. Recommends separation of posts from telecomms, commercialisation of both, possible eventual privatisation of SAPT, and regulation of telecomms.
		1990
1990-02-02	State President FW de Klerk announces unbanning of the African National Congress and other political organisations	Ushers in South Africa's transition to democracy
		1991
1991	OECD publishes report on "Universal Service and Rate Restructuring in Telecommunications"	Claims to be first comprehensive study of UAS in W Europe. Foreshadows some of later thinking.

Date	Event	Comment
1991	ANC establishes Centre for the Development of IT Policy (CDITP)	ICT policy think tank and epistemic community, many of whom were subsequently to play leading roles in the sector
1991-07	National Party appoints Piet Welgemoed as Minister of Posts, Telecommunications & Broadcasting	
1991-10-01	SAPT separated into Telkom and SA Post Office	Separation of posts and telecommunications and commercialisation of Telkom
		1992
1992	ANC Telecommunications Policy Conference	
1992-05-15	CODESA 2 talks convene	Agreement for an independent telecomms regulator (with oversight over broadcasting). Talks end in deadlock on other issues.
1992-12-07	Additional Plenipotentiary Conference of the ITU opens in Geneva	Adopts Constitution and Convention, substantially restructuring the ITU
		1993
1993-07-28	CDITP hosts symposium on "Telecommunications in a Post-*apartheid* South Africa"	1993-07-28 – 1993-07-30 Attended by 100 delegates, 17 local speakers, 12 international speakers
1993-09	CDITP publishes 'Licensing of cellular mobile telephone services - the impact which deregulation and cellular phone competition will have upon universal service and the affordability of telephones for the South African community'	
1993-10-29	Multiparty Implementation Agreement gazetted, paving the way for licensing of Vodacom and MTN and establishing interconnection regime, including Telkom	
1993-11	National Telecommunications Forum (NTF) launched	
1993-12-01	ITU opens Second Regulatory Colloquium, ITU Headquarters, Geneva, 1-3 December 1993	Convened to consider how regulators can promote universal service and facilitate the application of innovations in telecomms
		1994
1994-01-21	The ANC adopts the Reconstruction and Development Programme	Puts UAS as one of twin pillars underpinning telecommunications policy
1994-03	CDITP publishes 'The ANC policy for equity and efficiency in the telecommunications sector'	
1994-03	European Commission publishes report on 'Meeting Universal Service Obligations In A Competitive Telecommunications Sector'	Sets out to cost the universal service obligation and to identify options for financing universal service obligations. Proposes access deficit charges, phased liberalisation and non-overlapping franchises.
1994-04-27	ANC wins South Africa's first democratic election	
1994-05-07	Pallo Jordan appointed Minister of Posts and Telecommunications with Andile Ngcaba as Postmaster General	
1994-05-16	Start of two-week IDRC mission to RSA to prepare for information policy support	

Date	Event	Comment
1994-05-30	Joint Economic Development Plan Agreement signed	Commitment signed by Vodacom & MTN as condition of operation, following resolution of impasse with ANC. Described as a "plan proposed by the Licensee as agreed by the Authority to assist in the development of the South African economy and in particular the telecommunications industry". Provides for "social and economic upliftment of disadvantaged communities. Emphasis is also placed on training of South African citizens, job creation, and participation in international linkages, foreign investment, and using export credit finance for import products."
1994-06-30	South Africa re-joins the ITU	South Africa submits instruments of accession to ITU's constitution, convention and optional protocol
	1995	
1995-01-01	World Trade Organisation (WTO) established as General Agreement on Trade in Services (GATS) enters into force	South Africa is a founder member. GATS contains an annex specifically dealing with telecommunications
1995-02-25	G-7 Ministerial Conference on the Information Society, Brussels	Puts UAS on Information Society Agenda - EU-19950226-Chair's Conclusions Information Society Conference Brussels.pdf
1995-03	National Telecommunications Policy Project launched	
1995-05	Telecommunications Green Paper published	
1995-10-03	Mandela addresses ITU Telecom 95 Conference	Puts digital divide and UAS in context of globalisation on agenda.
1995-11-20	Telecomms Policy Colloquium, Mount Grace	
1995-12-04	OECD publishes report on "Universal Service Obligations in a Competitive Telecommunications Environment"	Argues that the achievement of universal service obligations is neither mutually exclusive to nor in conflict with the introduction of competition. Provides detailed costing of universal service obligations.
	1996	
1996-02-07	National Framework Agreement	Agreement with COSATU following disputes over privatisation. Puts some limitations on privatisation and restructuring of state-owned entities such as Telkom
1996-02-08	United States of America's Telecommunications Act comes into effect	Aims to provide a pro-competitive, deregulated policy framework, opening all telecomms markets to competition in order to accelerate private sector deployment of ICTs to all Americans
1996-03-13	White Paper on Telecommunications Policy published	
1996-03-28	Minister of Posts and Telecommunications Pallo Jordan fired, replaced by Jay Naidoo	
1996-04-24	WTO's 'Telecommunications Services: Reference Paper' adopted	Establishes a set of regulatory principles, including 'Universal Service'. 82 countries are now signatories.
1996-04-26	WTO's 4th Protocol (Agreement on Basic Telecommunications) adopted	
1996-04	Pallo Jordan sacked as Minister of Communications, replaced by Jay Naidoo	

Date	Event	Comment
1996-05-13	ISAD (Information Society and Development) Conference opens in Johannesburg	
1996-05-15	Helderfontein Conference – 'Empowering Communities in the Information Society' opens	Profiles the concept of multi-purpose community centres (MPCCs) / telecentres
1996-06-14	ANC launches GEAR (Growth, Employment & Redistribution), seen as backtracking on the RDP	
1996-08-24	Protocol on Transport, Communications and Meteorology in the Southern African Development Community (SADC) Region	Contains prominent section on UAS
1996-11-01	Vodacom launches Vodago prepaid	
1996-11-12	Telecommunications Act assented to	
	1997	
1997-01-13	Analysys Mason report: The Future of Universal Service in Telecommunications in Europe	First comprehensive attempt to cost USOs, found the cost to be lower than previously estimated
1997-02-10	South African Telecommunications Regulatory Authority (SATRA) and Universal Service Agency (USA) launched	Headed respectively by Nape Maepa and Mlungisi Hlongwane
1997-04-11	UN Administrative Committee on Coordination (ACC) issues Statement on Universal Access to Basic Communication and Information Services	
1997-04-11	South Africa tables GATS schedule of specific commitments for telecommunications services	Supplements initial commitments with far more detailed commitments regarding Telkom and managed liberalisation
1997-05-07	Telkom's licence gazetted	
	1998	
1998-03	ITU releases World Telecommunications Development Report: Universal Access	Puts the issue of universal access on the table as a policy objective for developing countries, and codifies UAS good practice
1998-04	DRA Development submits report to SATRA on "needy persons": 'A Telecommunications Universal Service Policy Framework for Defining Categories of Needy People in South Africa'	
1997-05-16	Universal Service Agency (USA) officially launched	
1998-06	SATRA conducts never released Mobile Community Service Obligation Audit	
1998-10-22	USA releases first discussion paper on UAS telecomms definitions	
	1999	
1999-05	David N. Townsend & Associates develops a comprehensive Telecentre Implementation Plan for the USA & DoC	
1999-05-28	USA releases second discussion paper on UAS telecomms definitions	
1999-06-17	Ivy Matsepe-Casaburri appointed Minister of Communications, replacing Jay Naidoo	

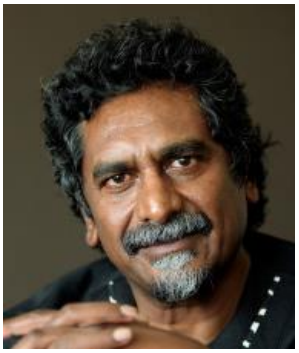
Date	Event	Comment
1999-06-18	First contributions to the USF becomes due	
	2000	
2000-05-01	ICASA Act assented to	Establishes a converged regulator, bringing together IBA & SATRA, to oversee telecommunications and broadcasting
	2001	
2001-02-02	2nd National Telecommunications Policy Colloquium opens	3 day stakeholder conference to undertake 5 year review of telecomms policy & to prepare for Telecomms Amendment Bill (Ivy uses term "managed liberalisation" in opening address)
2001-02-06	Task team on future of USA tables its report - 'Recommendations on the Future of the Universal Service Agency'.	Aki Stavrou, Archie Whitehead, Marcia Wilson, Mike Seloane & Peter Benjamin
2001-02-16	Cell C awarded third mobile cellular licence	Out-of-court settlement with rival bidder NextCom ends extensive legal wrangle, amidst allegations of improper interference by Minister Matsepe-Casaburri, and sacking of SATRA Chair Naepe Maepa
2001-03-23	Minister issues wide-ranging post-Colloquium 'managed liberalisation' Policy Direction, providing for a second national operator	Also deals with, *inter alia*: USALs; introducing a Board to oversee the USA; USF contributions; introduction of an e-rate
2001-07-23	Minister issues revised 'managed liberalisation' Policy Direction, now providing for two additional national operators & broadband licences	UAS provisions remain substantively the same, except 'co-operatives' dropped from USALs Additional provisions now cover: education network, consumer protection, maritime services, a communications museum
2001-08-21	Minister again revises 'managed liberalisation' Policy Direction, flip-flopping back to only one additional national operator	Broadband licences also dropped. UAS and other provisions remain substantively the same
2001-08-29	Telecommunications Amendment Bill published	
2001-11-30	Telecommunications Amendment Act promulgated	
2001-12-18	Minister determines 27 under-serviced areas for the award of special rural licences (Under-serviced Area Licences)	
	2002	
2002-02	SADC adopts TRASA's Policy Guidelines on Universal Access / Service for Telecommunications Services in SADC	
2002-02-24	EU issues 'Universal Service' directive	
2002-12-19	Minister issues ITA & Draft Licence for first 10 Under-serviced Area Licences	
	2003	
2003-03-04	Telkom's initial public offering (IPO) sees shares listed on the Johannesburg and New York stock exchanges, netting R 3,9 billion	
2003-07-15	Ministry holds stakeholder colloquium to discuss new sector legislation in the context of convergence	Licensing regime set to move from vertical to horizontal
2003-12-02	Resignation of Andile Ngcaba, Director General of Communications, announced	

Date	Event	Comment
2003-12-03	Draft Convergence Bill released	Later withdrawn in the face of widespread criticism
		2004
2004-06-03	Minister grants 7 USAL licences (3 of them conditionally), in accordance with ICASA's recommendation	Amatole Telecoms, Bokamoso, Bokone Telecomms, Ilizwi Telecomms, Karabo Telecomms, Kingdom Communications, Thinta Thinta Telecomms
2004-09-02	Ministerial Determinations issued, providing greater sector liberalisation	Effective from 1 February 2005, several provisions affect the USAL business case
2004-11	ICASA issues first round of 7 USAL licences	
2004-11-29	Stakeholder workshop to review the mandate of USA	
		2005
2005-01-11	Minister issues ITA for next 14 USALs	
2005-02-16	Revised Draft Convergence Bill published	
2005-06-14	Cell C licensed	
2005-12-09	Second Network Operator (NeoTel) licensed	
		2006
2006-02-07	Minister issues ITA for last 6 USALs	
2006-04-11	Electronic Communications Act (ECA) assented to	
2006-08-14	ICASA grants second cluster of USAL licences (now under ECA)	Three outright (Nkangala Telecoms, Northcom, Ukhahlamba Communications), 5 provisionally, 5 pending mergers
		2007
2007-04-03	ICASA issues USAL licences to 3 of second cluster under repealed Telecomms Act	Nkangala Telecoms, Northcom, Ukhahlamba Communications
2007-09-17	Ministerial policy direction, *inter alia,* converts 27 USALs to 7 Provincial Under-serviced Area Network Operators (PUSANOs)	
2007-12	ICASA issues 6 of 14 round two USALs with class ECNS licences under ECA (remaining 8 still in process)	Dinaka Telecoms, Ilembe Communications, Kwetedza Telecomms, Metjodi Telecoms, Metsweding Telex, PlatiTel
		2008
2008-???	ICASA grants last 6 USAL licences subject to additional info	Asixhumane Communications, Bulani Telecomms, Duzi-Cell Networking KZN, Sekhukhune Telecomms, Thetha Khuluma Telecomms, Umzinyathi Telecomms
2008-08-29	High Court rules in favour of Altech's application to force ICASA them an individual infrastructure licence	Dramatically liberalises the telecomms market. Taken on appeal by the Minister, who later concedes.
		2009
2009-01-16	ICASA issues new licences to all providers under the ECA	Includes individual infrastructure licences to over 400 VANS because of the Altech judgement

Date	Event	Comment
2009-04-06	Minister of Communications, Ivy Matsepe-Casaburri, dies	
2009-04	Manto Tshabalala-Msimang appointed acting Minister of Communications	
2009-05-11	General Siphiwe Nyanda appointed Minister of Communications, with Dina Pule as his deputy	
2009-08-19	New Minister of Communications, Gen Siphiwe Nyanda, abolishes USALs as a licence category	
	2010	
2010-02-08	Ministerial Policy Direction on UAS	Defines UAS and sets UAS targets under new licensing framework
2010-07-13	National Broadband Policy gazetted	
2010-11-01	Roy Padayachie appointed Minister of Communications, replacing Siphiwe Nyanda	
	2011	
2011-06-16	SADC adopts SADC Guidelines on Universal Access and Service	
2011-10-24	Dina Pule appointed Minister of Communications, replacing Roy Padayachie	
	2012	
2012-12-03	ITU's World Conference on International Telecommunications (WCIT) opens in Dubai	Revised International Telecommunication Regulations adopted by majority of delegates despite bitter opposition from the US & EU
2012-12-03	Strategic Integrated Project 15: Expanding Access to Communication Technology ("SIP 15") launched	
	2013	
2013-07-09	Dina Pule is fired as Minister of Communications, and replaced by Yunus Carrim	Pule had been embroiled in a series of allegations of nepotism and maladministration
	2014	
2014-05-25	In a widely condemned move, Ministry of Communications is split into two, with Faith Muthambi as Minister of Communications, and Siyabonga Cwele as Minister to Telecommunications and Postal Services	
2014	USAASA completes The National Strategy on Universal Service & Access Report	Contains estimate of total amount of contributions to USF to date

Appendix B: Political Responsibilities for ICT

Table B.1: Cabinet Ministers Responsible for ICT

Date	Minister	Name	
July 1991	Minister of Posts, Telecommunications & Broadcasting	Piet Welgemoed	[Picture not available]
May 1994	Minister of Posts, Telecommunications & Broadcasting	Pallo Jordan	
April 1996	Minister of Communications	Jay Naidoo	
June 1999	Minister of Communications	Ivy Matsepe-Casaburri	
April 2009	Minister of Communications	Manto Tshabalala-Msimang	

Date	Minister	Name	
May 2009	Minister of Communications	General Siphiwe Nyanda	
October 2010	Minister of Communications	Roy Padayachie	
October 2011	Minister of Communications	Dina Pule	
July 2013	Minister of Communications	Yunus Carrim	

Date	Minister	Name	
May 2014	Minister of Communications	Faith Muthambi	
	Minister of Telecommunications & Postal Services	Siyabonga Cwele	

Appendix C: Interview Guide

Learning Information Networking Knowledge
Faculty of Humanities
University of the Witwatersrand

Faculty of Humanities
University of the Witwatersrand, Johannesburg
P O Box 601, Wits, 2050

Fax: 086-529-5562
Mobile: 083-539-5242
e-mail: charley.lewis@wits.ac.za

11 August 2014

To whom it may concern

Universal Access and Service: Research Request

This letter serves to confirm that I, Charles Lewis (student no: 9611782F), am a registered PhD candidate at the University of the Witwatersrand, Johannesburg.

The theme of my research is the universal access and service policy and its implementation in South Africa between 1994 and 2009. A major part of my research involves undertaking a series of one-on-one interviews with key informants involved in, or close to, the South Africa's ICT sector over the period under investigation.

Your assistance and willingness to participate in an interview would be greatly appreciated.

You are assured of rigorous adherence to the University's code of ethical conduct relating to social research. This includes the assurance that all interviews will be treated as confidential and that participants' identities will not be disclosed, unless by prior arrangement.

Attached to this covering letter are the following documents:

- The Participant Information Sheet, explaining the nature of the research and giving further details of the request for an interview;
- The Participant Consent Form, which you will be asked to complete at the time of the interview, should you agree to participate;
- The Interview Guide, setting out the primary questions that will be covered during the course of the interview.

Please contact me if you have any questions.

I hope you will agree to participate, and look forward to hearing from you.

Yours sincerely

C A Lewis
Senior Lecturer, PhD Candidate
+ 27 11 83 539-5242 Charley.Lewis@wits.ac.za

Participant Information Sheet

PhD Research Report:
Universal Access and Service in South Africa (1994 - 2009)

You are invited to take part in this research study, Universal Access and Service in South Africa (1994 - 2009).

Before you decide whether or not to take part, it is important for you to understand why the research is being done and what it will involve. Please read the following information.

Background & Overview of the study
This study is being conducted by Charley Lewis in fulfilment of the requirements for the degree of Doctor of Philosophy under the Faculty of Humanities, University of the Witwatersrand, Johannesburg.

This research study will examine universal access and service as a key component of South Africa's ICT sector reform programme from 1994.

It will analyse how South Africa came to adopt and implement a specific range of universal access and service interventions. These range from universal service obligations, through the establishment of the Universal Service Agency and the Universal Service Fund, to the awarding of under-service area licences and the imposition of an e-rate. The research will thus produce the first complete study of South Africa's interventions in pursuit of the policy goal of universal access and service over a 15-year period. It also aims to contribute to a broader theoretical understanding of the framework of policy adoption and implementation within a changing political context, and to enrich policy adoption, implementation and evaluation in the future.

The organisation and funding of the research
The research study is undertaken in a private, academic capacity for a PhD thesis. The study is not being funded by any third parties.

What you will be asked to do
If you agree to participate in the research study, you will be asked to respond to a number of questions relating to the history of universal access and service in South Africa. This will be conducted by means of a semi-structured interview with you (either face-to-face, via Skype or telephonically) or by means of e-mail if a formal interview is not possible. You may also be asked to entertain follow-up questions for further information or clarification.

Deciding whether to participate
Taking part in the research is entirely voluntary.

If you do decide to take part, you will be given this information sheet to keep and be asked to sign a consent form.

If you decide to take part, you remain free to withdraw at any time and without giving a reason.

There are no risks in participating in this interview, although you may be inconvenienced by taking time out of your busy schedule to be interviewed. There will be no direct monetary

benefit to you for your participation. However, should you so wish, a copy of the final research report will be made available to you.

The study may have several beneficial outcomes. In particular, it will further our understanding of the topic and contribute to the knowledge in the field.

Confidentiality
Any personal information collected about you will be kept strictly confidential. All direct personal identifiers will be removed from the data when the research findings are consolidated into a report and will not be included in any subsequent publications. The anonymised data generated in the course of the research will be kept securely in paper or electronic form (on a password-protected computer) after the completion of the research project. It may be used for further research and analysis by the researcher, either on its own, or in combination with data from other sources.

Research Ethics
This interview protocol and its associated documentation was approved on 2014-05-23 by the Human Research Ethics Committee (Non-medical) of the University of the Witwatersrand (Protocol No H15/05/10).

If you have any concerns about the research, its risks and benefits, or about your rights as a research participant in this study, you may contact my supervisor, Stephen Louw (see contact details below).

Contact for Further Information
Please contact either of the persons listed below for any further information you require pertaining to the study.

Supervisor details	**Student details**
Stephen Louw	Charley Lewis
Stephen.Louw@wits.ac.za	Charley.lewis@wits.ac.za
+27 83 383-0011	+27 83 539-5242

Thank you for taking time to read this information sheet.

Participant Consent Form

PhD Research Report:
Universal Access and Service in South Africa (1994 - 2009)

Please initial the appropriate boxes.

1. I confirm that I have read and understand the information sheet for the above study and have had the opportunity to ask questions. ☐

2. I understand that my participation is entirely voluntary and that I am free to withdraw at any time, without giving a reason. ☐

3. I understand that the researcher will not identify me by name in any reports using information obtained from this interview, and that my confidentiality as a participant in this study will remain secure. ☐

Please tick box	Yes	No
4. I agree to the interview being audio recorded.	☐	☐
5. I agree to the use of anonymised quotations in publications.	☐	☐
6. I agree to generic information about my organisational affiliation (eg mobile operator) and role (eg senior manager) being used in publications.	☐	☐
7. I agree that my data gathered in this study may be stored (after it has been anonymised) in a specialist data centre and may be used for future research.	☐	☐
8. I agree that my name may be divulged to any additional key informants whom I recommend as possible further interviewees.	☐	☐

_____	_____	_____
Name of Participant	Date	Signature

_____	_____	_____
Name of Researcher	Date	Signature

Interview Guide

PhD Research Report:
Universal Access and Service in South Africa (1994 - 2009)

Name: _____ Title: _____

Organisation: _____

Position / Department: _____

Interviewed by: _____ Date: _____

Interview Questions

As you know, this research is looking at universal access and service policy in South Africa, from about 1994 to about 2009. I am going to ask you to think back over the key events and milestones from the period, about how and why certain policies were adopted, over how they were implemented, and at their degree of success or failure.

1 Introduction

1.1 How have you been involved in universal access and service policy, law or regulation in South Africa since 1994? Can you give details of your role and contributions?

1.2 What stand out for you as the major milestones or key features in relation to universal access and service in South Africa?

2 UAS as international best practice

2.1 What would you consider to be some of the major components of international best practice aimed at ensuring universal access and service? Please describe and explain.

2.2 What do you think caused these various universal access and service components to emerge as international best practice?

3 UAS in South Africa

3.1 What factors do you think led South Africa to adopt universal access and service as a key component of its telecommunications policy?

4 UAS interventions

4.1 What, in your opinion, were the reasons why South Africa adopted the specific universal access and service interventions that were implemented?

[Prompt, if necessary, to cover:

- USOs (universal service obligations aka USAOs);
- USF (universal service fund aka USAF);
- USA (universal service agency aka USAASA);
- USALs (under-serviced area licensing);
- e-Rate.]

4.2 Were there any specific individuals or organisations or interest groups that influenced the adoption of any specific universal access and service models? If so, please explain in what ways and give details.

5 UAS outcomes and impacts

5.1 What, in your opinion, were the outcomes and impacts of the implementation of South Africa's chosen set of universal access and service interventions? Please explain and give reasons for your assessment.

[Prompt, if necessary, to cover:

- USOs (universal service obligations aka USAOs);
- USF (universal service fund aka USAF);
- USA (universal service agency aka USAASA);
- USALs (under-serviced area licensing);
- e-Rate.]

6 UAS in South Africa

6.1 To what extent do you think universal access and service policy implementation in South Africa has been a success or a failure? What do you think accounts for the relative degree of success or failure?

[Prompt, if necessary, to cover:

- Process success / failure;
- Programme success / failure;
- Political success / failure.]

7 Conclusion

7.1 Do you have any documentation not readily publicly available relating to the formulation and implementation of universal access and service policy in South Africa that you are able to share with us?

7.2 Are you willing to recommend any other key informants we should also interview? If so, who would you suggest?

7.3 Are there any other final comments you want to make about the story of universal access and service policy and its implementation in South Africa?

Thank you for your time and your contribution.

Appendix D: List of Key Informants

The following key informants were formally interviewed in relation to universal access and service policy and practice. In a number of cases there were follow-up emails.

D.1 Interviewees

No	Name	Interviewed on	Background
1	Willie Currie	29 August 2013	ICASA Councillor Co-ordinator, NTPP (1995 – 1996); SATRA / ICASA Councillor (1999 – 2002); Association for Progressive Communications (2005 – 2010)
2	Peter Benjamin	13 August 2014	Senior Manager, Cell-Life SANCO (1994 – 1999); Academic, Wits University (1999-2007); Senior Manager, Cell-Life (2007 – 2014); Worked with USA, PhD on UAS & telecentres
3	William Stucke	1 September 2014	ICASA Councillor ISP CEO and extensive involvement in ICT policy processes
4	Willie Currie	18 September 2014	ICASA Councillor Co-ordinator, NTPP (1995 – 1996); SATRA / ICASA Councillor (1999 – 2002); Association for Progressive Communications (2005 – 2010)
5	Tim Kelly	17 October 2014	Lead ICT Policy Specialist, infoDev, World Bank Policy researcher, OECD (1988 – 1993); Head of the Strategy & Policy, ITU (1993 – 2008); co-authors of ITU's 1998 UAS WTDR; worked with CDITP
6	Heloise Emdon	28 October 2014	Manager, International Projects, Carleton University Programme Officer, DBSA; Programme Officer, IDRC (2001 – 2012)
7	Alison Gillwald	13 November 2014	CEO, Research ICT Africa Head of policy researcher, IBA (1994 – 1997); Councillor, SATRA (1997 – 1999), involved in WTO GATS negotiations; Academic, Wits University (1999 – 2008)

8	Aki Stavrou	17 October 2014	Consultant Former UKZN academic; former member of CDITP; researcher, consultant on UAS
9	Heloise Emdon	28 October 2014	Manager, International Projects, Carleton University Programme Officer, DBSA; Programme Officer, IDRC (2001 – 2012)
10	Mandla Msimang	7 November 2014	CEO, Pygma Consulting Researcher, (SATRA, then ICASA); Has researched & written widely on UAS (book chapter, ITU, USAASA)
11	Alison Gillwald	13 November 2014	CEO, Research ICT Africa Head of policy researcher, IBA (1994 – 1997); Councillor, SATRA (1997 – 1999), involved in WTO GATS negotiations; Academic, Wits University (1999 – 2008)
12	Denis Smit	20 November 2014	MD, BMI-TechKnowledge Extensive research & consultancy involvement in ICT sector since early 1990s
13	Senior Executive[678]	26 November 2014	Mobile operator With mobile operator from inception
14	Tina James	27 November 2014	Consultant Senior Programme Officer, IDRC (1997 – 2001); worked with DBSA & NTCA on USALs
15	Pallo Jordan	1 December 2014	MP (ANC) 1st ANC Minister of Communications (1994 – 1996); Oversaw NTPP
16	Felleng Sekha	5 December 2014	Consultant Head of Policy Research, CDITP; 1st Chair of IBA; Chair of NTF
17	Andries Matthysen	9 January 2015	Senior Manager, Telkom Manager, SATRA / ICASA (1998 – 2005)
18	Katharina Pillay	13 January 2015	ICASA Councillor Head of Research, USA (1997 – 2004); Govt & Parliamentary, Cell C (2004 – 2007)

[678] Name and identifying details withheld at request of the interviewee.

19	Andile Ngcaba	28 January 2015	Chair, Didata (Africa, Mid-East) ANC Head of IT, Head of CDITP (1991-1995); 1st DG of DoC (1995-2003)
20	Karel Pienaar	6 February 2015	Group Chief Strategy Officer, MTN Involved with MTN licence bid
21	Shaun Pather	27 March 2015 & 1 April 2015	UWC Academic USAASA Board Member (2008 – 2011)

Interviews were sought but not secured with the following: Jay Naidoo, former Minister of Communications; Pinky Moholi, former Telkom Head of Regulation and member of Eminent Persons Group; Andile Ngcaba, former DG of Communications (follow-up); Pakamile Pongwana, CEO, ICASA; Brian Goulden, former TRASA staffer; Lefty Monyokolo, former POTWA President; Linda Khumalo, former CDITP staffer; Winile Lamani, former USAASA CEO; Lumko, Mtimde, USAASA CEO.

Numerous requests for interviews were directed at various USAASA staffers. All were refused.

A number of key informants were untraceable, including: Vo Tybilika, former POTWA General Secretary; Gabriele Celli, former Telkom Head of Regulation; Mlungisi Hlongwane, 1st head of USA; Fikile Khumalo, 2nd Head of USA.

D.2 Email Interaction

Interaction with the following additional key informants took place by means of email (there was often additional email interaction with the interviewees listed above - which is not repeated here).

No	Name	Contacted	Background
1	Seán Ó Siochrú	August 2014	Writer & Consultant Assisted IDRC with early UAS research in SA
2	Andrew Dymond	November 2014	Associate Director, Intelecon Research Telecommunications economist, market & policy strategist, with extensive UAS research experience

3	Juan Navas-Sabater	November 2014	Lead ICT Specialist, World Bank One of the originators of the access gap model, along with Andrew Dymond & Nina Juntunen
4	Andries Matthysen	January 2015	Senior Manager, Telkom Former SATRA compliance manager
5	Justine Limpitlaw	January 2015	Broadcasting lawyer
6	Godfree Maulana	February 2015	Head of Telecommunications Compliance, ICASA
7	Rezah Atcha	February 2015	Director, Telecommunications & Energy, Treasury
8	Senior Compliance Manager	February 2015	ICASA
9	David Townsend	February 2015	Owner, DNTA ICT consultant & expert, focusing on rural development, UAS, regulatory policy, and national ICT strategies
10	Fikile Hlongwane	February 2015	Head of Broadcasting Compliance, ICASA
11	Dominic Cull	February 2015	Owner, Ellipsis Regulatory Solutions ICT lawyer, advises ISPA & WAPA
12	Marian Shinn	February 2015	Shadow Minister of Communications, Democratic Alliance
13	Kevin Morgan	March 2015	Australian trade unionist Worked with CDITP
14	Bill Melody	April 2015	International ICT regulatory economist & academic Worked with IDRC, Visiting Professor, LINK Centre
15	Adrian Schofield	May 2015	President, Computer Society South Africa Involved in many of the structures and processes in SA's ICT sector reform, from 1994 to the present

16	Mike van den Bergh	May 2015	Senior Manager, PCCW Global Involved in many of the structures and processes in SA's ICT sector, post 1994
17	Noluthando Tungande	May 2015	Student, LINK Centre
18	Ewan Sutherland	November 2015	International ICT expert and author
19	Leona Mentz	December 2015	Former Cell C regulatory staffer
20	Sipho Mngqibisa	February 2017	Senior Manager, USAASA
21	Paul Carter-Brown	February 2017	Senior Manager, Smile Communications
22	Mark Gray	June 2017	Director, EastTel (former USAL)

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