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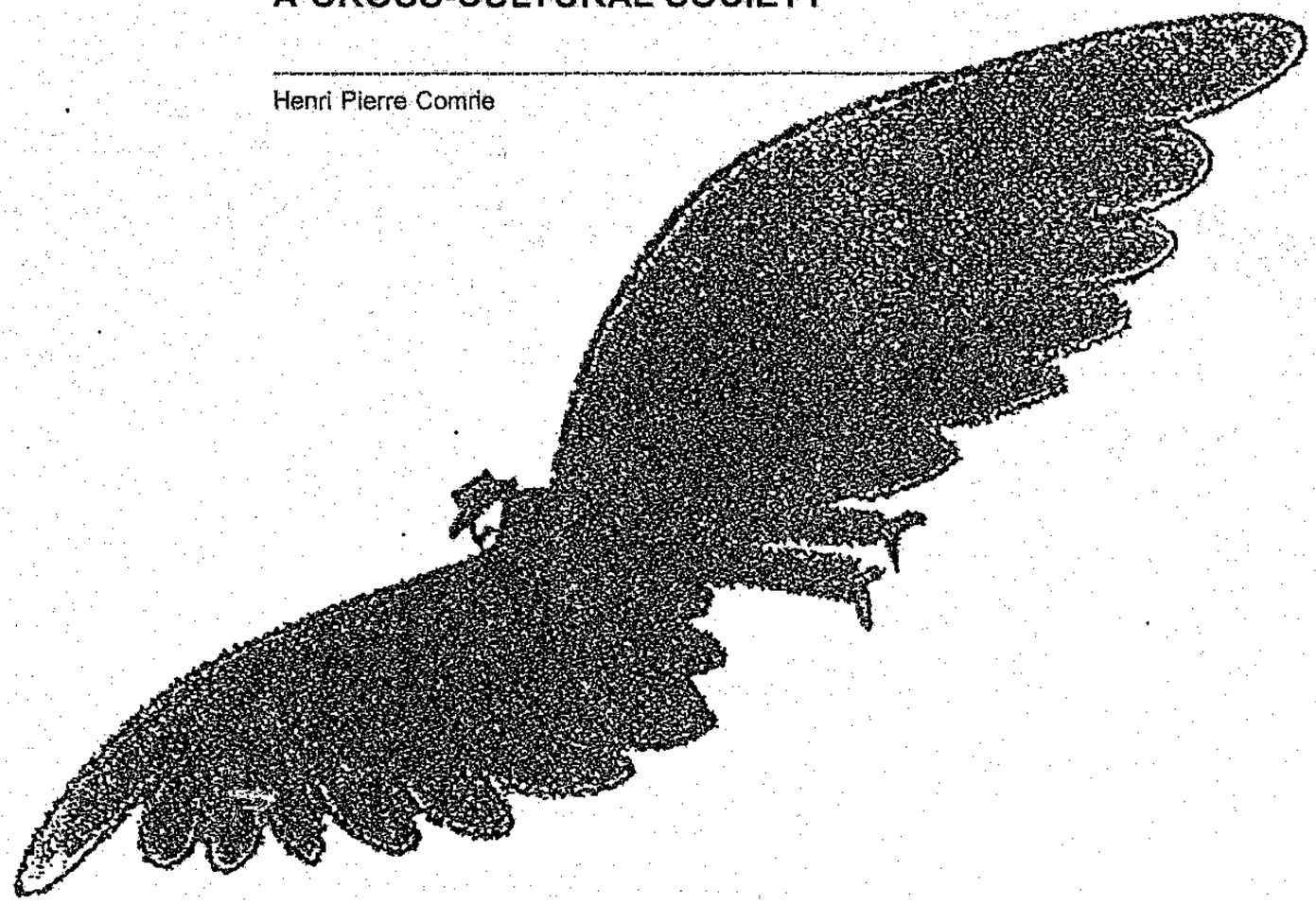
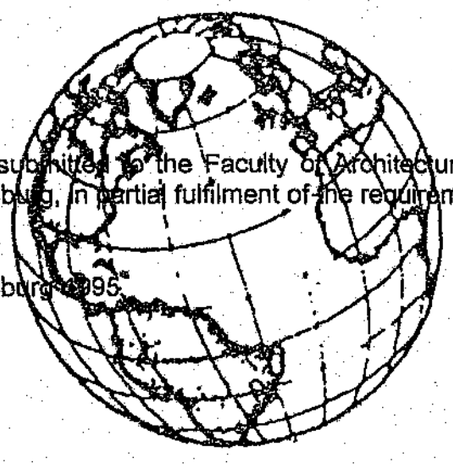
SOCIAL CHOICE: A FRAMEWORK FOR COLLECTIVE DECISIONS AND INDIVIDUAL JUDGEMENTS WITHIN A CROSS-CULTURAL SOCIETY

Henri Pierre Comrie





A thesis submitted to the Faculty of Architecture, University of the Witwatwrsrand, Johannesburg, in partial fulfilment of the requirements for the degree Master of Urban Design

Johannesburg 1995

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declaration

I declare that this desertion is my own, unaided work. It is being submitted for the degree of Master of Urban Design in the University of the Witwatersrand, Johannesburg. It had not been submitted before for any degree or examination in any other University.

Henri Pierre Comrie

Johannesburg 1995

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PREFACE

This discourse represents a searching process. Its outcomes are consciously unpredictable and open-ended. Its topic is influenced by spatial dilemma across the spectrum of South - African cities and the fact that opportunities of finding answers towards integration on a regional level has only now become desirable and feasible through national policy . During a period of heightened political awareness the need for integration and improved access has become a pressing issue which forces us to seek answers on our feet.

Central to the issue is greater access to **choice** and opportunity on both a regional and national level. Globally the topic has been debated extensively an its essence written into many constitutions. This discourse sets out by extracting the critical aspects of social choice theory which has very broad application in sociology and economics. It then tries to relate social choice theory to the practice of urban design and the urban designer's role of assimilating social choice and exercising judgement related to it. An urban design framework should, amongst other things, reflect the urban designer's well considered judgement. It is based on context specific social choice, yet, according to social choice theory- it should be informed by wider precedent, creatively selected and well considered in the absence of other objectivity probability information.

In the case study chapter the urban designer's supposed impartial, well informed judgemental role within a regional context is illustrated. It does not test a hypothesis but represents a search for appropriate solutions within a strongly identifiable regional context where circumstances are significantly different from the urban designer's own. The preposition being that the urban designer is not necessarily familiar with the context of his commissions but is expected to act in an informed manner through collection of objectivity probability information.

Why Nelspruit as subject of the case study?

The author had no particular knowledge of Nelspruit and its surrounds at the outset of the study but was aware of its important regional role as rapidly expanding capital of the newly proclaimed Mpumalanga Province (previously Eastern Transvaal) Because of the remoteness of Nelspruit and the dominant Swazi population, the regional character promised to be at least marginally measurable. Although urbanisation and economic expansion in Nelspruit occurs as rapidly as in other major regional centres, the environment is essentially "low energy" because of its isolated location in an agricultural hinterland and its high illiteracy rate. Urban design is however particularly relevant due to the pace of urbanisation and role of Nelspruit as regional capital and gateway to Mozambique. Without a proper vision/framework development will occur in a haphazard fashion and the opportunity to use critical and immanent public infrastructure such as a diverted and improved N4 and local regional government functions as access-related components of an enabling framework will for ever be lost.

Interim spatial frameworks intended to facilitate improved access to opportunity and choice have recently been developed as part of an ongoing process for 'high energy' urban areas such as the central Witwatersrand , the Cape metropolitan region and the Durban metropolitan region. These are studied as precedent and judiciously used to inform an urban design framework for the low energy context of Nelspruit and surrounds where the development of an appropriate framework responding to the new paradigm is every bit as important.

Conclusions resulting from the search are drawn at the end of the case study chapter.

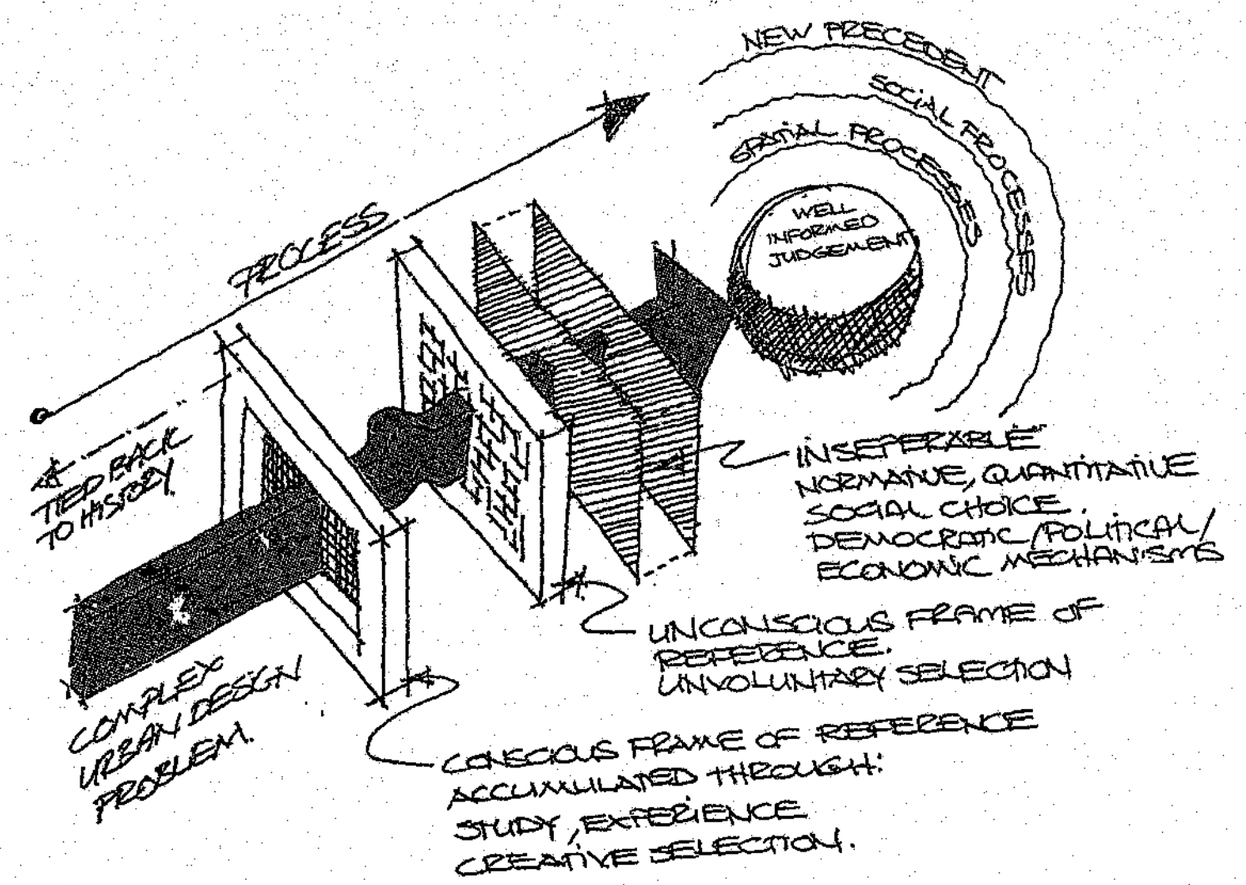


Fig 2: Urban design: a partially subconscious process

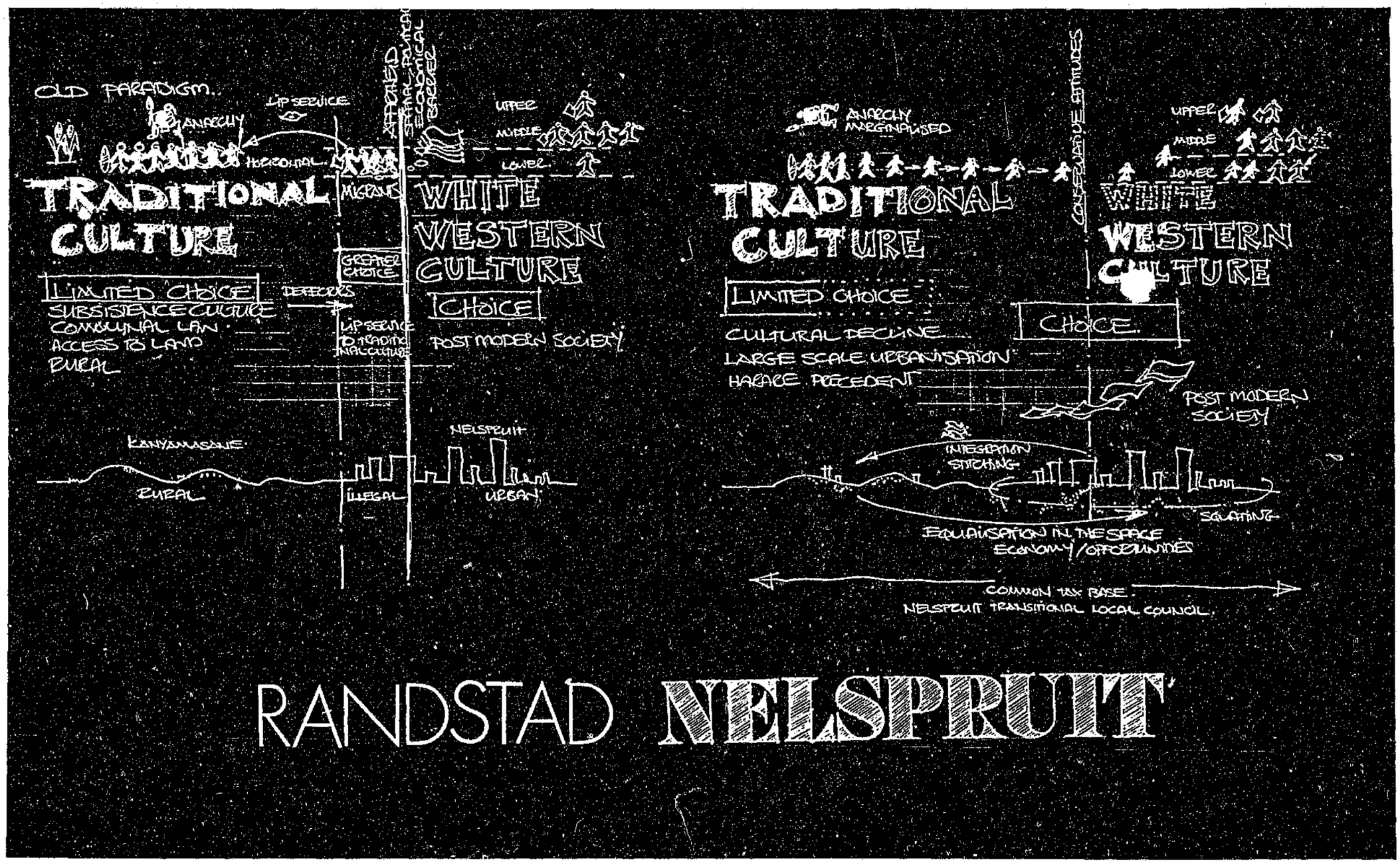


Fig 2a: Spatial implications of South-Africa's political paradigm shift illustrated

CHAPTER 1

CHAPTER 1
CONSIDERING SOCIAL CHOICE THEORY

1.1 INTRODUCTION

In considering the types of choice theory that have been studied and written about extensively, two definite types have been identified. They are **quantitative** theory and **normative** theory. Despite a shift in focus the types are interrelated and reflect sentiments which co-exist in any given society. The urban designer should therefore consider both within the context of any urban design problem when striving to facilitate optimum solutions for the total society.

The most influential writing on **normative theory** is "A Theory of Justice" by John Rawls.This book, published in 1970, has been enormously influential in philosophy, politics, sociology and economics. Rawls' theory differs vastly from previous theory because of its focus on the **process or context** in which decisions are made, as much if not more so than the outcomes of this process.

In a work that has since become classic, Arrow(1963) focuses on the **quantitative** aspects of social choice theory. Arrow is an economist who assumes that the basic behavioural postulate of public choice, as for economics is that man is an egoistic,rational utility maximizer. He focuses on the problem of aggregating individual preferences to maximise a social welfare function.

It is not the purpose of this study to summarize the numerous volumes written on normative and quantitative social choice theory but to extract **critical** aspects which should inform the urban designer's **judgement**. Whereas **choice** relates to fluctuating needs and wants of a given society, judgement considers these choices from an impartial position of responsibility delegated to an agent or agency by society. In this study the urban designer assumes this impartial position.

1.2. WHAT COMPRISES A CRITICAL THEORY

A critical theory is consciously self critical. There are no absolutes and universalities. It does not underestimate the scope of any problem and reconstructs the formal brief on own initiative by relating the given to the wider physical, historical, political and social contexts. When related to architecture and urban design it recognises the complexities involved and through learning adapts itself to the specifics of the process. Urban design ("urban designing" according to David Crane) varies significantly from architecture because of it being process rather than product orientated and having a much more diverse client group, making a critical theoretical foundation on which to engage absolutely essential.

According to Collins(1971), context should affect judgement in at least four different ways. First, there is the physical and economic environment, secondly there is the political context, ranging from statutory zoning restrictions to all the various political pressures exerted on the urban designer to force him to design in one way or the other. Thirdly there is what may be called the procedural context of the design itself i.e the sequential influences of ideas by which the design/ framework evolves from the initial analytical sketches ,and the reasons which cause him to favour one form of evolution rather than another. Fourthly there is the historical context of the project, i.e., the relationship between the proposed design and the existing spatial framework created over time.

Urban design is a lesson in communication. Architects and planners are deaf and even blind to the differences between our own language and that of our clients (which implies all those who interact with the structures and spaces we help create). As we become more commercialized and more institutionalized, so we become less self critical and less communicative. The dependency of the layman on the specialist and the division of labour it implies is entirely superficial and uncritical.

The certified professional makes a fool of himself, and often does a great deal of harm to other people ,by assuming that he knows more than the "uneducated" by virtue of his schooling. All that second- and third-hand information and intellectual excersizing does for him , however, is to reduce his ability to listen and learn about situations significantly different from his own social and economic experience- with consequences which can be tragic when he has the power to impose his solutions on those who are not strong enough to resist.

Once confronted through professional contact with local realities and the people who live them, the creative

Fig 3:





When placed in the hypothetical original position individuals will "have full general knowledge of the world and of circumstances within a specific context, but do not know which individual they will be." (Arrow 1984).

specialist or open- minded professional is bound to change his or her attitude. Urban design is more about adopting an open-minded stance, an attitude receptive to learning through the course of experience than adhering to concrete theory. The presumed authority with which we act as officials and professionals seems more and more absurd to those of us who become aware of the facts of a given situation.

1.3. CRITICAL ASPECTS OF NORMATIVE SOCIAL CHOICE THEORY

1.3.1 INTRODUCTION: THE ORIGINAL POSITION AND ITS RELATIONSHIP TO URBAN DESIGN

The urban designer should in his impartial position as facilitator for a multiple and diverse client group tend towards the hypothetical *original position* when making representative design decisions. The term *original position* is commonly found in normative/moral social choice literature. When placed in the hypothetical *original position*, (design)principles will be agreed to by rational individuals where they "have full general knowledge of the world and of circumstances within a specific context, but do not know which individual they will be" (Arrow 1984).

Life is a game of chance in which Nature deals out attributes and social positions in a random or accidental way. This natural distribution of attributes and chance determination of social position is neither just nor unjust. But it is unjust for society simply to accept these random outcomes. Choice in the direction of one set of principles over another should be affected by knowledge of the state of economic and political development of a given society and other fairly general information. As Harsanyi(1975)has argued, in the absence of objectivity probability information , we implicitly and almost instinctively apply subjective probability estimates when making (design) decisjons. It is here that the urban designer, as collector and assessor of objectivity and probability information should play an important role by influencing decisions from a position as close as possible to the hypothetical original position.

1.3.2 NORMATIVE THEORY: COLLECTING OBJECTIVITY AND PROBABILITY INFORMATION.

When entering into the urban design process within an unknown context the urban designer should absorb and distil subjective information from the original position and accept that probable spatial outcomes will often be to the detriment of sectional interests while benefitting the whole.

The urban designer has to evaluate information from both a normative and quantitative social choice perspective on the basis of the distilled objectivity probability information to his disposal.

1.3.3 RAWLS' THEORY OF DELIBERATIVE RATIONALITY

The urban designer is mostly concerned with producing a spatial framework which maximises the expected net balance of satisfaction for his diverse client group. But this principle fails to provide us with an explicit procedure for making choices. It



Plate 3.11 Kandinsky's paintings of the pre-1914 war period, such as the Jugement Dernier *of 1912, exhibit such an explosive sente of space that they appear to spill off the canvas with an uncontrollable dynamism*

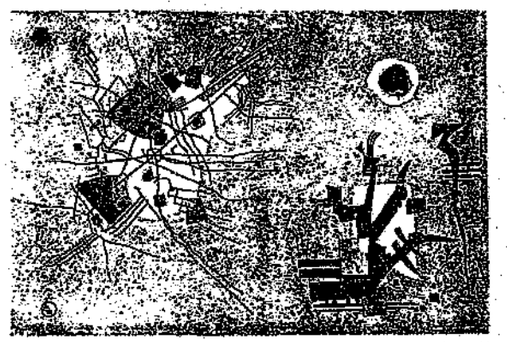


Plate 3.12 After the trauma of World War I, Kandinsky shifts to a much more controlled and rationalized imagery of spatial organization, as in Les Deux *of 1924 which bears more than a casual resemblance to a stylized urban map.*

Fig 4: Rationality as a product of space and time(Harvey: 1990).

is clearly up to the urban designer to judge the comparative importance of all his ends.

Rawls(1972) introduced the notion of deliberative rationality. He characterises an agent's(urban designer's for our purpose) good on the whole as what he would now asses as desires (wants and needs) and seek if all the various courses of conduct open to him were, at present point of time, accurately foreseen by him and adequately realized in imagination.

An individual's good is the hypothetical composition of impulsive forces that result from deliberative reflection meeting certain conditions. Adjusting Sidgwick's notion of the choice of plans, Rawls says that the rational plan for a person is the one that he would choose with deliberative rationality. It is the plan that ould be decided upon as the outcome of careful reflection in which the agent reviewed, in the light of all the relevant facts, what it would be like to carry out these plans and thereby ascertain the course of action that best realise the more fundamental desires.

Thus the best plan for an individual is the one which he would adopt if he had full information. As things are, of course, what will happen if we follow this or that plan is usually incomplete. If the agent(urban designer) does the best a rational person can do with the information available to him, then the plan(framework/design) is a subjectively rational plan. His choice may be an unhappy one, but if so it is because his beliefs are understandably mistaken or his **knowledge** insufficient, and not because he drew hasty and fallacious inferences or was confused as to what his multiple client group really wanted. In this case a person is not to be faulted for any discrepancy between his apparent and his real good. The notion of deliberative rationality is obviously highly complex, combining many elements. Deliberate rationality also assumes a certain competence on the part of the person deciding- he knows the general features of people's wants and ends both present and future related to his field.

1.3.4 NORMATIVE THEORY: RELATIONSHIP TO LIBERTY AND ECONOMIC GAIN.

Rawls sees society as better able to afford the extension of equal liberties to all citizens as it develops, i.e. he sees liberty as essentially a luxury good in each individual's preference function. With increasing levels of income the priority of liberty(freedom to choose) over all other psychological and material needs rises, until at some level of development it takes complete precedence over all other needs.

The supposition is that people will not exchange a lesser liberty for an improvement in their economic well-being, at least not once a certain level of wealth has been attained.

Arrow(1984) argues that if each individual assigns **priority to liberty** in the lexicographical sense then the most classical sum of utilities criterion will do the same for social choice; the rule will be for society to maximise the sum of individuals' liberties and then, among those states/contexts which accomplish this, choose that which maximises the sum of satisfactions from other goods.

	The old capitalism (Industrial paradigm)	*The new capitalism (Post-industrial paradigm)*
Frontier of progress	hard growth	smart growth
Organization	mechanistic structure	market networks
Decision-making	authoritarian command	participative leadership
Institutional values	financial goals	multiple goals
Management focus	operational management	strategic management
Economic macro-system	profit-centered big business	democratic free enterprise
World system	capitalism versus socialism	hybrids of capitalism and socialism

Source: Halal, 1986

Fig 5: Some sense of balancing exist between socialist ends and capitalist means within the post-industrialist paradigm.

1.4. CRITICAL ASPECTS OF QUANTITATIVE SOCIAL CHOICE THEORY

1.4.1. INTRODUCTION

Arrow(1974) insists that some sense of rational balancing of ends and means must be understood to play a major role in our understanding of ourselves and our social role. Wants and choices cannot be there for their passionate own sake but must be weighed against socio-economic feasibility within a given society. If there is not a common purpose these wants give way to unrealistic demands , low productivity, debt and eventually a worse social dilemma than there had been before. This seems typical of the phase through which ex-colonial Africa is going - labour unrest, overcrowding, the perception of government as a bottomless pit of revenue, corruption, anger, foreign debt, false hope.....against a pre-colonial Africa with a self-sufficient subsistence culture.

Arrow ascribes this to the inability of a traditional socialist society to cope with the relative freedom, choice and diversity afforded by *the new capitalism (see fig.5)*. The individual material gains associated with capitalism is visible but they are aspired to from an irrational communal base. In South-Africa this is linked to the false perception that those supporting the government of the day automatically qualify for housing and other material goods - a perception created by the corrupt advantaging of whites by the Apartheid system. The false perception in terms of accessibility to material goods apply to both black and white. While blacks have unrealistic expectations, whites overestimate the extent of their privileges under a new dispensation. This perception has been nurtured especially within the racially based public sector which served as an easily accessible refuge with associated benefits to the potentially white poor. The poor white ("armblanke") is a rapidly re-emerging subspecies after it had experienced an extended period of absence during forty years of Nationalist Party rule.

The true freedoms afforded by and rational principles underlying democratic free-market capitalism is likely to be initially obscured by the entry of blacks into the public sector through affirmative action. This will mean relatively easy access to material benefits for those lucky few (many in numbers but few relative to the total population) , as a matter of symbolic importance but unrelated to productivity and entrepreneurship. Rogerson(1990) describes the negative consequences of the filter that this black bourgeois has created between government and the urban poor in Zimbabwe (see precedent study on Zimbabwe, Chapter 2).

1.4.2. THE ROLE OF EXPERT JUDGEMENT IN ASSESSING SOCIAL CHOICE.

Passionate, unrealistic aspirations in terms of individual gain must be replaced by rational understanding of the economic limits and social and spatial possibilities of free choice. Socialism is communally orientated and static while capitalism relies on individuals forming associations and collective enterprises in order to maximise material gain- for the individual and common good. The



Fig 6: The urban designer as agent for a diverse client group has the responsible task of assimilating choices into a framework yielding optimum spatial solutions.

tension between society and the individual is inevitable.

Arrow, essentially an economist, sees his role as a guardian of rationality, the ascriber of rationality to others, and the prescriber of rationality to the social world.

Economists would look at a question of choice, social or individual as follows:

"There is an opposition or tension or equilibrium between two forces: values and opportunities. On the one hand, the individual has some meaningful sets of goals of all sorts of orders, from consumption or material goals to higher goals, although perhaps these are not necessarily more important. But the **possibilities of realizing most goals is inherently limited. There is a restricted set of opportunities, amongst which the individual, acting by himself or through a collective of some kind must choose. He must husband his scarce resources. He must choose among the opportunities available those which best achieve his values. The role of the economist here is sometimes unpleasant. He frequently has to educate , he has to point out the limits of opportunities. He has to say, "This or that, not both, You can't do both !"**

Arrow uses the many proposals for drastic increases in minimum wages not uncommon to our situation as an example: Surely we want to redistribute income to the lower end of the wage scale. The most obvious thing is to raise the wages. An economist realises that the situation is not that simple, that the system can react to that policy; it does not passively accept it. The end result may be the increase in the volume of unemployment, an outcome worse than low wages. Of course, the role of the economist in pointing out limitations is not unique to him. **It is the general role of the expert not to naively allow the obvious.**

1.4.3 THE ROLE OF THE URBAN DESIGNER IN RELEGATING THE OBVIOUS IN FAVOUR OF THE COMMON GOOD

Based on quantitative social choice theory, the urban designer has to assume the duty of that expert. He cannot make judgements related to the provision of infrastructure, the use or non- use of agricultural land or the provision of housing without some balancing of ends and means. He has to act as an arbitrator of what is desirable and what is feasible. Through his design, a distilled response to social choice, he must demonstrate what is feasible and not create false hopes. Various devices can be used to facilitate this, most commonly an open-ended or flexible approach which makes provision for contingencies as against a singular conservative approach.

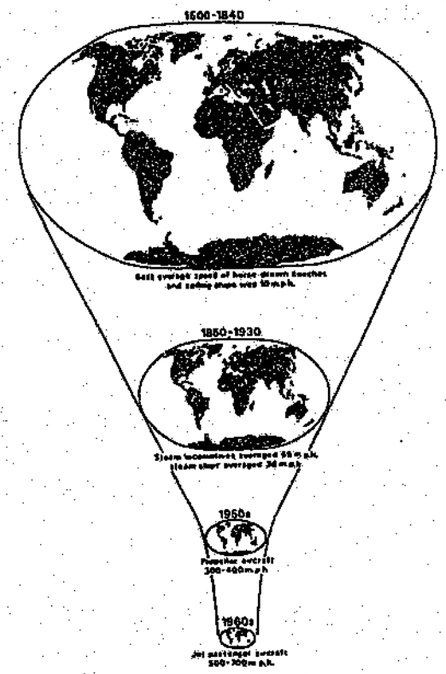


Fig 7: The shrinking map of the world through innovations in transport which anihilate space through time.
(Harvey: 1990)

1.5 A THEORY OF PROFESSIONAL JUDGEMENT BASED ON PRECEDENT

1.5.1 INTRODUCTION

Judgements are not made only on the basis of objectivity probability information collected from society within the given context and based on collective choice, but should be informed by precedent; thoughtfully considered. Precedent minimizes the risks by illustrating the likelihood of success of a design concept but needs *translation to the given context.* It can also act as a device for informing a naive society of real possibilities and consequences and therefore influence their choices in a pro-active manner.

We can gain some insight about ways of dealing with our multiple history by considering the process of reaching decisions in the common law, which tries to maintain connections with the past while introducing change as they seem appropriate. Peter Collins (1971) discusses the role of precedent in law and architecture(urban design), arguing that professional competence in architecture(urban design) is joined with creative innovation in ways akin to what occurs in the law. Collins tries to show that architectural judgement, like legal judgement . have a rational basis which can be intelligibly explained. "Rational" here does not mean reliance on universal principles but on precedent and on the details set by the context of the design problem.

1.5.2 THE CREATIVE SELECTION OF PRECEDENTS.

Urban Design problems present genuine opportunity for choice- not a choice between two decisions, one which may be said to be almost certainly right and the other almost certainly wrong, but a choice balanced so that a new right and a new wrong will emerge from the decision.

In architecture the emphasis given to "originality" has tended to obscure the liberty which the choice of precedent bestows. But even in the two centuries before 1750, when rules of antiquity were perhaps unduly venerated, the selection of precedents and their adaptation created far more originality than we now perceive, in that, for example, the proportions of columns and entablatures varied considerably in accordance with the different requirements and locality of each specific building.

Despite the fact that every good designer, like every good judge, must not only select from precedents, but must select creatively while considering the specifics of the problem, the inhibition created is such that few will admit to the practice, and fewer still would assent categorically to the thesis that such selection is the essence of their creativity. Even the most superficial study of the judicial process demonstrates that the only genuine fruitful originality derives precisely from the accurate, vigorous and imaginative manner in which precedents are analyzed and compared.

CHAPTER 2

CHAPTER 2

PROFESSIONAL JUDGEMENT BASED ON CONTEXT AND ADOPTED PRECEDENT.

2.1 INTRODUCTION

The basic question *-the community question-* is how the large-scale structure of social systems reciprocally affects the small-scale structure and contents of interpersonal relations within them. Traditionally the public(as well as scholars) have called such ties communities when they have clustered in neighbourhoods. (In the South-African context there is both an enforced spatial separation and an historic cultural separation). But much the same issues pertain to the study of kinship groups, household groups and work groups. It is relevant to consider the re-organisation of community, both socially and spatially within a changed political context. This is not new when considering the effects of industrialization, bureaucratization, capitalism, imperialism, etc. on interpersonal relations and spatial distribution of earlier societies.

Scholars of the (colonized) Third World **for example** fear that the migrants flooding into industrialist cities would form communally-disconnected, politically-dangerous hordes (see reference i.t.o. mass society fears: Kornhauser(1968), Mayer(India, 1966), Cohen(Nigeria 1969), Mayer(South Africa, 1974), Mitchell(Rhodesia 1956) and Peattie(Venezuela 1968). When looking objectively at precedent, these fears seem exaggerated and can only affect judgement in a negative way. The urban designer has the duty to investigate factual precedent critically before making intuitive judgements. He has to move to position as close as possible to the *original position.*

The Zimbabwe experience will be used in this chapter to illustrate the possible outcomes of post colonial urbanization in Southern-Africa. It was chosen because of the many obvious parallels pre-empting ideological change in South- Africa making it a critical precedent.

The area including and surrounding Nelspruit is part of the traditional home of the Swazi. This chapter also deals broadly with traditional **Swazi culture and Swazi land tenure systems** which face collapse or at least substantial compromise under the new paradigm.

Undeniable is the **postmodern condition** of the industrialized South-African city which forms the base for spatial integration but which is likely to retain and expand on many of its characteristics under continued **capitalism**. Britain witnessed radical ideological change during the seventies leading to a larger emerging middle class. This exerted spatial pressures on the modern city applicable to this study. **London of the seventies is used as precedent.**

Together with the London case study, urbanization and spatial growth is investigated in **The Netherlands' unique polycentric metropolis called Randstad**

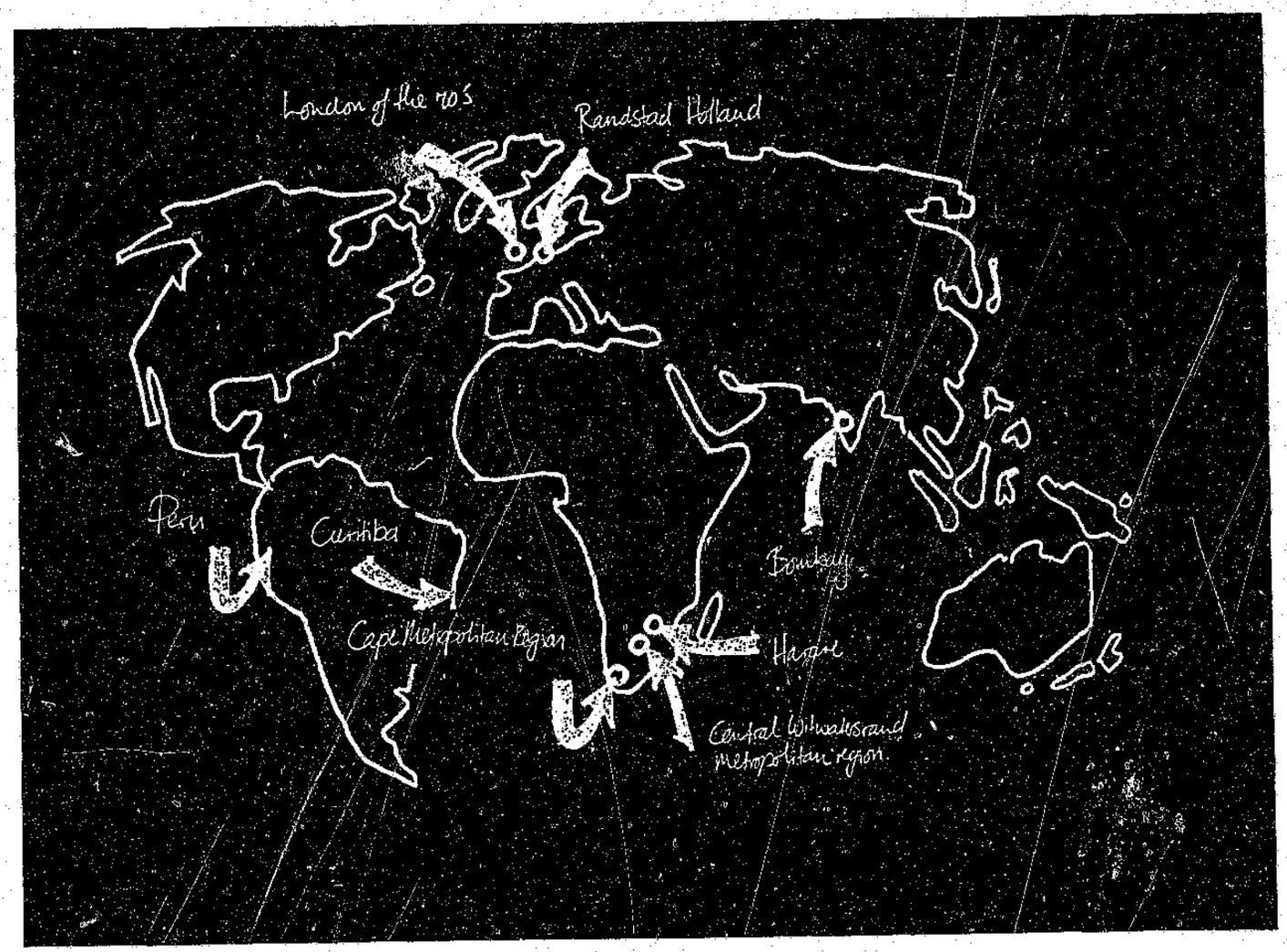


Fig 2.1 Geographical distribution of precedent used in the Randstad Nelspruit case study

Holland. This "ring city" has in common with the greater Nelspruit(including White River, and Nsikasi) a horseshoe configuration surrounding an agricultural heart. Positive and negative aspects have emerged from the polycentric model which are extracted for critical incorporation in the Nelspruit case study.

Charles Corea's work in **Bombay illustrates ways of improving daily access to the third world city for the urban poor** as an inseparable sub problem of the housing problem . Like Randstad Holland and Randstad Nelspruit, Bombay has a horseshoe configuration but unlike Randstad Holland it shares many spatial and socio-economical problems with South-Africa.

In response to a need for integration and improved access to choice and opportunity, interim strategic frameworks have been developed for some of South-Africa's high energy urban areas where political pressure is greatest. **Johannesburg and Cape Town's frameworks; the ISF and MDF respectively are studied as precedent.** Because of topographical, political, spatial and other peculiarities they vary in their relevance to Randstad Nelspruit.

The precedents described above will be discussed in turn and conclusions drawn with the aim of informing judgement at he case study stage of the discourse.

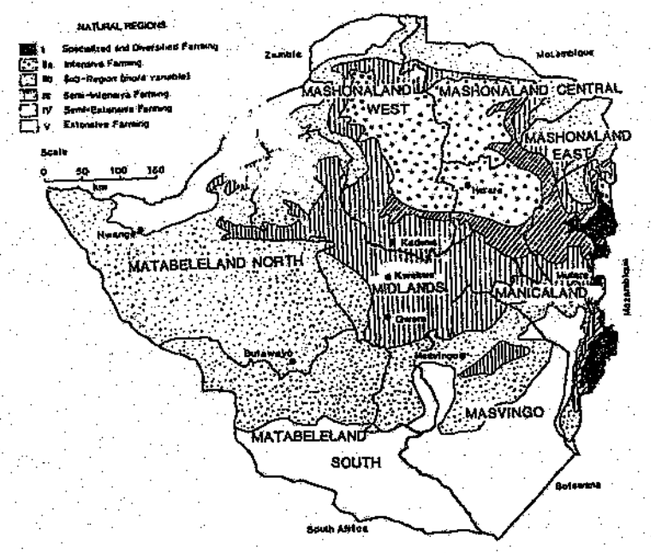


Fig 2.2 Zimbabwe: polarisation in the space economy (Simon: 1991, p9).

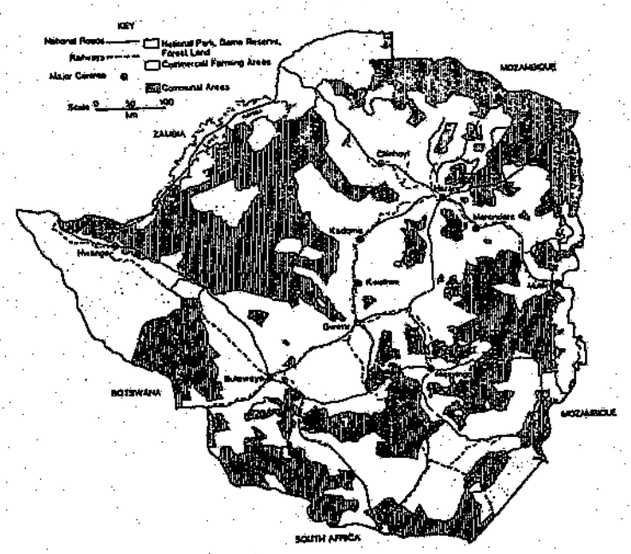


Fig 2.3 Harare, like Nelspruit is located in an agricultural hinterland (Simon: 1991, p10).

2.2 THE ZIMBABWEAN EXPERIENCE: A POLITICAL AND SPATIAL PARADIGM SHIFT IN CONTEMPORARY ZIMBABWE WITH SPECIFIC REFERENCE TO HARARE AND ITS SATELLITE TOWN CHITUNGWIZA.

2.2.1.INTRODUCTION

Because of both its geographical proximity and historical parallels in the removal of structures of institutionalized racial domination, the Zimbabwean experience of coping with a phase of accelerated urban expansion is one of compelling interest to South-African policy makers. (Rogerson 1990).

Like Nelspruit, Harare is situated in an agricultural heartland with a relatively large, illiterate rural population and in proximity to tribal trust lands or communal areas. Like Nelspruit's Kanyamazane , Harare has a large satellite town called Chitungwiza within 20 kilometres of the city centre which acts as a landing base for rural- urban migrants.

The South-African political and spatial paradigm shift has been pre-empted by that of Zimbabwe after it's first democratic elections in 1980. It must however be stressed that because the Zimbabwean economy has always been reliant on that of South-Africa, the implementation of independent policy related to local choices has always been difficult. This allowed for sustained capitalist influence on a larger s- -. than the government would admit as it sought to establish its credentials both locally and internationally amongst socialist allies.

Drakakis-Smith(1992) identifies a conservative filter between policy-makers and the masses as the reason for moderate rather than radical development strategies. The increased incorporation of blacks into the state bureaucracy has also served to blunt the development of radical policy by encouraging the emergence of a black bourgeois(Schatzberg 19- 1).

After fifteen years of independence the achievements of the socialist government in pursuing more equitable policies of development specifically on behalf of the urban poor seem to be limited. This is true for the provision of housing , food and other basic needs. This raises the question as to why the achievements after independence have fallen short of expectations: failing to socialize the urban masses and bring about more egalitarian **access to limited social resources.** To be sure , there have been considerable constraints imposed by a desire not to alienate the international capitalist interests that continue to dominate much of Zimbabwe's economy(Drakakis-Smith 1992). More convincing explanations must come from an analysis of government motives rather than externally imposed constraints. The net result is a virtually unopposed and expanding monopoly capital in Zimbabwe's towns and cities.

In this context, it is crucially important for the present government to begin to strengthen its program of socialization but within a framework that recognizes the fundamental importance of the **relationship between capitalism and space.** A traditional ideological

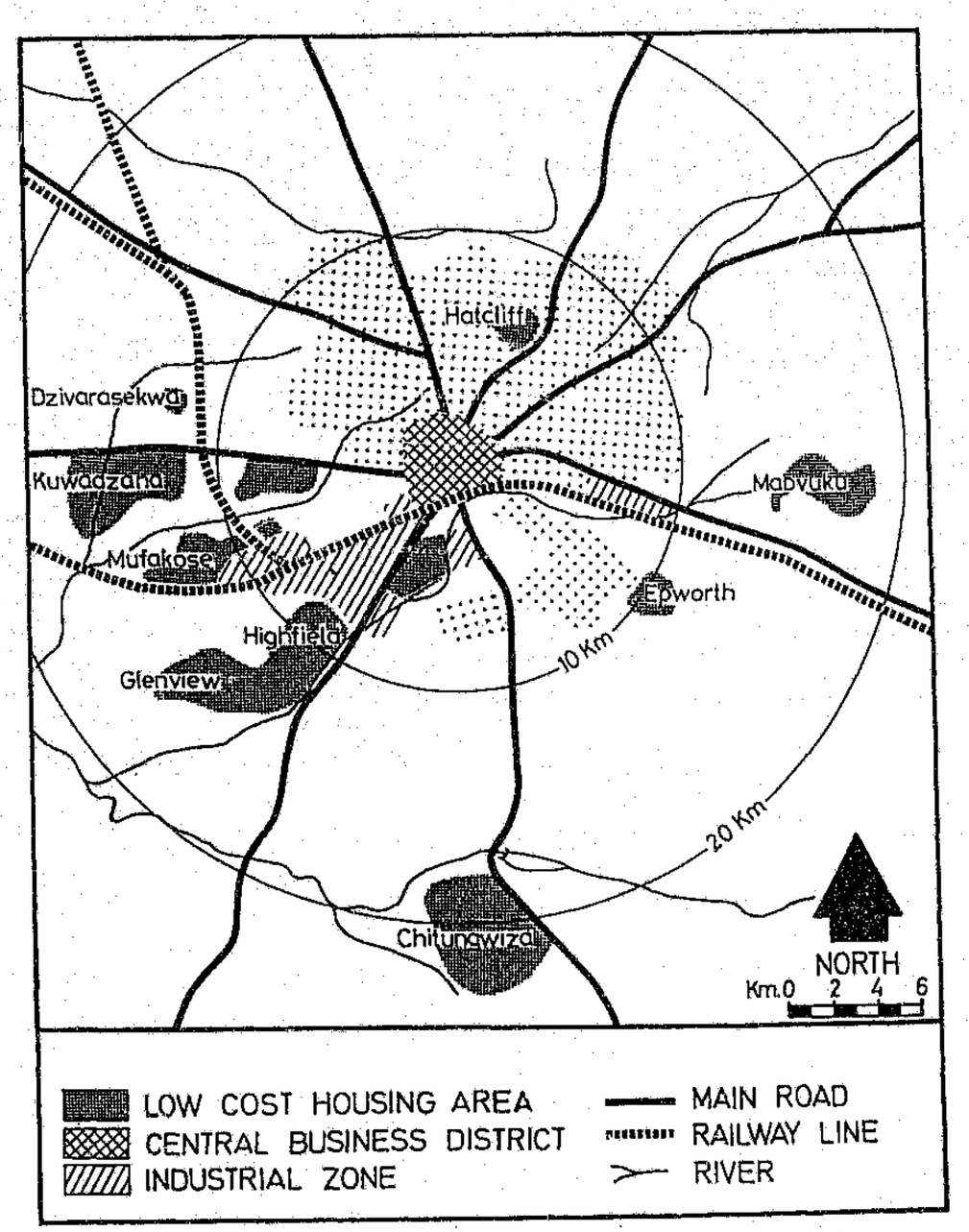


Fig 2.4 Schematic map of Harare showing position of Chitungwiza, its satelite town and landing base for rural migrants (Underwood, 1986:28)

inclination towards rural development has left the expansion of urban-industrial capital almost unhindered.

2.2.2. RURAL-URBAN MIGRATION: A FACTOR OF SOCIAL CHOICE

After independence in 1980 and the accession to power of a government committed to "national revolution" and "socialist transformation", several factors contributed to the accelerated growth of urbanization (conservatively estimated at 5% a year during the period 1980-1990). Notable causes for this escalating tide of rural-urban migration were the removal of all discriminatory influx control measures and the re-unification of families of "single" migrants in urban areas; the existence of marked differentials between standards of living in urban and rural areas; the expectation of new job opportunities in former white domains of government and industrial employment; and the increased quality of life in urban areas consequent upon the new government's extension and promotion of home ownership. For both previous rural migrants and peasants the possibilities and convenience facilitated by the new choice to sever ties with distant rural 'homes' seemed obvious. Many understood that urban space was previously structured by explicit state policy in order to facilitate exploitation of African labour and that the removal of these structures opened a whole new range of opportunities and choices to them , most of which were in the urban areas.

2.2.3 SPATIAL IMPLICATIONS AND PLANNING RESPONSES RELATED TO ACCELERATED URBANIZATION IN HARARE.

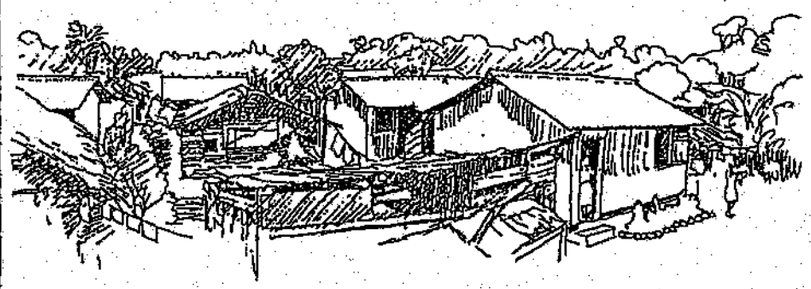
Despite the rapidly urbanizing character of the Zimbabwean spatial system, the immediate thrust of post independence development planning was to neglect urban areas in favour of a programme of upgrading the development of rural communal areas- the formal Tribal Trust Lands(similar to the Chiefdoms of the Swazi National Land surrounding Nelspruit described in subparagraph 2.3.2. of this Chapter). The Transitional Development Plan stressed the promotion of rural development and land settlement in order to create more spatially balanced growth, and more broadly, a new socio - economic order.

After a succession of inappropriate policies which merely encouraged the overcrowding of existing urban facilities during the post-independence years, more sober policies in keeping with actual demands were developed.

The following were the "unforseen" symptoms of rapid urbanization through the failure of rural development:

- In Chitungwiza, Harare's previous black township and now satellite town, the population rapidly started growing at a phenomenal annual rate of 20% as it became the focal point for in-migration to the greater Harare area (Rogerson,1990).

- Initially Harare had largely avoided the archetypal Third World situation of large peripheral squatter or spontaneous settlements. Nevertheless, it would be a mistake to take the initial low incidence of squatting as indicative of the absence of a housing problem. In the absence of new formal housing stock, many households were compelled to search for other shelter arrangements. Shelter was commonly



New houses interspersed among the original shanty shacks, upgrading project

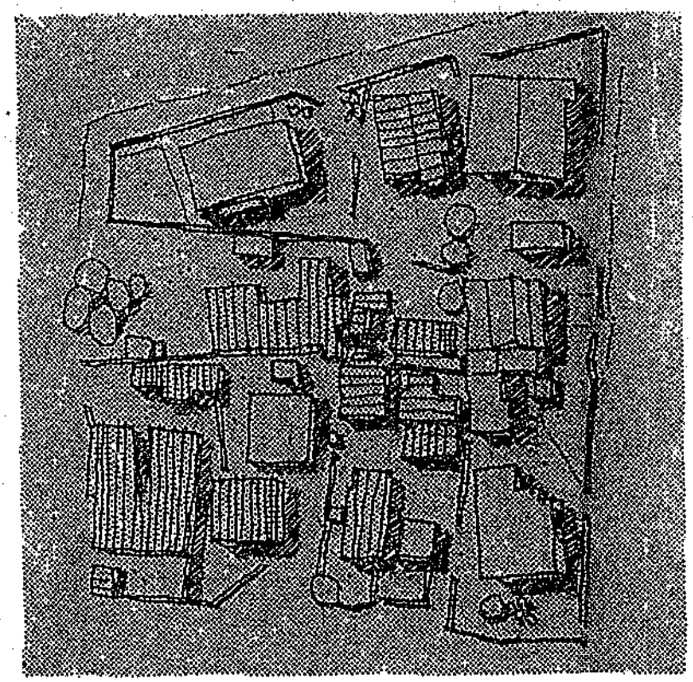


Fig 2.5 Promote squatter settlement upgrading projects.(Andrew and Japha: 1991)

sought in the form of lodging. The widespread phenomenon of "controlled lodging" in the black townships, re-christened *"high density areas"* meant that formal housing continued to absorb much of the city's population growth. The inevitable consequence of such controlled lodging: - extended family occupation and "hotbedding" - was a situation of worsening overcrowding not only in the *high density areas* in general but in the domestic quarters of low density(formerly *white* suburbs).

Later, as an eventual result of the scrapping of influx control measures and the non-availability of alternative shelter, several squatter areas expanded around Harare. The major growth, however, was still deflected away from Harare itself to the environs of Chitungwiza.

It was against this background of a failed rural development policy and an initial period after independence during which squatter settlements were deemed to be "unworthy of the Zimbabwean people" that a new urban development plan was adopted. The new development plan proclaimed the following five objectives for urban development between 1986 and 1990:

- **Firstly,** the establishment of an Urban Development Corporation, which will assist and provide technical assistance to local authorities in urban development.

- **Secondly,** an improvement in the ability of local authorities to implement urban development programmes through the acquisition of new capital equipment.

- **Thirdly,** the creation of attractive conditions for industries to operate at growth points.

- **Fourthly,** the encouragement of more industrial and commercial development in order to broaden the revenue base of local authorities and enhance employment opportunities generally.

- **Fifthly,** acknowledgement of self-help housing and site-and- service approaches as crucial elements in any resolution of Harare's mounting low-income housing dilemma. Later the thrust of the housing policy became *aided self-help*: serviced plots are set on 300 square metre stands on which households are required to complete four rooms plus ablution facilities within 18 months of plot allocation.

The state therefore committed itself to a National Urbanization Policy which hitherto had never existed in Zimbabwe.

In common, however, with the situation observed elsewhere in the Third World, the escalating costs of building and servicing have increasingly placed even the aided self-help option beyond the financial means of many low-income households.

2.2.4 THE EPWORTH EXPERIMENT OF SQUATTER UPGRADING.

The inability of squatters to resist officialdom means that continuing population growth in Harare resulted in the continued over-utilisation of existing shelter stock rather than any mass construction of new shelter. As Rakodi(1989) points out, **Harare's success in controlling unauthorized housing developments conceals a host of unresolved management problems concerning land and housing provision for the urban poor.** At present these



Fig 2.6a Promote informal sector activities

problems are manifested in the overcrowding of existing housing stock and widespread illegal lodging.

According to Rogerson; one hopeful sign on an otherwise somewhat depressing scene concerning the management of shelter is the Zimbabwe government's reluctant embrace of a programme of squatter upgrading. Epworth, located approximately 10 kilometres south-east of Harare just outside the urban boundary, is the first, and so far only, squatter settlement to have been spared the bulldozers and has instead become the focus of a government upgrading programme. An exception was made in 1983 to anti-squatter policy at Epworth because a large number of residents had a long history of settlement in the area.

Accompanying the commitment to upgrade the settlement, however, there has been introduced a set of strict controls on further growth, most importantly the imposition of a tightly monitored freeze on new building. The freeze had to be introduced because others who heard of the project began to move to Epworth to secure a place in the state funded scheme. Future plans for the gradual upgrading of the Epwoth settlement include a comprehensive package of measures for the provision of water, sewerage road networks , and community facilities. The Epworth experiment is a very important initial exercise in squatter upgrading in the entire sub-continent. In the circumstances of urban Zimbabwe, two favourable features are recognized in squatter settlement upgrading: allowing people to build their own houses at minimal cost, and facilitating the erection of a wide range of shelter types to match and satisfy needs of a broad spectrum of households. Many are not convinced that such a strategy will work, and so this places a heavy burden of responsibility on the project managers to demonstrate that urban upgrading does not produce slums, but can generate an affordable, pleasant environment which can complement the conventional housing delivery process.

Underwood(1986) states that given the limited national resources and increasing housing demands, it would appear that informal settlements will increase in size and number. Instead of demolishing these, the authorities should recognise their positive aspects and channel this informal development to sites which can later be upgraded. The government cannot possibly cope with all future demands for urban housing and should therefore do all it can to harness the efforts of local communities and individuals to help themselves.

Against the background of the Harare case study and Underwood's quote Nelspruit's most recent structure plan(1991) seems to be without vision and unaware of the dangers inherent in its conservative nature. It encourages *'rural residential* development'(meaning low-cost housing) within existing urban structures(municipal boundaries) but discourages it in the vast rural buffer zones outside these structures. If read in one way it could mean that controlled squatting within municipal boundaries are permitted but on enquiry it was assessed that it is a clause intended to prevent any form of informal housing and squatting in favour of controlled low cost housing within the municipal boundaries. This clause severely limits reasonable access to Nelspruit and White River for many who cannot

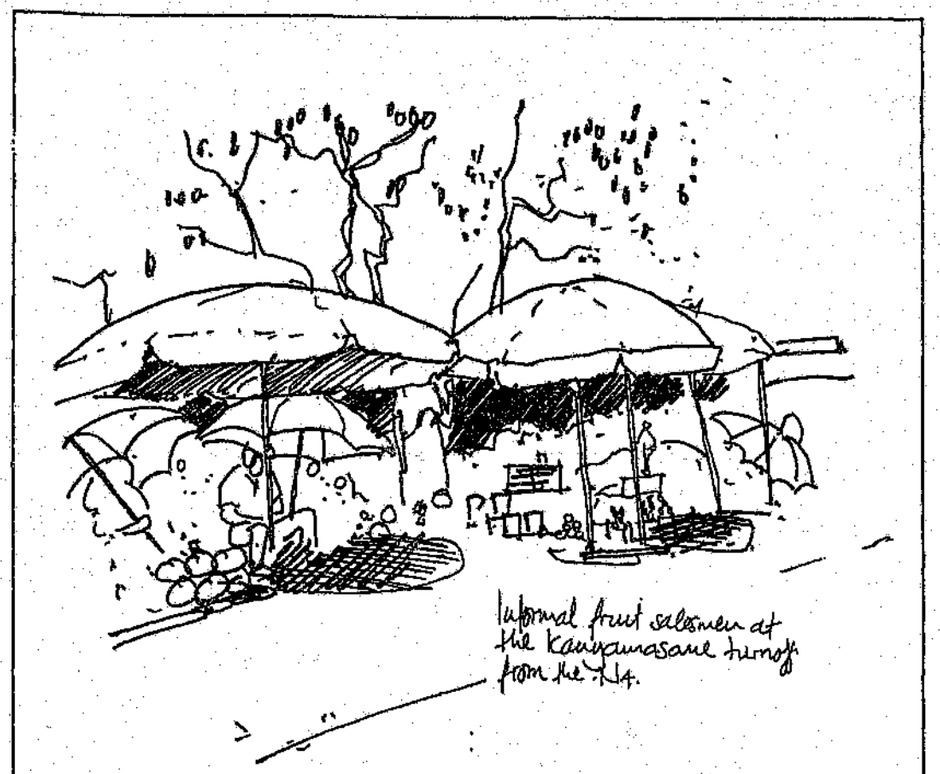


Fig 2.6b Promote informal sector activities

afford any form of formal low cost housing. These towns may well come to experience informal crowding on the urban periphery as limited formal stock and backyard quarters are gradually filled to capacity and beyond as in Harare's case. Controlled informal settlement and gradual upgrading must be seriously considered as proposed by Underwood and as illustrated in the case study chapter.

2.2.5 INCREASED INFORMAL SECTOR ACTIVITY: A FACTOR OF SOCIAL CHOICE AND FREE SETTLEMENT.

Very substantial expansion has taken place in Harare's informal sector since increased freedom was accorded to family settlement. It appears also that the nature of the city's informal landscape has been shifting, with a marked new expansion of vending and hawking operations (Rogerson 1990). Growth has been taking place, inter alia, in the operations of small-scale market traders; in the petty production of leather goods, bags, building materials, and jewellery; in metal fabrication; in informal transport services; and in the sphere of small, informal builders and contractors operating in self-help housing areas.

The Harare city authorities have reacted to the challenge posed by an expanding informal sector with a set of vaccinating responses, sometimes in harmony with national government strategies, at other times seemingly in conflict with them. In the early days of independence, official action - uncharacteristic of an ostensibly "people's government" was taken in a number of areas: the prosecution of street vendors, the arrest of unaccompanied women as prostitutes and the urging of the urban unemployed to join rural agrarian resettlement schemes. More recently, while the authorities continue to bemoan the extent of unlicensed trading, a more enlightened policy attitude appears to have crystallized. Indicative of this changing attitude is the commitment made in 1985 to improve opportunities for, and productivity of , the rapidly expanding informal sector.

Two aspects related to this more supportive policy warrants detailed discussion. First, for informal trading the authorities have sought to provide "neighbourhood shops" within the high density areas and facilitate the establishment of a series of semi-formal "peoples markets". The latter comprises a crude shelter, approximately 10 by 2 metres and partitioned into 10 separate stalls which are available for rental from Council. By 1986 there were at least 68 people's markets in operation throughout Harare, furnishing a total of 2115 market stalls.

By 1986 some sixty industrial cooperatives were in operation in Harare. The development of so-called "cooperative, service- industry sites" is exemplified by the group Mbare Siya-so traders. This collection of empty drum sellers, car-part dealers, carpenters, wood sellers, panel-beaters and spray painters are operating successfully in cooperative lines in premises at a site specially levelled, walled, gated and furnished with access roads and water supplies.

2.2.6 CONCLUSION

The policy record of Harare underscores the uncertainties attached to urban management during a phase of political transition. South - Africa can avoid many of the pitfalls by studying the failure of naive policy in Zimbabwe during the immediate post-independence years when it witnessed a confused state of affairs in urban management policies. Zimbabwe acts as a prime exar ple of Collins'(1971) notion of the need to relegate the obvious in favour of the common good when making policy decisions (see Chapter 1).

There is evidence of tension between the understandable inclination and desire to discard most of the programmes inherited from the old regime, yet without having carefully conceived alternatives. Accordingly, Drakakis- Smith(1987) can observe that "any application of socialist principle to the problems of meeting the basic needs of the urban poor have been conspicuous by their absence". Recently however a more coherent and realistic vision of Zimbabwe's urban future has emerged. In particular, the implementation of the First national Development Plan which connotates a retreat from the anti-urbanism of early independence strategy in favour of a more balanced outlook on national development planning that incorporates acknowledgement of the significance of appropriate urban management. The core of new policy embodies the following two critical aspects:

Firstly Squatter settlement upgrading will have to be embodied in future shelter strategies as it has become apparent that aided self-help and site-and service schemes can address only part of the demands for sheltering the poor.

Secondly, the abandonment of strict informal sector policies of the older order, replacing them with greater tolerance of the needs of the urban poor.

The following principles from the Zimbabwe precedent seem relevant and have been drafted into the decisions matrix to assist in formulating an informed framework for the Randstad Nelspruit case study (see Chapter 5)

1. RECOGNISE THE RELATIONSHIP BETWEEN CAPITALISM AND SPATIAL DEVELOPMENT.

2. LOBBY FOR GOVERNMENT EXTENSION AND PROMOTION OF HOME OWNERSHIP.

3. DO NOT INITIALLY FAVOUR THE DEVELOPMENT OF RURAL COMMUNAL AREAS ABOVE URBAN DEVELOPMENT.

4. IMPROVE THE ABILITY OF LOCAL AUTHORITIES TO IMPLEMENT URBAN DEVELOPMENT PROGRAMMES.

5. PROMOTE SPATIALLY BALANCED GROWTH.

6. CREATE ATTRACTIVE CONDITIONS FOR INDUSTRIES TO OPERATE AT GROWTH POINTS.

7. ENCOURAGE MORE INDUSTRIAL AND COMMERCIAL DEVELOPMENT IN ORDER TO BROADEN THE REVENUE BASE OF LOCAL AUTHORITIES AND ENHANCE EMPLOYMENT OPPORTUNITIES.

8. ACKNOWLEDGE SELF-HELP HOUSING AND SITE-AND-SERVICE APPROACHES AS CRITICAL ELEMENTS IN THE RESOLUTION OF THE LOW-INCOME HOUSING DILEMMA.

9. RECOGNISE THE POSITIVE ASPECTS OF INFORMAL SETTLEMENTS AND CHANNEL THE DEVELOPMENT TO SITES WHICH CAN LATER BE UPGRADED.

10. EMBODY SQUATTER SETTLEMENT UPGRADING IN FUTURE SHELTER STRATEGIES.

11. IMPROVE OPPORTUNITIES FOR THE RAPIDLY EXPANDING INFORMAL SECTOR THROUGH THE PROVISION OF E.G NEIGHBOURHOOD SHOPS AND SEMI-INFORMAL PEOPLE'S MARKETS.

12. ACTIVELY DEVELOP CO-OPERATIVE SERVICE INDUSTRY (FOR E.G. CAR PART DEALERS , CARPENTERS, PANEL BEATERS, BRICK MAKERS, ETC.)

13. ACKNOWLEDGE THE SIGNIFICANCE OF APPROPRIATE URBAN MANAGEMENT.

14. ABANDON STRICT INFORMAL SECTOR POLICIES OF THE OLDER ORDER AND REPLACE THEM WITH GREATER TOLERANCE OF THE NEEDS OF THE URBAN POOR.

15. PUBLIC TRANSPORT SHOULD NOT BE ENTIRELY DEMAND DRIVEN BUT SHOULD BE USED PRO-ACTIVELY IN ORDER TO IMPROVE ACCESS (THIS IN EFFECT AMOUNTS TO SUBSIDISATION ON HOUSING).

RANDSTAD NELSPRUIT



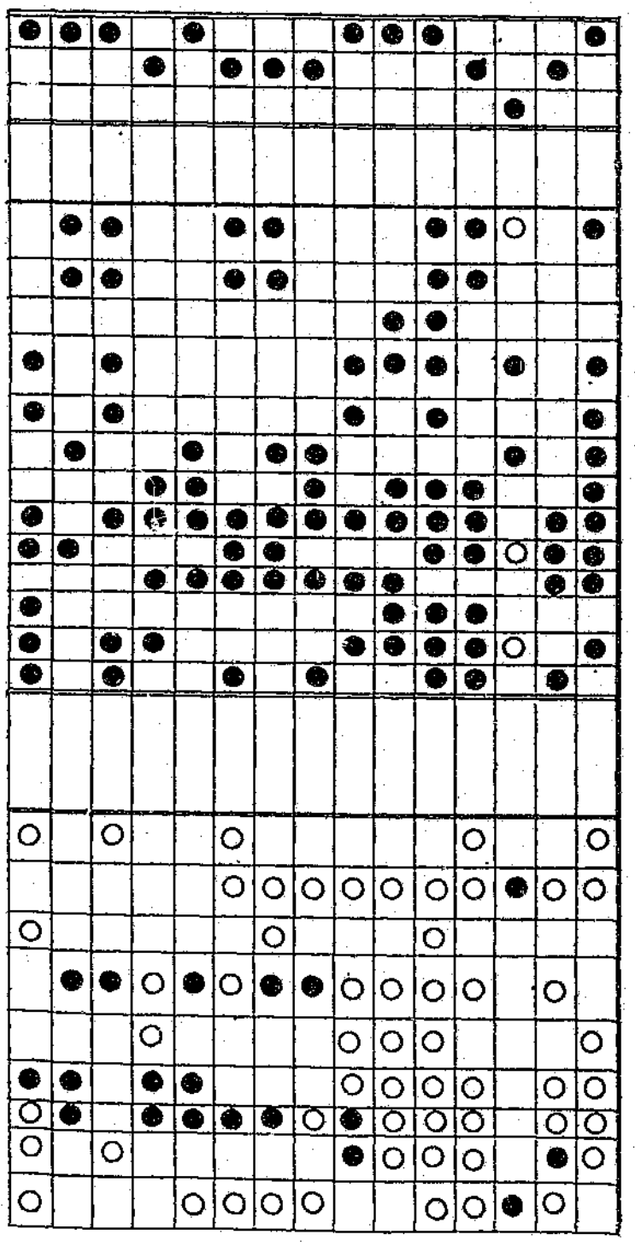
ZIMBABWE



PRECEDENT

ZIMBABWE - HARARE

EXPLANATION	ZIMBABWEAN EXPERIENCE/APPLICATION/REMARKS
1.RECOGNITION OF THE RELATIONSHIP BETWEEN CENTRALISM AND SPATIAL DEVELOPMENT	
2.GOVERNMENT EXTENSION AND PROMOTION OF SOME OWNERSHIP	
3.INITIALLY FAVOUR THE DEVELOPMENT OF RURAL COMMUNAL AREAS ABOVE URBAN DEVELOPMENT	
4.IMPROVE THE ABILITY OF LOCAL AUTHORITIES TO IMPLEMENT URBAN DEVELOPMENT PROGRAMME	
5.PROMOTE SPATIALLY BALANCED GROWTH	
6.CREATE ATTRACTIVE CONDITIONS FOR INDUSTRIES TO OPERATE AT GROWTH POINTS	
7.ENCOURAGE MORE ENTREPRISE AND COMMERCIAL DEVELOPMENT IN ORDER TO BROADEN THE RATEPAYER BASE OF LOCAL AUTHORITIES AND ENHANCE EMPLOYMENT OPPORTUNITIES.	
8.ACKNOWLEDGE SELF-HELP HOUSING AND SITE-AND-SERVICE APPROACHES AS CRUCIAL ELEMENTS IN THE RESOLUTION OF THE URBAN HOUSING DILEMMA	
9.RECOGNISE THE POSITIVE ASPECTS OF INFORMAL SETTLEMENTS AND CHANNEL THE DEVELOPMENT TO SITES WHICH CAN LATER BE UPGRADED	
10.ENCOURAGE OF ACQUIRING SETTLEMENT UPGRADING IN FUTURE SHELTER STRATEGIES.	
11.IMPROVE OPPORTUNITIES FOR THE MAJORITY EXPANDING INFORMAL SECTOR, REMOVE THE PROHIBITION OF E.G. NEIGHBOURHOOD SHOPS AND SEMI-INFORMAL PERIFERAL MARKETS	
12.ACTIVELY DEVELOP CO-OPERATIVE SERVICE INDUSTRY SITES(FOR E.G. CAR PART DEALERS, CARPENTERS, PAINT MAKERS)	
13.ACKNOWLEDGE THE SIGNIFICANCE OF AFRICANISATE URBAN MANAGEMENT	
14.LARGER PUBLIC INFORMAL SECTOR POLICIES OF THE CLOSE COOPERATION BETWEEN THE PUBLIC AND PRIVATE SECTOR OF THE URBAN POOR, THEY HAVE GREATER TOLERANCE OF THE NEEDS	
15.PUBLIC TRANSPORT SHOULD NOT BE SUBSIDISED RATHER SEC-TORS SHOULD BE ENCOURAGED PRO-ACTIVELY IN ORDER TO CREATE OTHER OPPORTUNITIES.	



RELEVANCE TO RANDSTAD NELSPRUIT

VERY RELEVANT

RELEVANT

NOT RELEVANT

OPPORTUNITIES

1. NELSPRUIT AS NEW/FIRST CAPITAL OF THE NEWLY ESTABLISHED EASTERN TRANSVAAL/MPUMALANGA PROVINCE, OWN REGIONAL GOVERNMENT WHICH CAN RESPOND TO SPECIFIC NEEDS AND HAS A PERSONAL INTEREST IN THE WELL BEING OF THE LOCAL POPULATION.

2. PREVAILING SPIRIT OF TRANSPARANCY,POLITICAL WILL TOWARDS GREATER INTEGRATION.

3. THIRTEEN LOCAL GOVERNMENT FUNCTIONS NEED TO BE ACCOMMODATED, CAN PROVIDE NEW INFRASTRUCTURAL GROWTH POINTS.

4. EXTENSION OF N4 PLANNED TO CREATE A BETTER LINK BETWEEN GAUTENG AND MOZAMBIQUE, CAN FACILITATE GREATER ACCESSIBILITY, RELIEVE EXISTING NELSPRUIT CBD FROM DANGEROUSLY FAST MOVING THROUGH TRAFFIC, ROUTE LINING IMPORTANT TO CREATE OPPORTUNITIES.

5. REGIONAL GROWTH HAS NECESSITATED THE UPGRADING/REPLACEMENT OF THE LOCAL AIRPORT WHICH CANNOT SERVE BOEING AIRCRAFT,

6. FERTILE AGRICULTURAL LAND CAN PROVIDE IN MUCH OF THE SUBSISTANCE NEEDS OF THE LOCAL POPULATION.

7. DEMISE OF CONSERVATIVE/AUTOCRATIC SWAZI VALUES.

8. TAX BASE EXTENDED TO FORM A COMMON TAX BASE INCORPORATING NELSPRUIT/WHITE RIVER AND TOWNSHIP'S IN OUTLYING AREAS.

9. ERADICATION OF PREVIOUS KAHOWANE BORDER.

10. INDISCRIMINATORY INDIVIDUAL LAND TENURE.

11. GOOD INFRASTRUCTURE OF ROADS AND RAIL MUST BE USED TO ASSIST IN CREATING IMPROVED ACCESSIBILITY IN CONJUNCTION WITH NEW INFRASTRUCTURE.

12. INDUSTRIAL/ECONOMIC GROWTH, DEMAND FOR INDUSTRIAL LAND.

13. GOVERNMENT SUBSIDIATION ON LOW-INCOME HOUSING.

LIMITATIONS

1. DISPROPORTIONATELY LONG DISTANCES BETWEEN INTERDEPENDENT SECTORS OF THE ECONOMIC COMMUNITY WITHIN THE RANDSTAD. E.G NELSPRUIT KANYAMAZANE 19KM.

2. TRADITIONAL ANTI URBAN SWAZI VALUES RUNS CONTRARY TO DEMOCRATIC SPIRIT, CHIEFS COLLECT THEIR OWN TAXES, DISTRIBUTE LAND, ETC.

3. MANY STEEP SLOPES DENY DEVELOPMENT, MAKE PROVISION OF INFRASTRUCTURE COSTLY.

4. ENTRENCHED CONSERVATIVE ATTITUDES AMONGST FARMERS, URBAN WHITES AND THE LOCAL PLANNING AUTHORITIES. OCCUPATION OF IMPORTANT LINKAGE AREAS BY FARMLAND, A POTENTIAL EMOTIONALLY SENSITIVE ISSUE.

5. CURRENTLY POOR VEHICULAR ACCESS TO ROADS LEADING TO GAUTENG MARKETS CLUSTERING OF INDUSTRY'S AT NELSPRUIT'S NORTHERN OUTSKIRTS.(PREVIOUS BUFFER)

6. LOPSIDED MONOFUNCTIONAL SPATIAL DEVELOPMENT IN NELSPRUIT MAKE LINKAGES INTEGRATION DIFFICULT.

7. LIMITED FORMAL JOB OPPORTUNITIES.

8. LOCAL GOODS EXPORTED/DISTRIBUTED THROUGH OTHER REGIONAL MARKETS,PORTION OF REVENUE THROUGH PROFITS LOST TO THE PROVINCE.

9 NEGATIVE PERCEPTION REGARDING LOW INCOME HOUSING ON NELSPRUIT'S PERIPHERY, MAIN CONSIDERATION NOT ACCESSIBILITY BUT VISIBILITY FROM NELSPRUIT'S SUBURBS.



Fig 2.7:Swazi man combining in his dress the traditional -knobkierrie and leather *lijobo* over waistcloth - and the modern -shirt and coat (Booth, 1983)

2.3 THE RELEVANCE OF SWAZI CULTURE AND SWAZI LAND TENURE SYSTEMS: THE DECLINE OF SELF SUFFICIENCY

2.3.1 INTRODUCTION

In earlier times the rural Swazi Homestead Group as well as forming a recognized social and local governmental unit, was also almost entirely self-supporting. Virtually all its needs could be satisfied from the immediate locality, and its members could supply all the necessary labour. The boys herded the cattle and small stock; the women tilled the fields; the men built the huts and other structures and the woman thatched; while both sexes had assigned to them certain crafts designed to satisfy other domestic needs.(Hughes,1972).

Swazi still pay lip service to the ideal of Homestead self-sufficiency, but their involvement in a money economy has greatly complicated the situation. **New wants and choices have been introduced by Western influence**. New ways for satisfying basic needs is possible, due to the increased opportunity for earning money . Now money is used not only for "imported luxuries" which cannot be produce in the rural areas, but increasingly for food and other things which could.

The land, formerly the provider of subsistence needs, and those only, now has other potentialities. At the same time it is no longer, as before, the exclusive provider of all that is needed

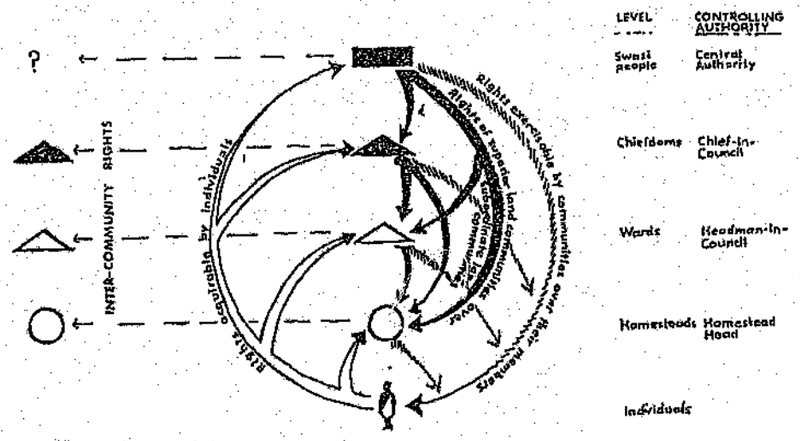


Fig 2.8 Rights in the land community hierarchy (Hughes, 1972).

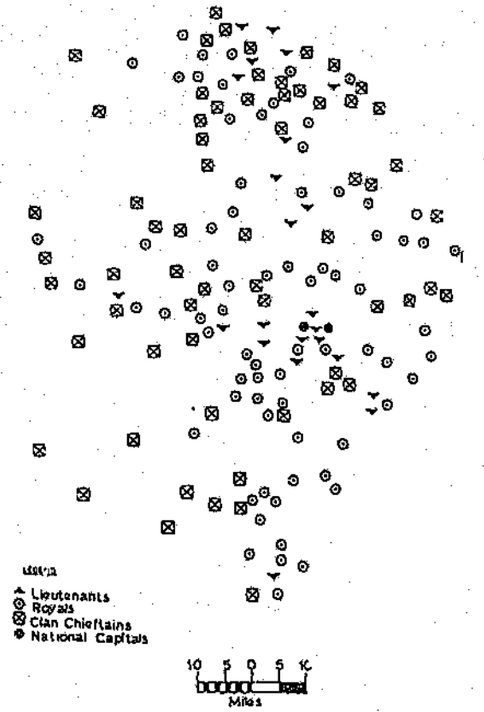


Fig 2.9 Typical spatial distribution of Swazi Chiefdoms(Hughes, 1972).

by the family. Greater densities are possible which lead to the mat of peri-urban Swazi settlements in the hilly area towards the east of Nelspruit. Proximity to urban marketplaces have become important even to those who adhere to the traditional homestead ethic.

2.3.2 CONTROL OF LAND RIGHTS: THE DEMISE OF TRADITIONAL SWAZI LAND TENURIAL SYSTEMS

In the traditional Swazi society land tenure can not be considered in isolation. It is part of the whole system of internal political organisation. Individuals derive their land rights primarily from their position in the political structure, not as the result of any private transactions between themselves and other individuals. Nowadays, it is true, transactions of this nature are coming to play an increasingly important part in some respects, but the right to benefit from them is still dependent on what we may call political considerations.

Swazi are well aware of the intimate connection between the control over land allocation on the part of the traditional political authorities(and, in a more diffused sense, on the part of the entire community **by their own choice**) and the whole indigenous system of social control. One of the arguments often advanced against any change towards a system of more individualized tenure is that it would inevitably result in a complete breakdown of the whole existing social order. As one Swazi who was interviewed put it " Individual land tenure inevitably destroys and degenerates Swazi social life, and ultimately undermines and invalidates the honour, power and significance of royalty and chieftainship". Another has expressed the fear that , if individualized tenure were to be introduced, "there would in fact be no need for Chiefs and Indvunas....Each and every owner of land would be the King, Chief and Indvuna of everything".

The increased involvement of the Swazi in a free market economy also introduced a completely new dimension to the relationship between these traditional authorities and their subjects.

An individual may now be able to satisfy a large part (or all) of his subsistence needs , and also his requirements for luxuries and prestige, by means over which the traditional political organization has no control. Previously the individual was left with no choice but to adhere to the traditional ethic. With Western influence power and choice has been delegated to the individual. During the period of apartheid many of the luxuries associated with capitalism have been attractive but unaccessible to Swazi living within South-Africa. It effectively gave traditional culture an extended lease of life. In a new post- Apartheid era, the possibility of individual land tenure in traditional communal areas will in all likelihood eventually destroy the traditional Swazi way of life.

To emphasise the move away from communal land ownership, the government has recently made efforts to gain central control of land historically controlled by Chiefs in the previous homelands. This has sparked a heated debate in KwaZulu-Natal where IFP leader Mangosutu Buthelezi criticised the move as follows:
" The land of black people which remained in black hands after

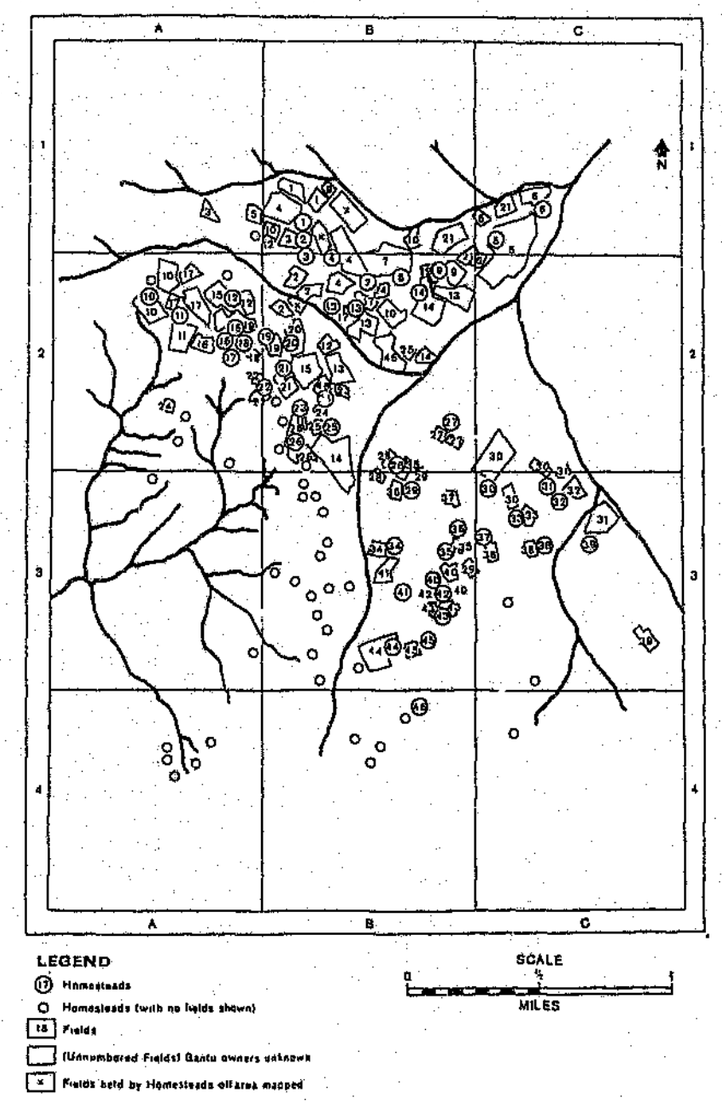


Fig 2.10 Typical spatial configuration of a traditional Chiefdom (Hughes, 1972).

dispossession by colonial conquests now belongs to the state as public property. The government now has the power to dole out land that rightfully belonged to blacks. The crux of this forced plan is the abolition of the indigenous land tenure system and the undermining of traditional leaders as administrators of land. Proof of this is the ANC's plan to bribe traditional leaders into forfeiting their powers by putting them on the central government's payroll - a way to strangle their autonomy and divide traditional communities. The struggle we are going to fight is in many ways tougher than the struggle we faced prior to the elections", (Pretoria News 26.06.95 p2). In a further move President Mandela met with Swazi King Mswati III in August 1995 in an effort to exert pressure on him to abolish the traditional autocratic kingdom in favour of a free market democracy(Pretoria News 10.08.95).

It is easy to see how the traditional tenure system gives any community a powerful mechanism for enforcing conformity to communal mores since it is the community which has the final say with regard to who shall be granted the privileges of membership. The threat of withdrawal of those privileges can provide a most effective method of social control. It can also be understood how any interference with these rights of the community could have repercussions extending far beyond the realms for land tenure alone. With approximately 50% of Ka Ngwane's population under fourteen years of age (HSRC report 1994) the conservative older guard is also running the risk of soon being marginalised by a younger generation with aspirations of free choice associated with Western culture.

2.3.3 THE HOMESTEAD GROUP AS LEGAL, POLITICAL AND ECONOMIC ENTITY.

Sociologically, the *Homestead Group* (the inhabitants of a single homestead) forms a distinct legal, political and economic entity with respect to the outside world. Most modern *Homestead Groups* are made up largely of a "core" polygynous family, with possibly a few other kin. The Head (umnumzana) is responsible for enforcing social, political and economical policy as dictated by the Chiefdom to which he is accountable and to which levies are paid periodically. Land is owned by the *Homestead Group* communally and the head allocates arable land to the whole group. The average size of a *Homestead group* is seven people (Hughes, 1974).

Even today the *Homestead Group* forms a land holding unit. The *Homestead Group* is one level in the hierarchy of land controlling communities of which Swazi must be members if they are to acquire a share in the *Right of Avail.* This hierarchy is a spatial continuum of smaller land communities within larger ones; with the entire Swazi people at the apex , and the smallest segments of family groups at its base (see fig. 2.8)

For our purpose, the most important of these are the following, which are listed in descending orders of magnitude:
1) <u>The Swazi People:</u> For practical purposes, this group can be said to include all *de jure* residents or potential residents of the Swazi Nation Land. Swazi living in South - Africa (KaNgwane) and Mozambique are considered members of their community.

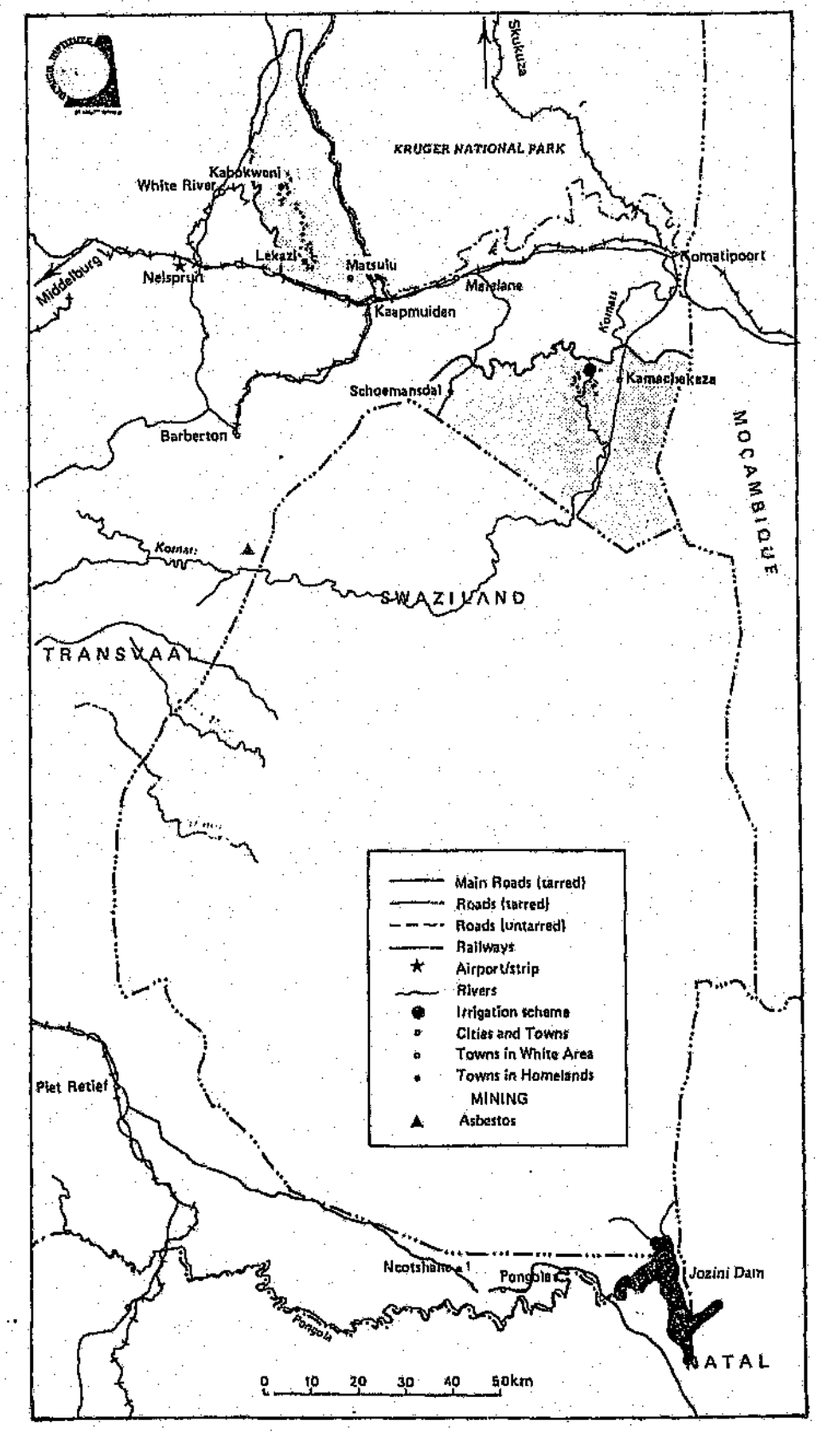


Fig 2.11 Position of resettlement centres of the previous Kangwane homeland in relation to Nelspruit and White River. (Malan: 1976)

2) The Chiefdome
Each with its own Chief, and with its own internal local governmental organization.

3) The Ward.
A recognized sub-division of some but not all Chiefdoms under a ward head and with a less complicated local governmental structure than a Chiefdom.

4) The Homestead, which is the basic residential unit , and also the basic unit in the local governmental system.

2.3.4 THE SALARY EARNERS OF THE NSIKASI DISTRICT.

Before the period of forced removals in the sixties many Swazi had been working and living in the predominantly White urban areas while retaining strong links with rural *Homesteads*.

During the years following 1967 Swazi townships were established 20-30 kilometres outside Nelspruit and White River in the Nsikasi district of KaNgwane to resettle Blacks living in White areas in accordance with new Apartheid legislation. By 1974 four towns had been built. Blacks from Nelspruit (7300 people) were resettled in Kanyamazane(then Lekasi) and those from White River (3700 people) in Kabokweni (see fig. 2.11).

These people continued working in the white urban areas as before but now had no choice but to commute the 20-30km backwards and forwards between the peri-urban townships and their workplaces.

Townships were established in areas populated by traditional *Swazi Homesteads Groups*, but the inhabitants of these townships did not necessarily belong to any of the Nsikasi Homestead Groups. Apartheid relocation policy was enforced across the country with little regard for local tradition.

A layer of townships housing migrants from *Homesteads* further into the rural areas was established over an existing layer of indigenous *Homesteads* Land that would otherwise have been allocated to indigenous *Homesteads* by the local Chiefdom was now forcedly inhabited by urban Swazi on a Western style site and service pattern or in arbitrary hostel accommodation.

This had far reaching effects on the physical, social and political structure of the traditional *Homestead* in the Nsikasi area by accelerating Westernization and the associated desire for individual freedom.

2.3.5. PHYSICAL CHANGE IN TRADITIONAL SWAZI SETTLEMENTS ON THE URBAN PERIPHERY.

Apart from macro-scale spatial intervention, the *Homesteads* in themselves have undergone significant changes due to the accessibility to cement bricks which were now produced in the immediate vicinity, initially for construction of 51/9 houses in the newly established townships.

Bowen (1993) discusses the influence of Westernization on the physical nature of the *Swazi Homestead*; Unlike traditional *Homesteads* which are still being constructed by conservative Swazi , the modern Homestead shows

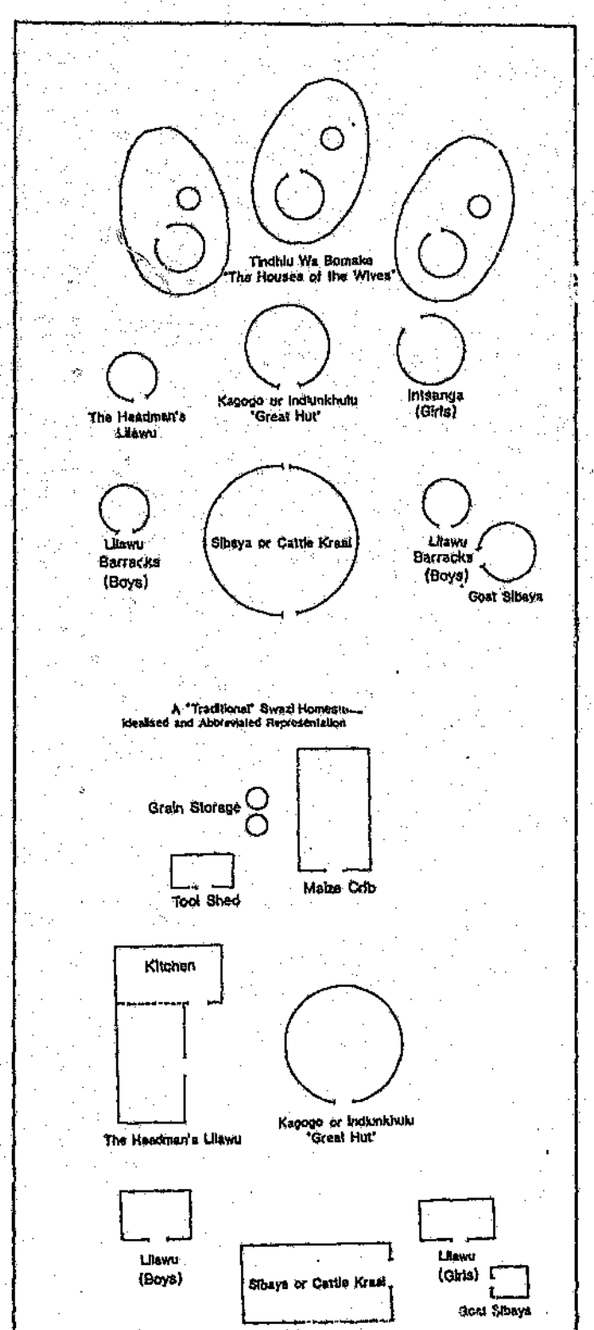


Fig 2.12 Comparative drawing showing traditional and modern Swazi homesteads (Bowen: 1993).

much evidence of the influence of Western material culture. Steel frames and roofs are used , the huts are rectangular and of block construction to accommodate tables, chairs and beds, and have locking doors and windows. *Homesteads* may also have a variety of more sophisticated agricultural items, ploughs and metal grain storage tanks. Despite these technical adaptions, the Homestead retains it traditional fragmented spatial arrangement of communal huts and a kraal, which for the Western layman may seem to be a loose arrangement of smaller individual dwellings.

2.3.6 CONCLUSION

In summary it can be said that Apartheid simultaneously acted as a mechanism of protecting (which was professed) and destroying traditional Swazi culture.

It was protected in the sense that individuals had no rights within white dominated South-Africa and was therefore left with only two choices: either to be subservient to the communal laws and accept the privileges offered by the traditional, rural Swazi land tenure system or to live in the demarcated townships while earning inferior salaries and wages in the white urban areas. The traditional Swazi culture was therefore protected because capitalism and the individual freedom that it normally offers was largely unaccessible to the individual.

On the other hand the establishment of townships to house relocated urban blacks impeded on land formerly controlled by Swazi Chiefs, by so doing injecting Western materialist culture at a faster rate than would otherwise have occurred in the affected traditional rural areas. The chiefs could no longer enforce communal Swazi law and tradition rigidly because fear of defection to the immediate Western alternative.

The net result has been a hybrid semi-traditional culture with pockets of injected western influence clearly visible in the spatial and physical composition of the Nsikasi hinterland.

In an urban design framework for Randstad Nelspruit the transitional nature of Swazi culture should be acknowledged. The framework should consider the choices of conservatives, liberals and moderates who adhere to traditional values in various degrees while accepting that traditional values are gradually declining.



Funwake
Johannesburg.

2.4 THE POSTMODERN CONDITION AND THE SOUTH-AFRICAN CITY

2.4.1. INTRODUCTION: THE QUESTION OF JUMBLE

The delicate question is this: are we now(in South-Africa)living in a world whose unified meanings is a new kind of multiplicity and mixture? Kolb (1990, p175) argues that multiple worlds do not have to deal with one another- or measure up to new facts, or to the consequences of their values, or to the intersection of practices, or to what the neighbours think. Or to their own internal diversity. These are issues people have always had to face, and there are good and bad ways of facing them. What does it mean to live in such a world and to be faced with its problems as urban designers. If we are not fundamentalists it means self criticism.

Because the occasions and projects of criticism arise in multiple and diverse ways, they cannot be systematically suppressed. We should not presume that the only way to liberate ourselves is to have a theory of the structure of the whole, so that we can oppose some total vision to current fragmentation or to oppressive totalities. There can be a liberation resulting from the tensions and crossings we find ourselves within. We can care for the whole without a map of the whole.

In our world of many languages and forms of life, we need a multiplicity of interactions and care for the whole, but how do we *build* that? We might try liberal tolerance, but the city cannot be cared for by the simple principle of respecting one another's projects. There is not enough space and time and we share too much. Your building may overshadow mine, or strain the transit system, or destroy the scale. When mutual respect gives way to regulation and bargaining, the planning czars become only another voice in the crowd, since there are many kinds of force that can be brought to bear by all parties concerned. Lyotard's more avant garde vision of justice also fails in the city building context. Faced with building together (rather than against) it reduces to a liberalism that does not demand internal self-criticism.

Jameson(1984) chooses to focus on the architecture of the modern metropolis as a privileged terrain and strategic field of Western, postmodernist capitalist culture and in doing this he interweaves the dynamics of late capitalist development with the built form and aesthetic imagery of the contemporary city. It finds its way, stylistically, into the built environment rapidly and with particular clarity because of the intimate links between city planning and the real estate economy, metropolitan revenue generation which is largely dependent on stoking up property taxes , and the appetite of corporate capital for phallocentric emblematics.

Postmodenization means polarization on a macro space-economy scale. The professional service class is undoubtedly continuing to grow while those in secure non-professional work decline and those in the casualised, sub-employed and part-time segments of the labour market grow as the new "waged poor," competing for urban space with the unwaged poor and the unemployed. It is an urban world of playful, postmodern architecture, theme

MODERNISM	POSTMODERNISM
PURPOSE	PLAY
DISTANCE	PARTICIPATION
CENTRING	DISPERSAL
SELECTION	COMBINATION
GRAND NARRATIVE	LOCAL NARRATIVE
PARANOIA	SCHIZOPHRENIA
METAPHYSICS	IRONY
DETERMINANCY	INDETERMINANCY

Fig 2.13 South-Africans are living in a world whose unified meanings is a new kind of multiplicity and mixture.

ACCESS TO OPPORTUNITY	OLD PARADIGM	NEW PARADIGM
PROXIMITY	-ILL-CONCEIVED -MACHIAVELLIAN	SPATIAL INTEGRATION IMPORTANT
PRIVATE MOBILITY	IMPORTANT	UNIMPORTANT
PUBLIC MOBILITY	RESIDUAL STOCK AND DECLINING	
CONNECTIVITY	DISCONTINUOUS MACHIAVELLIAN	NEW FABRIC STITCHING IMPORTANT

Fig 2.14 Comparing South-Africa's old and new paradigms (according to Wood)

parks ,new sports stadia and casinos, plazas and malls; for the enterprising a world of consumption, and for the welfare-dependant exclusion and underconsumption.

2.4.2. THE POSTMODERN CITYSCAPE AS SITE OF EMERGENT PROGRESSIVE POLITICAL FORMS.

The postmodern insight into the importance of **local power** has reflected a new issue-based urban politics centred on opposition to the materialism of overconsumption. Rainbow coalitions of ethic, gender-based, environmentally concerned and peace-seeking political movements have taken power in some of the most advanced of the postmodern rebouts, such as London, San-Francisco and Los Angeles.This too,as Jameson(1987), Arac(1986), Berman (1987)and Schulte-Sasse(1987) have noted, is postmodernism in action from a progressive rather than a mindlessly consuming perspective.

2.4.3 LIBERTY AND ECONOMIC GAIN: A CURRENT PARADIGM SHIFT WITHIN THE SOUTH - AFRICAN CONTEXT.

Forces are at play which are likely to partially sustain the postmodern condition in the post-apartheid South-African city.

In the article "*Eastern Transvaal-economic liberation must follow* " appearing in The Star (31 March 1995)Mathews Phosa, Premier of the Eastern Transvaal province is quoted as saying that political liberation without economic liberation will mean very little in terms of uplifting the general quality of life of all South-Africans."The RDP symbolises the very essence of the struggle that we fought in terms of devising a programme that will improve the quality of life for those who have been disadvantaged in the society".

We find ourselves in a unique position in history wherein redistribution of wealth and public goods have become public policy and a very sensitive political issue . This has been facilitated by democratic election of an ANC government who has a strong leaning towards the interests of their disadvantaged voter majority but who desperately need the revenue generated by Western style capitalism to create a pool for reconstruction and development. This results in the classical need for finding a balance between the contradicting sides of social choice: the *moral/ethical* side which strives towards improving the total welfare function and; the *quantitative* side which tries to maximize economic gain.

Despite a socialist/communist ethic adopted by the ANC over the span of its existence it has therefore opted for a hybrid socio-capitalist democracy since coming to power. In a post-modern capitalist democracy there are essentially two methods by which **social choices** can be made: voting , typically used to make "political decisions" and the market mechanism, typically used to make "economic decisions". The methods of voting and the market amalgamates the tastes of many in the making of social choices. In South-Africa these choices occur within the context of an ineffective national economy with a negative trade deficit. This leaves central government with little option but to raise the tax margins

BUDGET ITEM	1994 BUDGET % of total	1995 BUDGET % of total	STATUS
DEFENCE	8,7	7,2	DE-PRIORITISED
POLICE	6,9	7,5	PRIORITISED
EDUCATION(TOTAL) PRIMARY + SECONDARY	21,2	21,2	EQUAL
HOUSING	1,1	2,7	PRIORITISED
AGRICULTURE, FORESTRY AND FISHING	2,5	1,8	DE-PRIORITISED
TRANSPORT AND COMMUNICATION	4,5	4,1	DE-PRIORITISED
SOCIAL SECURITY AND WELFARE	9,2	10,8	PRIORITISED

Fig 2.15 A comparative table of South-Africa's 1994 and 1995 budgets.

of the wealthy/profit maximisers. On the one side are those aspiring towards a better position in terms of both liberty and economic standing and who hold the majority vote while on the other there are the critical capitalist facilitators who feed the redistribution pool through taxation of their profits but who represent a negligible proportion of voting power. Government, through its budget, allocates revenue accumulated through taxation to various public services including physical structures such as public roads and subsidisation of housing- which has a major influence on the urban environment. Each intervention in terms of provision of physical infrastructure(capital web) has a whole series of responses in terms of urban form. The decision to build a major road or re-allocate large sums of revenue to public housing has a major influence on the shaping of urban contexts- as will be illustrated in the case study chapter. Figure 2.14 illustrates the real demands and likely spatial outcomes of access to opportunity within the new South-African paradigm.

When one looks at a comparison between the *consolidated national and provincial budgets* for 1994 and 1995, it becomes clear that certain services are being prioritised at the cost of de-prioritising others. This indirectly represents a choice made by the majority of voters. Figure 2.15 illustrates some of the items which have been prioritised and de-prioritised.

Lobbying for greater and lesser government funding to different services represents a form of choice because government allocation is influenced by opinion. Topical is the debate on the disproportionate allocation of funds for housing and defence. Contradictory to the demand for spatial integration and better access (essentially through road and rail linkages) the national budget indicates a decrease in the allocation for transport and communication. It can however be expected that lobbying on a regional level where the problems are more apparent will highlight the need for stitching by means of improved local roads and rail infrastructure. Johannesburg's recently completed Interim Strategic Framework(ISF) and Cape Town's Metropolitan Development Framework (MDF) are well researched policy documents aimed at facilitating urban integration within the new paradigm and influence budget allocations.

2.4.4 CONCLUSION

Any framework for a city in South-Africa, including Randstad Nelspruit should acknowledge the capitalist forces at play which sustain and promote the post- modern condition. The infrastructural advances prompted by the need for connection of capital markets should be seen as an opportunity to create better access to opportunities on other levels. The alignment of roads and rail to service areas that have previously been excluded from the urban system en-route is such an opportunity. Likewise the establishment of capitalist installations such as processing plant close to labour markets can act as generators of growth points along a corridor which stitch across previous buffer zones.

2.5 PRECEDENT: A POLITICAL AND SPATIAL PARADIGM SHIFT IN THE U.K. DURING THE 70's

2.5.1 INTRODUCTION

According to Smith(1988), the new government introduced major reform after its election in 1965 which produced a spatial paradigm in the UK during the 70's conditioned by the following:

Firstly, political pressure from large and dynamic skilled and semi-skilled working class for relatively widespread state intervention in the political economy.

Secondly, spatial equalization of modern development as between a prosperous core and more peripheral areas.

Thirdly, relative income equalization between the classes.

Fourthly, some linking of modern collective consumption provision and industrial modernization, especially in New Towns and Development areas.

Current aspirations in South - Africa broadly echo that of Britain during the 70's and it is therefore worthwhile to examine its likely outcomes based on the London scenario.

2.5.2 CHANGES IN THE INNER CITY

By the middle and late 1970's inner London was in demographic and industrial decline (Hall 1984:37). From 1966 to 1971 Greater London lost 263000 or 18,5% of its factory workers. By the mid 1970's, 70 percent of London's jobs were in services. The reasons for the decline of inner city manufacturing are complex: rationalisation associated with take-overs, redevelopment and clearance of the areas that included many small factories and workshops. Certainly since the loss of factory jobs in London was four times as rapid as in the country as a whole, a "London factor" was at work: the inner city is now an unfavourable location for manufacturing.

The experts are not in entire agreement as to whether this decline really represents a major problem. On the one hand , the Greater London Council and the inner Boroughs argue that it is producing an ill-balanced population, with many rich and many poor and too few middle-income workers, and it is putting an increased strain on local authority finance as the local tax base is eroded. On the other, some experts think that London and Londoners can only benefit from the thinning out process.

2.5.3 CHANGES IN THE OUTER METROPOLITAN AREAS: THE GREEN BELT AND THE NEW TOWNS.

THE GREEN BELT

The London suburbs suddenly stops at the point it happened to reach in the summer of 1939 to form an eight to sixteen kilometre wide green belt around the city proper before outer metropolitan development recommences.

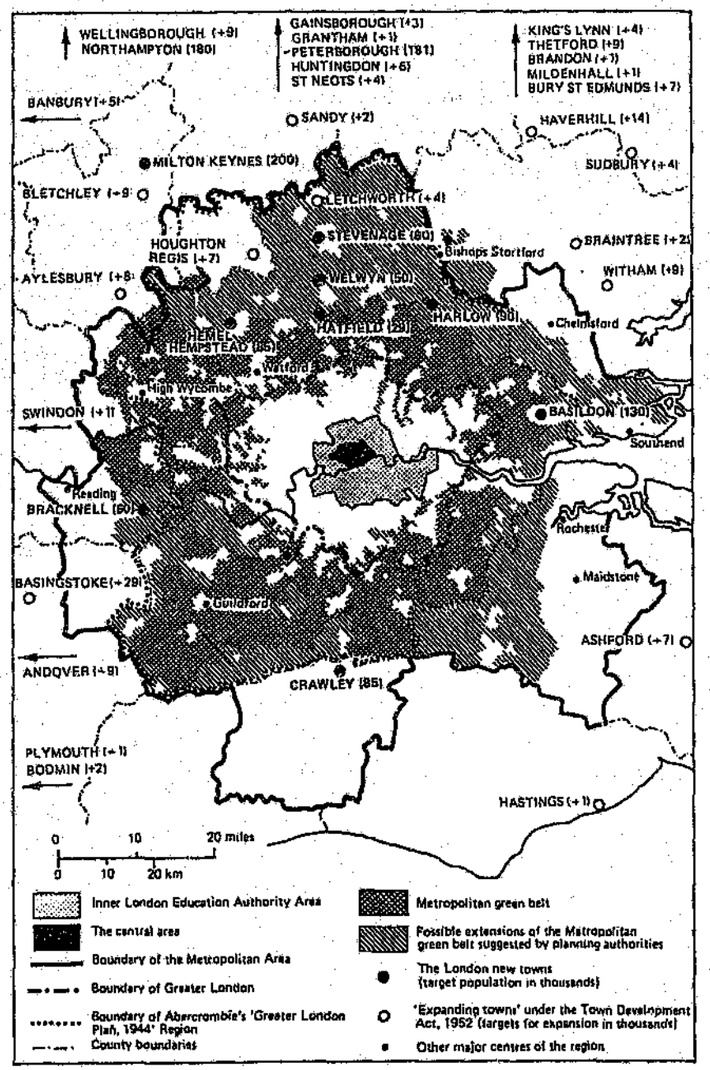


Fig 2.16 The London region (Hall: 1966).

The green belt has been subject to intense commercial pressures: for the planner's decision to re-zone an area from agriculture to housing, can put astronomical fortunes into private pockets. Nelspruit's green heart will undoubtedly be exposed to the same pressures.

During the period 1965-1973 government admitted the principle that areas of doubtful agricultural or landscape value might be re-examined to see if their inclusion in the green belt served any useful purpose. The strong argument is that, if land must be found for housing, it is preferable to take this sort of land than better land farther out. When seen holistically, spatial/scale and legibility criteria should also play a major role in influencing decisions related to the retention of open space, regardless of possible utilities.

THE NEW TOWNS

Hall(1988) states that new towns have proved phenomenally attractive magnets to industry, so that out-commuting from London has been kept to a minimum. Their most serious limitation perhaps is that, dominated as they are by skilled and semi-skilled factory jobs, they have failed to attract substantial proportions of the lower income groups who remain trapped in poor housing within inner London. In Nelspruit mass migration of poor to the town centre resulting in overconcentration and an eroded tax base, mentioned as problems encountered in inner London, can be prevented by placing these magnets to industry amongst the poor in the Nsikasi district and by the same token acting as generator of greater wealth in the area. These centres will therefore not be New Towns but Redeveloped Towns utilising the local labour resource and facilitating spatial redistribution of wealth and infrastructure. It is however important to provide initial stitching of roads and rail infrastructure to service *Redeveloped Towns* before industries will find relocation sufficiently attractive.

2.5.4 CONCLUSION

The following principles from the "London of the 70's" precedent is applicable to the Randstad Nelspruit and are drafted into the decisions matrix to assist in formulating an informed framework (see Chapter 5).

1.PLACE MAGNETS OF INDUSTRY AMONGST THE POOR ONCE SUFFICIENT ACCESS INFRASTRUCTURE HAS BEEN PROVIDED.

2. AREAS OF DOUBTFUL AGRICULTURAL OR LANDSCAPE VALUE MIGHT BE RE-EXAMINED TO SEE IF THEIR INCLUSION IN THE GREEN BELT/AGRICULTURAL HEART SERVED ANY USEFUL PURPOSE IF LAND MUST BE FOUND FOR HOUSING.

RANDSTAD NELSPRUIT



LONDON 70's



LONDON

PRECEDENT

LONDON	PRECEDENT/EXPANSION AREAS
72-LONDON NEW INDUSTRIAL NEIGHBOURHOOD OR LANDMARK TRADE RIGHT 73-LONDON TO BE CONTAINED BY THE GREEN BELT 74-NO LAND WITHIN THE GREEN BELT SERVED ANY USEFUL PURPOSE IT LAND MUST BE FOUND FOR HOUSING 75-PLACE ENGINES TO INDUSTRY ANDWEIR THE RODA TO FACILITATE SPATIAL REGIONALISATION OF WEALTH AND INFRASTRUCTURE, GIVE PREFERENCE TO THE PROVISION OF ACCESS INFRASTRUCTURE TO FACILITATE THIS.	

RELEVANCE TO RANDSTAD NELSPRUIT

●			VERY RELEVANT
	●		RELEVANT
			NOT RELEVANT

OPPORTUNITIES

			1. NELSPRUIT AS NEW/FIRST CAPITAL OF THE NEWLY ESTABLISHED EASTERN TRANSVAAL/KAPVAALANGA PROVINCE, OWN REGIONAL GOVERNMENT WHICH CAN RESPOND TO SPECIFIC NEEDS AND HAS A PERSONAL INTEREST IN THE WELL BEING OF THE LOCAL POPULATION.
●	●		2. PREVAILING SPIRIT OF TRANSPARANCY, POLITICAL WILL TOWARDS GREATER INTEGRATION.
●			3. THIRTEEN LOCAL GOVERNMENT FUNCTIONS NEED TO BE ACCOMMODATED, CAN PROVIDE NEW INFRASTRUCTURAL GROWTH POINTS.
●			4. EXTENSION OF N4 PLANNED TO CREATE A BETTER LINK BETWEEN GAUTENG AND MOZAMBIQUE CAN FACILITATE GREATER ACCESSIBILITY, RELIEVE EXISTING NELSPRUIT CBD FROM DANGEROUSLY FAST MOVING THROUGH TRAFFIC. ROUTE LINING IMPORTANT TO CREATE OPPORTUNITIES.
●			5. REGIONAL GROWTH HAS NECCESSITATED THE UPGRADING/REPLACEMENT OF THE LOCAL AIRPORT WHICH CANNOT SERVE BOEING AIRCRAFT.
			6. FERTILE AGRICULTURAL LAND CAN PROVIDE IN MUCH OF THE SUBSISTANCE NEEDS OF THE LOCAL POPULATION.
●			7. DEGREE OF CONSERVATIVE/AUTOCRATIC SWAZI VALUES.
●			8. TAX BASE EXTENDED TO FORM A COMMON TAX BASE INCORPORATING NELSPRUIT/WHITE RIVER AND TOWNSHIPS IN OUTLYING AREAS.
●	●		9. ERADICATION OF PREVIOUS KANGWANE BORDER.
●			10. NONDISCRIMINATORY INDIVIDUAL LAND TENURE.
●			11. GOOD INFRASTRUCTURE OF ROADS AND RAIL MUST BE USED TO ASSIST IN CREATING IMPROVED ACCESSIBILITY IN CONJUNCTION WITH NEW INFRASTRUCTURE.
●			12. INDUSTRIAL/ECONOMIC GROWTH, DEMAND FOR INDUSTRIAL LAND.
	●		13. GOVERNMENT SUBSIDIATION ON LOW-INCOME HOUSING.

LIMITATIONS

○			1. DISPROPORTIONATELY LONG DISTANCES BETWEEN INTERDEPENDENT SECTORS OF THE ECONOMIC COMMUNITY WITHIN THE RANDSTAD, E.G NELSPRUIT KANYAMAZANE 19KM.
○			2. TRADITIONAL ANTI-URBAN SWAZI VALUES RUNS CONTRARY TO DEMOCRATIC SPIRIT, CHIEFS COLLECT THEIR OWN TAXES, DISTRIBUTE LAND, ETC.
	●		3. MANY STEEP SLOPES DENY DEVELOPMENT, MAKE PROVISION OF INFRASTRUCTURE COSTLY.
○	○		4. ENTRENCHED CONSERVATIVE ATTITUDES AMONGST FARMERS, URBAN WHITES AND THE LOCAL PLANNING AUTHORITIES. OCCUPATION OF IMPORTANT LINKAGE AREAS BY FARMLAND, A POTENTIAL EMOTIONALLY SENSITIVE ISSUE.
○			5. CURRENTLY POOR VEHICULAR ACCESS TO ROADS LEADING TO GAUTENG MARKETS, CLUSTERING OF INDUSTRY'S AT NELSPRUIT'S NORTHERN OUTSKIRTS. (PREVIOUS BUFFER)
●			6. LOPSIDED MONOFUNCTIONAL SPATIAL DEVELOPMENT IN NELSPRUIT MAKE LINKAGES INTEGRATION DIFFICULT.
●			7. LIMITED FORMAL JOB OPPORTUNITIES.
○			8. LOCAL GOODS EXPORTED/DISTRIBUTED THROUGH OTHER REGIONAL MARKETS, PORTION OF REVENUE THROUGH PROFITS LOST TO THE PROVINCE.
	○		9. NEGATIVE PERCEPTION REGARDING LOW INCOME HOUSING ON NELSPRUIT'S PERIPHERY, MAIN CONSIDERATION NOT ACCESSIBILITY BUT VISIBILITY FROM NELSPRUIT'S SUBURBS.

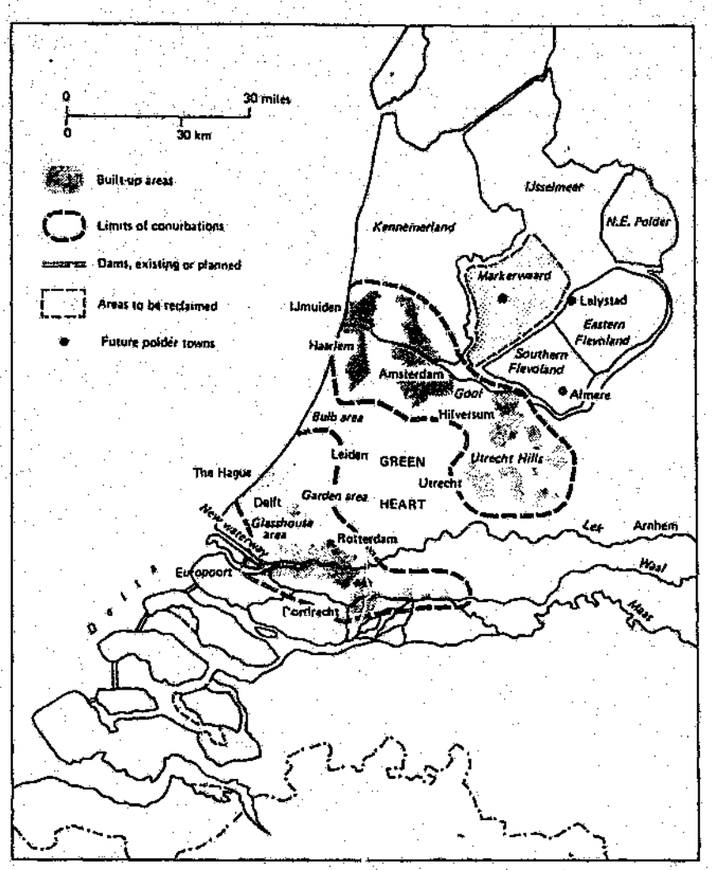


Fig 2.17 Randstad Holland and Randstad Nelspruit share the unique characteristic of being polycentric models surrounding an agricultural heart. (Randstad Holland: Hall:1966).

2.6 PRECEDENT STUDY: RANDSTAD HOLLAND: GROWTH AS A RESULT OF URBANIZATION IN THE POLYCENTRIC CITY

2.6.1 INTRODUCTION

In the fascinating book *The World Cities*, Peter Hall (1966) discusses metropolitan explosion and outward deconcentration of six world cities. He sites the Randstad or Ring City, of the Netherlands to be an urban complex of a very special kind. Instead of concentrating all the functions into a single, highly centralised giant city, such agglomerates manage by accidents of history to distribute them along a number of smaller, specialized, closely related centres . This 'polycentric' type of metropolis has special interest for planners and citizens in those countries that have to grapple with the centralized city.

Although the Dutch precedent is much more densely populated and much more active economically because of it including the port of Rotterdam, the Nelspruit Randstad comprising Nelspruit, White River and Nsikasi, likewise has a horseshoe shaped footprint surrounding a green agricultural heart. Whereas sprawl is inhibited to one side by the English channel in Holland, the steeply sloping hills to the south of Nelspruit perform the same function. Both Randstad Holland and Randstad Nelspruit lie en route between other major centres - Randstad Holland between Paris/Brussels and Amsterdam and Nelspruit on the shortest route between Gauteng and its closest port, Maputo.

2.6.2 LESSONS LEARNT FROM RANDSTAD HOLLAND

From the study of Randstad Holland the following aspects of a conscious outward planning strategy have emerged which could hold valuable lessons for Nelspruit Randstad from a physical planning perspective.

Firstly, the decision to maintain and protect the agricultural heartland must be consistent and rigorously enforced in the face of developmental pressures.

Secondly, If it is not to expand laterally, by coalescence within the urban ring, or inwards into the agricultural heartland, it can only grow outwards.

Thirdly, short of uncontrolled outward urban sprawl, two possibilities suggest themselves. One is the establishment of a green belt, on the London model, separating the Randstad from an outer ring of towns and cities surrounding it. The other which was chosen in preference , is expansion along the main transport routes - road, rail and water - in radial lines extending outwards from the Randstad. These zones of growth would themselves be separated by wedges of open land which could continue the agricultural buffer zones of the Randstad.

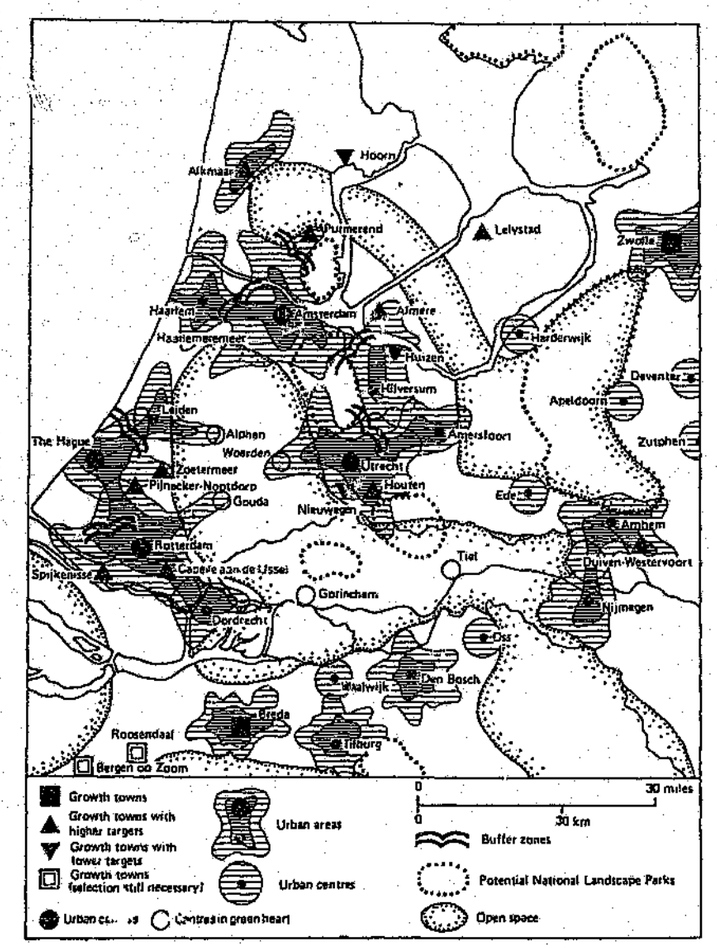


Fig 2.18 Principles of urban development: The report on physical planning sugests that provision must be made for continued decentralisation from the Randstad cities, particularly by providing growth centres on the outsides of the two urbanised wings. Buffer zones will separate the major cities within the wings (Hall 1966).

2.6.3. SOCIO- ECONOMIC AND SOCIO-POLITICAL IMPLICATIONS OF ADOPTING A POLYCENTRIC PLANNING MODEL

The unique polycentric structure of the randstad model has both positive and negative socio-economic and socio-political implications which are important to consider from an urban design perspective.

The following are positive aspects:

The first positive aspect is that from an 'accidental' origin there was a common desire(choice) amongst the inhabitants to retain the agricultural heartland. The model was therefore never imposed through rigid planning but emerged spontaneously. Later outward planning necessitated by urbanisation respected this base. From the outset the model therefore had popular support. In the case of Nelspruit the polycentric configuration is largely due to Apartheid planning. The agricultural heart is entirely owned by wealthy white farmers and a decision to conserve it might be seen as an effort to protect sectional white interests. The positive aspects of the model such as the real possibility to support rapid transit systems along high-density corridors surrounding the agricultural heart should however be recognised despite the models forcedly imposed origins.

The second positive aspect is that the model can provide greater access to land for inhabitants because of the extended fringe that borders on agricultural land. This fits in well with the traditional subsistence culture of the Swazi who has a traditional longing for land. Land bordering directly on the extended fringe may be owned by the community and can provide an opportunity for labour intensive agricultural pursuits. Some residents may choose to spend some time at their main job and the rest on the communal land while others have the opportunity to continue to practice subsistence culture on a full-time basis. The indications are that full employment is unlikely to occur in the foreseeable future and that residual employment opportunities need to be made available. The outcome would be that the overall quality and standard of life would improve. Communal farming can raise revenue to maintain various communal services and facilities.

The Dutch are prone to emphasise a third advantage: the ability to plan for continued growth. It is that the traditional economic functions of the metropolitan centre- the government, trading and financial functions, as well as the cultural , educational, manufacturing and retail developments that follow from them, are not concentrated in one centre but are spread out in several, which remain physically separate despite their closeness.The government function is fixed in the Hague; the port and wholesaling function, as well as the heavy industry that support it in Rotterdam, and the financial functions, many of the cultural and retail functions in Amsterdam.

The fourth positive aspect is that as a result of this basic division, the enormous expansion of the lighter manufacturing industry has not taken place in an amorphous ring around one city, but has gone to great extent into towns quite separate from the three big cities though within easy reach of them.

The fifth positive aspect is that the components of the Randstad remain physically distinct- and distinct too in important elements of economic structure. Each remains sperate from the next by a buffer zone of open land. And in the centre of the horseshoe, there is still the unique feature created by a vast tract of open rural land.

Hall sites the following as problems created by the Randstad model. Only those relevant to the Nelspruit case study have been extracted:

Firstly, most serious of all, is the need for housing land. The growth of the suburbs will cause the cities of the Randstad to coalesce along the line of the horseshoe so that the Netherlands will have a continuous linear city 180 kilometres long. When the agricultural heart starts filling up through lack of space, the Randstad will lose its unique character and become merely a vast urban sprawl. Apart from filling up the heart, there is the other areas where the city is tending to spread into attractive hilly country that is important for both agriculture and recreation. For Randstad Nelspruit this does not really pose a problem as vast tracts of land still exist along the + - twenty kilometre long corridors of land which separate the Randstad's centres.

Secondly, the lack of space make it difficult for many people to enjoy the one-family type of house which they prefer. Building costs are high due to scarcity of land and due to the nature of the terrain.

Thirdly, there is an acute problem of providing an adequate tax base for public works within the cities , where the problems are most severely concentrated, because the resident population is growing in the suburban areas outside the city limits.

2.6.4. CONCLUSION

When considering the Nelspruit case study, these advantages and disadvantages discussed above should influence judgement in a pro-active manner. The Randstad model offers an ideal opportunity of weighing social choice i.t.o. housing, access and spatial quality in Nelspruit against informed professional judgement which considers possible success, based on the Dutch precedent. This calls for considered adaption of probabilities due the difference in scale and socio-economical context.

The following principles from the Randstad Holland precedent is applicable to Randstad Nelspruit and are drafted into the decisions matrix to assist in formulating an informed urban design framework(see case study Chapter 5):

1. IF THE RANDSTAD IS NOT TO EXPAND LATERALLY BY COALESCENCE WITH THE URBAN RING OR INWARD INTO THE AGRICULTURAL HEART, IT CAN ONLY GROW OUTWARD

2. THE DECISION TO MAINTAIN AND PROTECT THE AGRICULTURAL HEARTLAND MUST BE CONSISTENTLY AND RIGOROUSLY ENFORCED IN THE FACE OF DEVELOPMENTAL PRESSURES.

3. EXPLOIT THE GREATER ACCESS TO LAND PROVIDED FOR BY AN EXTENDED FRINGE, RURAL/URBAN INTERFACE.

4. CREATE COMMUNAL LAND ON THE FRINGE WHERE RESIDUAL EMPLOYMENT OPPORTUNITIES CAN BE FACILITATED.

5. TRADITIONAL ECONOMIC FUNCTIONS OF THE METROPOLITAN CENTRE , THE GOVERNMENT, TRADING AND FINANCIAL FUNCTIONS AS WELL AS THE CULTURAL, EDUCATIONAL, MANUFACTURING AND RETAIL DEVELOPMENTS THAT FOLLOW THEM SHOULD NOT BE CONCENTRATED IN ONE CENTRE BUT SHOULD BE SPREAD OUT IN SEVERAL WHICH REMAIN PHYSICALLY SPERATE DESPITE THEIR CLOSENESS.

6. CREATE BUFFER ZONES BETWEEN DISTINCT AND IDENTIFIABLE SECTORS OF THE EMERGING RANDSTAD.

RANDSTAD NELSPRUIT



RANDSTAD HOLLAND

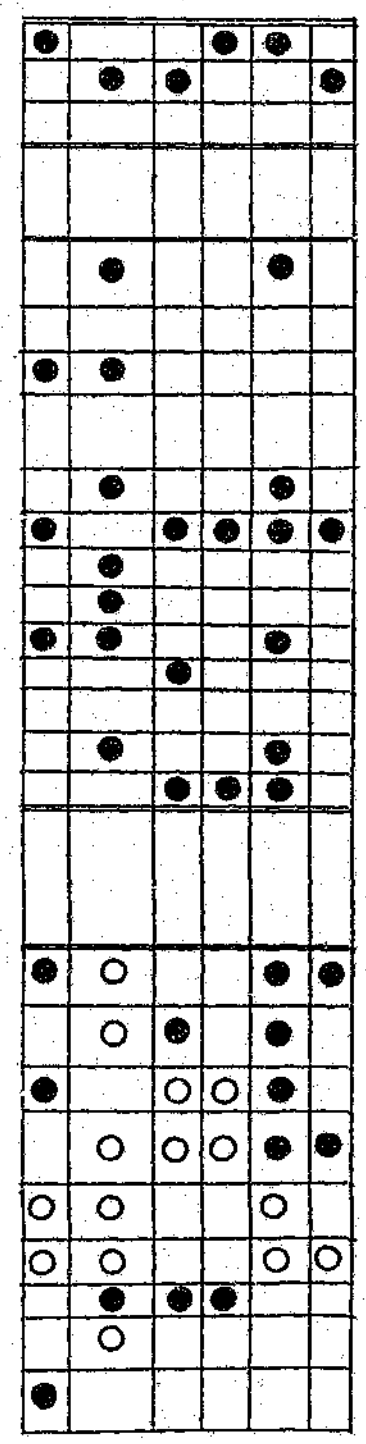
RANDSTAD HOLLAND

RANDSTAD HOLLAND	SPATIAL PROCESSES, MECHANISMS, CITY
14. IF THE BOUNDARY IS NOT TO EXPAND INDEFINITELY OR COALESCE WITH THE SURROUNDING OR REMAINS INTO THE AGRICULTURAL BELT IT CAN ONLY GROW OUTWARD	
11. THE DECISION TO MAINTAIN AND PROTECT THE AGRICULTURAL HEARTLAND MUST BE CONSISTENT AND RIGOROUSLY ENFORCED IN THE FACE OF DEVELOPMENTAL PRESSURE	
12. EXPLOIT THE GREATER ACCESS TO LAND ITS PROVIDED BY AN EXTENDED PRIMARY URBAN/RURAL INTERFACE	
13. CREATE COMMERCIAL LAND ON THE PRIMARY WHERE RESIDUAL DIFFICULTY OPPORTUNITIES CAN BE CREATED	
20. TRADITIONAL ECONOMIC FUNCTIONS OF THE METROPOLITAN CENTRE, THE GOVERNMENT, TRADING AND FINANCIAL FUNCTIONS AS WELL AS THE CULTURAL, EDUCATIONAL, MANUFACTURING AND RETAIL DEVELOPMENTS THAT FOLLOW THEM SHOULD NOT BE CONCENTRATED IN ONE CENTRE BUT SHOULD BE SPREAD OUT IN SEVERAL THICK POINTS PARTICULAR DEPENDS DEGREE THEIR CLOSENESS	
21. CREATE WATER SUPPLY BETWEEN DISTRICT AND SHORTTIMER SECTORS OF THE EMERGING RANDSTAD.	

PRECEDENT



RELEVANCE TO RANDSTAD NELSPRUIT



VERY RELEVANT

RELEVANT

NOT RELEVANT

OPPORTUNITIES

1. NELSPRUIT AS NEW FIRST CAPITAL OF THE NEWLY ESTABLISHED EASTERN TRANSVAAL/MPUMALANGA PROVINCE, OWN REGIONAL GOVERNMENT WHICH CAN RESPOND TO SPECIFIC NEEDS AND HAS A PERSONAL INTEREST IN THE WELL BEING OF THE LOCAL POPULATION.

2. PREVAILING SPIRIT OF TRANSPARANCY, POLITICAL WILL TOWARDS GREATER INTEGRATION.

3. THIRTEEN LOCAL GOVERNMENT FUNCTIONS NEED TO BE ACCOMMODATED. CAN PROVIDE NEW INFRASTRUCTURAL GROWTH POINTS.

4. EXTENSION OF N4 PLANNED TO CREATE A BETTER LINK BETWEEN GAUTENG AND MOZAMBIQUE. CAN FACILITATE GREATER ACCESSIBILITY, RELIEVE EXISTING NELSPRUIT CBD FROM DANGEROUSLY FAST MOVING THROUGH TRAFFIC. ROUTE LINKS IMPORTANT TO CREATE OPPORTUNITIES.

5. REGIONAL GROWTH HAS NECESSITATED THE UPGRADING/REPLACEMENT OF THE LOCAL AIRPORT WHICH CANNOT SERVE BOEING AIRCRAFT.

6. FERTILE AGRICULTURAL LAND CAN PROVIDE IN MUCH OF THE SUBSISTANCE NEEDS OF THE LOCAL POPULATION.

7. DEMISE OF CONSERVATIVE/AUTOCRATIC SWAZI VALUES.

8. TAX BASE EXTENDED TO FORM A COMMON TAX BASE INCORPORATING NELSPRUIT/WHITE RIVER AND TOWNSHIPS IN OUTLYING AREAS.

9. ERADICATION OF PREVIOUS KANGWANE BORDER.

10. NON-DISCRIMINATORY INDIVIDUAL LAND TENURE.

11. GOOD INFRASTRUCTURE OF ROADS AND RAIL MUST BE USED TO ASSIST IN CREATING IMPROVED ACCESSIBILITY IN CONJUNCTION WITH NEW INFRASTRUCTURE.

12. INDUSTRIAL/ECONOMIC GROWTH, DEMAND FOR INDUSTRIAL LAND.

13. GOVERNMENT SUBSIDATION ON LOW-INCOME HOUSING.

LIMITATIONS

1. DISPROPORTIONATELY LONG DISTANCES BETWEEN INTERDEPENDENT SECTORS OF THE ECONOMIC COMMUNITY WITHIN THE RANDSTAD E.G NELSPRUIT KANYAMAZANE 13KM.

2. TRADITIONAL ANTI -URBAN SWAZI VALUES RUNS CONTRARY TO DEMOCRATIC SPIRIT, CHIEFS COLLECT THEIR OWN TAXES, DISTRIBUTE LAND, ETC.

3. MANY STEEP SLOPES DENY DEVELOPMENT, MAKE PROVISION OF INFRASTRUCTURE COSTLY.

4. ENTRENCHED CONSERVATIVE ATTITUDES AMONGST FARMERS, URBAN WHITES AND THE LOCAL PLANNING AUTHORITIES. OCCUPATION OF IMPORTANT LINKAGE AREAS BY FARMLAND. A POTENTIAL EMOTIONALLY SENSITIVE ISSUE.

5. CURRENTLY POOR VEHICULAR ACCESS TO ROADS LEADING TO GAUTENG MARKETS, CLUSTERING OF INDUSTRY'S AT NELSPRUITS NORTHERN OUTSKIRTS (PREVIOUS BUFFER)

6. LARGE-SIDED MONOFUNCTIONAL SPATIAL DEVELOPMENT IN NELSPRUIT MAKE LINKAGES INTEGRATION DIFFICULT.

7. LIMITED FORMAL JOB OPPORTUNITIES.

8. LOCAL GOODS EXPORTED/DISTRIBUTED THROUGH OTHER REGIONAL MARKETS, POSSIBLY LOSS OF REVENUE THROUGH PROFITS LOST TO THE PROVINCE.

9. NEGATIVE PERCEPTION REGARDING LOW INCOME HOUSING ON NELSPRUITS PERIPHERY. MAIN CONSIDERATION NOT ACCESSIBILITY BUT VISIBILITY FROM NELSPRUIT'S SUBURBS.

2.7 MOBILITY IN THE SOUTHERN- AFRICAN CITY: HARARE AS PRECEDENT

Just like in other developing countries, the problems of public transport operation and planning in Zimbabwe are a product of high population growth and urbanization. The urban poor have no options in terms of access but to use public or private taxi transport.

Situma(1986) states that ineffective coordination between transportation systems and land-use developments is precipitating inefficiencies that could be avoided through careful planning, design, and operations of public transport systems and programs. Opposed to this the conceptual approach to transportation operations and planning is grounded in traditional demand and supply theory. There is no pro-active vision which acknowledges the continuing urbanization pattern. What has passed are crude projections of past operational and planning trends resulting in inappropriate highway oriented transportation facilities, and high disparities between high density-low income - and low density high income residential areas. Although private vehicles will probably continue to be a major mode of transport in Zimbabwe, failure of public transportation services deprive much of the population essential mobility and access to choice.

Situma(1986) has established that there are important relationships between political development activities in a regional context and many of the transportation problems plaguing Zimbabwe and other countries in the region.

Land use development in cities have been affected by colonialism and political objectives. The street layout, residential locations, central business districts and *defacto*, if not *de-jure* residential separation, architectural peculiarities, and several other urban features portray alien planning concepts which directly affect demand in terms of accessibility. Through greater efforts towards unification, adjustments are being made in consequence. In time the imprint of alien influence will disappear but the physical distance-related layer will remain. This has lead to a concept of stitching for improved accessibility rather than denying the spatial realities.

Given basic cost characteristics and trade-offs, a rational consumption pattern for urban housing and transportation services can be outlined. Poverty is an important and probably a chronic concern in African urbanization. During the colonial days most African cities were essentially cities for expatriates or local elites. They are now indiginised and increasingly becoming cities of the poor. This demographic pressure is subjecting the urban systems to new, unbearable burdens when the existing systems are already under severe strains. In the face of inappropriate, ineffective access from outlying areas the urban poor will rather accept the discomforts of higher densities and informal, unserviced shelter closer in. This will in turn lead to increase in crime and deterioration of health rough poor socio economic conditions. The importance of a wider range of choice and effectiveness in terms of access in the post-Apartheid city cannot be over-emphasised. The poor are not flocking to the city for houses but for opportunities and jobs. Continuing to give them houses inconveniently far from these opportunities without marginally eradicating these inconveniences through improved access will constitute a wasteful exercise.

In the next section Bombay is studied as precedent. It shares many of the accute problem of inadequate physical access characterising Southern - African cities. Here some progress has been made to alleviate the problem through the planning of a responsive and flexible rapid transit system



Fig 2.19 A peak hour scene at a Harare bus terminus Demand has far outstripped available capacities.

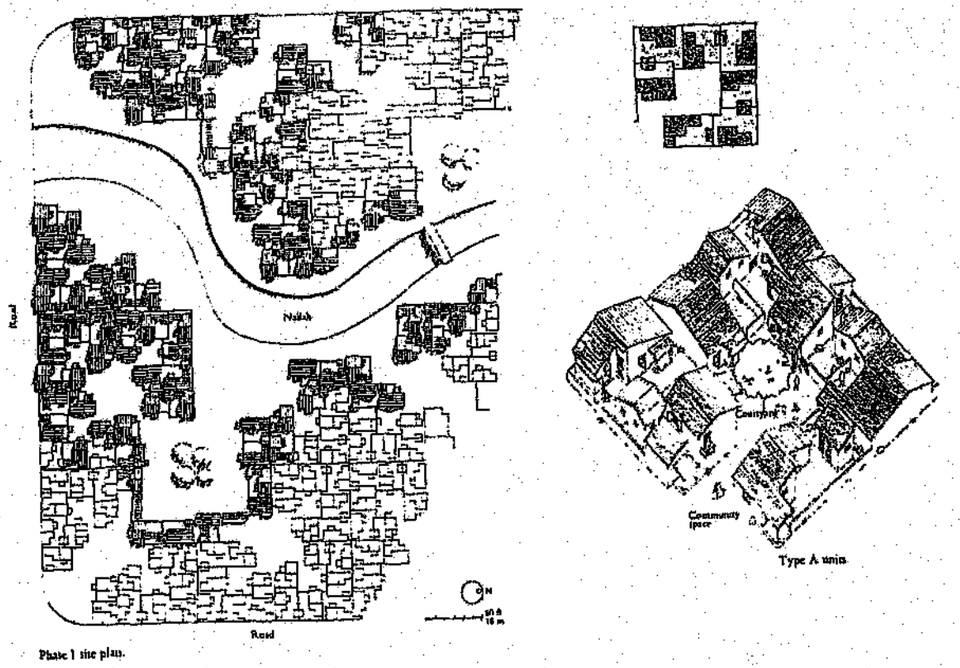


Fig 2.20 Balpur: plan of one of Corea's typical low - rise, high-density housing projects (Khan: 1984)

2.8 PRECEDENT STUDY: BOMBAY- IMPROVING ACCESS IN THE LOW-RISE, HIGH DENSITY THIRD WORLD CITY:

2.8.1. INTRODUCTION

The negative social consequences and blight created by high-rise apartment buildings built to facilitate higher densities have been illustrated sufficiently by American examples to condemn the concept outright in favour of low-rise high-density configurations in Third World cities. Charles Corea supports this view. He comes to the all-important conclusion that this is the kind of habitat which people have always **chosen** to build, and can continue to build, for themselves. It is also of decisive relevance to employment. For while money invested in high-rise steel and concrete buildings goes into the hands of the few contracts who can build such structures and the banks which can finance them, this low-rise pattern of housing is built by small masons and contractors - which of course generates a far greater number of jobs exactly where they should be generated: in the bazaar sector of the economy, where the rural migrants are looking for work. Corea therefore sees the larger low-rise dense city with its inherent characteristics of sprawl as better suited to the third world city than the more dense high rise solutions adopted in first world cities.

2.8.2 APPROPRIATENESS OF BOMBAY'S IMPROVED ACCESS MODEL TO NELSPRUIT.

With the possibility of a larger Nelspruit Randstad surrounding a preserved agricultural heart; Bombay, divided by the sea, becomes an appropriate, although proportionally exaggerated precedent because of the much higher densities of people. The important lesson is however related to improved access in a linearly extended urban context. By studying the Bombay precedent, decisions can be made pro-actively in anticipation of likely continued urbanization, unlike the unfortunate Zimbabwe scenario (see Chapter 2.)

The problem of increasing city size is also one of servicing the larger area: will not lowering residential densities and limiting building height as Corea proposes in his prototypical mass housing schemes disproportionately increase travel time and cost? After all, the poor aren't pouring into Bombay for houses - they are looking for jobs. Giving them housing far away from the city isn't much help unless access is improved.

As an influential member of CIDCO (Bombay's City and Industrial Development Corporation) architect Charles Corea has been actively involved in promoting the implementation of a highly mobile public transport system as this is closely related to the spatial/density aspect of the housing problem:

A mass transport system is by definition a linear element. It only becomes viable in the context of a land-use plan that develops corridors of high density demand. This is why a grid plan (e.g.

Chandigargh and Johannesburg) is difficult to service with public transport. On the other hand , a linear pattern creates a corridor of demand and thus an efficient bus(/taxi) system.

As bus(/taxi) traffic grows, primary MRT(Mass Rapid Transit) e.g train becomes necessary. To install tracks down the centre of development involves reserving or dispropriating land- which often becomes an emotional issue. Keeping the MRT alignment outside the system is a better solution, since the train stations occur only every fourth or fifth sector. In order to avoid the somewhat devious train alignment, the pattern is reversed with a bus line which meanders.

The system grows as follows:

It starts with a bus line generating a series of sectors of approximately equal importance. Lets call them Type A. Perhaps one, because of its particular location grows in importance; lets call it type B. As the traffic grows and the primary MRT is installed, the interchanges generate new activity, upgrading these particular sectors (Type C). With time, a second bus line can be installed, opening up a whole new section of the hinterland. (The system shown diagrammatically in figure 2.21 is on a typical portion of the New Bombay site which runs between hills and water.) In future, should densities and traffic grow beyond expectation, an additional primary MRT can be installed. This upgrades the importance of some type A sectors which then provide an opportunity for locating new social infrastructure and other facilities for the additional population. The framework for New Bombay with three such linear spines is arranged in a pinwheel around the CBD at one end and into the regional transport network at the other, anchoring the new city into the surrounding region.

Thus, starting with a simple bus(/taxi) in mixed traffic, with increased urbanization the system gradually builds up to a complex network involving trains on four or more tracks, without at any time transgressing the cost/capacity constraints. Even if some subsidy is involved this is really an indirect subsidy on housing; a far more effective strategy than directly subsidising housing which often leads (at least under Indian conditions) to an illegal transfer of these tenements, the allottee preferring to cash in on the market value of the unit and moving back onto the pavements.

In effect, the system is used to increase the supply of urban land at a rate commensurate with the demand - thus maintaining residential densities at the optimal levels which generate the pattern of low-rise housing discussed earlier. The analogue to the human body is tempting; we know we are in trouble when our temperature crosses 37'C: perhaps density levels are a similar indicator for cities and we will choose to prevent them from reaching an unhealthy level through greater mobility in the low-rise, moderately high density city.

2.8.3. CONCLUSION

The following principles from the Bombay precedent is applicable to Randstad Nelspruit and are drafted into the decisions matrix to assist in formulating an informed framework(see Chapter 5: case study).

1. FAVOUR LOW-RISE HIGH DENSITY DEVELOPMENTS ABOVE HIGH RISE- HIGH DENSITY DEVELOPMENTS BECAUSE IT IS THE TYPE OF ENVIRONMENT PEOPLE IN THIRD WORLD COUNTRIES HAVE ALWAYS CHOSEN TO BUILD FOR THEMSELVES.

2. USE MANAGEABLE LOW-RISE, HIGH DENSITY HOUSING DELIVERY OPTIONS TO CREATE JOB OPPORTUNITIES IN THE BAZAAR SECTOR OF THE ECONOMY.

3. DEVELOP CORRIDOR[illegible] HIGH DENSITY DEMAND TO SUPPORT PUBLIC TRANSPORT.

4. ACTIVELY PROMOTE THE IMPLEMENTATION OF A HIGHLY MOBILE PUBLIC TRANSPORT SYSTEM WHICH CAN BE UPGRADED AS DEMAND INCREASES. (TAXI/BUS/RAIL).

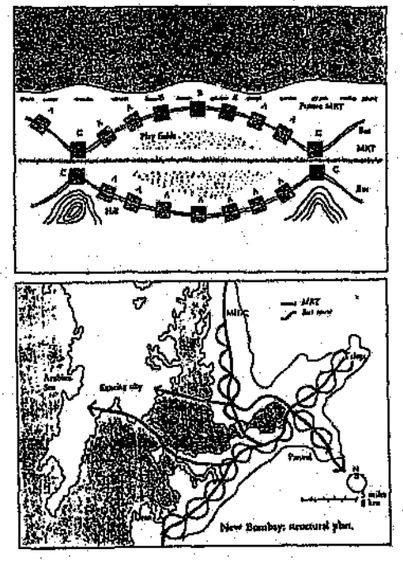


Fig 2.21 Bombay's proposed Mass Rapid Transit system graphically illustrated. (Khan: 1984)

RANDSTAD NELSPRUIT



BOMBAY

BOMBAY

BOMBAY	MORTALITY OF THE HONG KONG CITY
21. FAVOUR LOW-RISE HIGH MOBILITY, DECENTRALISED AREAS AND REGIONAL DEVELOPMENTS BECAUSE IT IS THE KIND OF LIFE WHICH PEOPLE HAVE ALWAYS CHOSEN TO BUILD FOR THEMSELVES.	
22. THE HOUSING DILEMMA TO CREATE AN OPPORTUNITIES IN THE SLUMS SECTOR OF THE ECONOMY	
23. DEVELOP CORRIDORS OF HIGH DENSITY ZONING TO SUPPORT PUBLIC TRANSPORT	
24. ACTIVELY PROMOTE THE IMPLEMENTATION OF A HIGHLY MOBILE TRANSPORT SYSTEM TO SERVICE THE HIGH MOBILITY CORRIDORS.	



PRECEDENT

RELEVANCE TO RANDSTAD NELSPRUIT

	●	●	●		VERY RELEVANT
●					RELEVANT
					NOT RELEVANT
				●	
●			●		
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OPPORTUNITIES

1. NELSPRUIT AS NEWEST CAPITAL OF THE NEWLY ESTABLISHED EASTERN TRANSVAAL/MPUMALANGA PROVINCE. OWN REGIONAL GOVERNMENT WHICH CAN RESPOND TO SPECIFIC NEEDS AND HAS A PERSONAL INTEREST IN THE WELL BEING OF THE LOCAL POPULATION.

2. PREVAILING SPIRIT OF TRANSPARANCY/POLITICAL WILL TOWARDS GREATER INTEGRATION.

3. THIRTEEN LOCAL GOVERNMENT FUNCTIONS NEED TO BE ACCOMMODATED. CAN PROVIDE NEW INFRASTRUCTURAL GROWTH POINTS.

4. EXTENSION OF N4 PLANNED TO CREATE A BETTER LINK BETWEEN GAUTENG AND MOZAMBIQUE. CAN FACILITATE GREATER ACCESSIBILITY. RELIEVE EXISTING NELSPRUIT CBD FROM DANGEROUSLY FAST MOVING THROUGH TRAFFIC. ROUTE LINING IMPORTANT TO CREATE OPPORTUNITIES.

5. REGIONAL GROWTH HAS NECESSITATED THE UPGRADING/REPLACEMENT OF THE LOCAL AIRPORT WHICH CANNOT SERVE BOEING AIRCRAFT.

6. FERTILE AGRICULTURAL LAND CAN PROVIDE IN MUCH OF THE SUBSISTANCE NEEDS OF THE LOCAL POPULATION.

7. DEMISE OF CONSERVATIVE/AUTOCRATIC SWAZI VALUES.

8. TAX BASE EXTENDED TO FORM A COMMON TAX BASE INCORPORATING NELSPRUIT/WHITE RIVER AND TOWNSHIPS IN OUTLYING AREAS.

9. ERADICATION OF PREVIOUS KANGWANE BORDER.

10. INCORPORATION OF INDIVIDUAL LAND TENURE.

11. GOOD INFRASTRUCTURE OF ROADS AND RAIL MUST BE USED TO ASSIST IN CREATING IMPROVED ACCESSIBILITY IN CONJUNCTION WITH NEW INFRASTRUCTURE.

12. INDUSTRIAL/ECONOMIC GROWTH, DEMAND FOR INDUSTRIAL LAND.

13. GOVERNMENT SUBSIDATION ON LOW-INCOME HOUSING.

LIMITATIONS

1. DISPROPORTIONATELY LONG DISTANCES BETWEEN INTERDEPENDENT SECTORS OF THE ECONOMIC COMMUNITY WITHIN THE RANDSTAD. E.G NELSPRUIT KANYAMAZANE 190K.

2. TRADITIONAL ANTI URBAN SWAZI VALUES RUNS CONTRARY TO DEMOCRATIC SPIRIT. CHIEFS COLLECT THEIR OWN TAXES, DISTRIBUTE LAND, ETC.

3. MANY STEEP SLOPES DENY DEVELOPMENT, MAKE PROVISION OF INFRASTRUCTURE COSTLY.

4. ENTRENCHED CONSERVATIVE ATTITUDES AMONGST FARMERS, URBAN WHITES AND THE LOCAL PLANNING AUTHORITIES. OCCUPATION OF IMPORTANT LINKAGE AREAS BY FARMLAND. A POTENTIAL EMOTIONALLY SENSITIVE ISSUE.

5. CURRENTLY POOR VEHICULAR ACCESS TO ROADS LEADING TO GAUTENG MARKETS. CLUSTERING OF INDUSTRY AT NELSPRUITS NORTHERN OUTSKIRTS (PREVIOUS BUFFER)

6. LOPSIDED MONOFUNCTIONAL SPATIAL DEVELOPMENT IN NELSPRUIT MAKE LINKAGES INTEGRATION DIFFICULT.

7. LIMITED FORMAL JOB OPPORTUNITIES.

8. LOCAL GOODS EXPORTED/DISTRIBUTED THROUGH OTHER REGIONAL MARKETS. PORTION OF REVENUE THROUGH PROFITS LOST TO THE PROVINCE.

9. NEGATIVE PERCEPTION REGARDING LOW INCOME HOUSING ON NELSPRUITS PERIPHERY. MAIN CONSIDERATION NOT ACCESSIBILITY BUT VISIBILITY FROM NELSPRUIT'S SUBURBS.

CHAPTER 3

CHAPTER 3
REGIONAL GUIDANCE AND CHOICE: OPPORTUNITIES FOR GREATER ACCESSIBILITY WITHIN THE NEW SOUTH AFRICAN PARADIGM

3.1 INTRODUCTION: THE APPROPRIATENESS OF REGIONAL CHOICE.

Something seems right about the regional idea, for it highlights the historical nature of real possibilities for real communities(Kolb 1990, p.169). But there are many problems; foremost is the lack of homogenous regions. While the natural context may be constant in the Eastern Transvaal, even there the social and cultural scenes multiply and change. Our ideal of regionalism comes from Europe, where nations and cities have long histories with distinctive cultural and building traditions. But South-Africa lack such convenient separations - like all New World regions. This does not mean that there are no regions, only that we must not expect tight internal unity.

Frampton's regionalism provides more than refuge:
Everything will depend on the capacity of rooted culture to recreate its own tradition while appropriating foreign influences at the level of both culture and civilization.....Regionalism is a dialectical expression. Any attempt to circumvent this dialectical synthesis through a recourse to superficial historicism can only result in consumerist iconography masquerading as culture.(Frampton 1982, p.77)

Those who deny that there is any such regional energy to qualify the universal flow mistake claims about universal dominance for an achieved total mastery of the local scene. Regionalism then becomes the broader task of finding native languages and vocabularies in their messiness and intersections. Instead of presuming that there is some core identity to be preserved, we should rather seek to extend those languages, taking advantage of what we find already in action. **A regional tone is partly found, partly created, always changing.** But, again, just because it is historical and multiple does not mean that it is totally malleable. Choices about such identities and their changes call for discerning appropriateness, for which there should be principles- not rules.(Kolb 1990, p.171)

Regional spatial frameworks have recently been developed for different metropolitan areas in South-Africa in response to changing political and social conditions. These frameworks highlight *real possibilities for real communities* and will facilitate considered judgement in terms of a common cause towards greater access to opportunity . Each metropolitan area within a macro regional context is however unique in its spatial, cultural and economic composition. Its contents will therefore have to be adapted in accordance with those characteristics found at a local level.

3.2. INTERIM SPATIAL FRAMEWORKS ADOPTED IN SOUTH - AFRICA IN RESPONSE TO A NEW PARADIGM OF SPATIAL INTEGRATION AND GREATER ACCESS TO OPPORTUNITY.

3.2.1. INTRODUCTION

In response to political change and the unique spatial characteristics of different South- African cities, spatial frameworks have been developed by local metropolitan chambers to facilitate improved access to opportunity in spatial terms. The central Witwatetrsrand's Interim Strategic Framework (ISF) was published in 1993 while Cape Town's Metropolitan Development Framework(MDF) was published in 1995. *Access* and *choice* are terms often used in tandem in these documents as they are mutually interrelated e.g. *"It is believed that an urban system that is complex in its structuring and complex in its spatial extent offers a model that yields maximum* ***opportunity*** *and* ***choice****"* (ISF p 7).

It is necessary to study the interim responses and visions in terms of access related to different spatial arrangements of the Apartheid city in order to guide **judgement** related to the formulation of appropriate principles for Nelspruit's unique polycentric configuration.

Before discussing these topical documents it is necessary to look at the general spatial characteristics of the conceptualised Apartheid city with its inherent lack of access to opportunity and choice. These characteristics may not all be that obvious in one's compartmentalised view of the city. Knowledge of them is however critical to the Urban Designer practising in South-Africa in order to facilitate informed judgement related to improved access to opportunity.

3.2.1.1. GENERAL SPATIAL CHARACTERISTICS OF THE APARTHEID CITY AND ASSOCIATED OPPORTUNITIES WITHIN THE NEW PARADIGM.

The effects of four decades of apartheid policy are clearly evident in the nature and form of our cities. Abrahams and Gardener of the Urban Foundation(1993) have identified the following common characteristics which will be used to assist the spatial analysis of Nelspruit.

* racial and geographic segregation

* inequitable investment in urban infrastructure, amenities and facilities

* urban sprawl(resulting in inefficiencies in the urban economy)

* a limited range and scale of housing options for the rapidly growing urban population

* the relegation of the majority of the urban poor to settlements on the periphery of the cities.

The Urban Foundation (Abrahams et al ,1993) believes that the post apartheid city must become more integrated, equitable, economically efficient and that it should offer all residents(and in particular, low income residents) a wider range of accommodation options, economic opportunity and better access to social and cultural facilities.

In order to begin working towards this vision, a new assessment of the opportunities that exist within the existing urban form is required.

The Urban Foundation's analysis has led to the identification of eight distinct zones within the city which offer opportunities for the delivery of low-income housing and better access to opportunity:

* Inner city areas: the traditional core or centre of the city, characterised by, inter-alia, multi-unit housing structures with resultant high building densities;

* existing low density suburbs: the low density former white group areas located within reasonable access to inner city areas, generally characterised by large properties and houses, and well developed infrastructure networks;

* existing townships: former African group areas established during the apartheid era, generally located some distance from the economic centres of cities and having poor access to socio-economic opportunities and facilities;

* the urban periphery: the undeveloped or under-developed belt of land on the fringe of the existing built up areas of the city;(discussed in more detail in chapter 4 "Edge City".)

* transitional areas: existing older residential areas that are experiencing rapid changes in both socio-economic profile and the intensity and type of land use

* strategic public or private land holdings: large tracts of well located

land owned by a single public or private body. This land is generally vacant , under utilised or has a use that is distinctly different from surrounding uses

* symbolic group areas land: vacant or under utilised land parcels generally in good locations, that were historically settled by African people who were dispossessed of such land due to the policies of apartheid; and

* existing spontaneous settlements: clusters of informal houses, generally constructed illegally on open land and having minimal or no infrastructural networks or socio-cultural facilities.

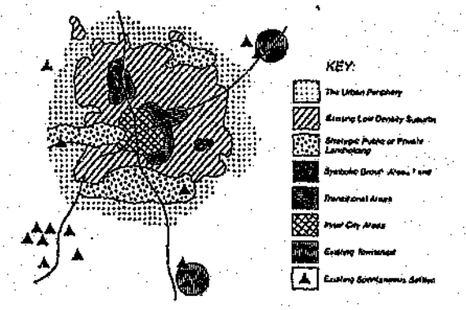


Fig:3.1 zones within a conceptualised South-African city (Abrahams, 1993)

When these zones within a conceptualised South-African city is translated to the Nelspruit Randstad the configuration is as shown on figure 3.2 alongside. Whereas the conceptualised city is based on the flat concentric model with zones surrounding the inner city, the higher lying Nelspruit Randstad loosely encloses a large lower lying zone of strategic public or private landholding. Because of the sprawled nature the periphery is greatly extended.

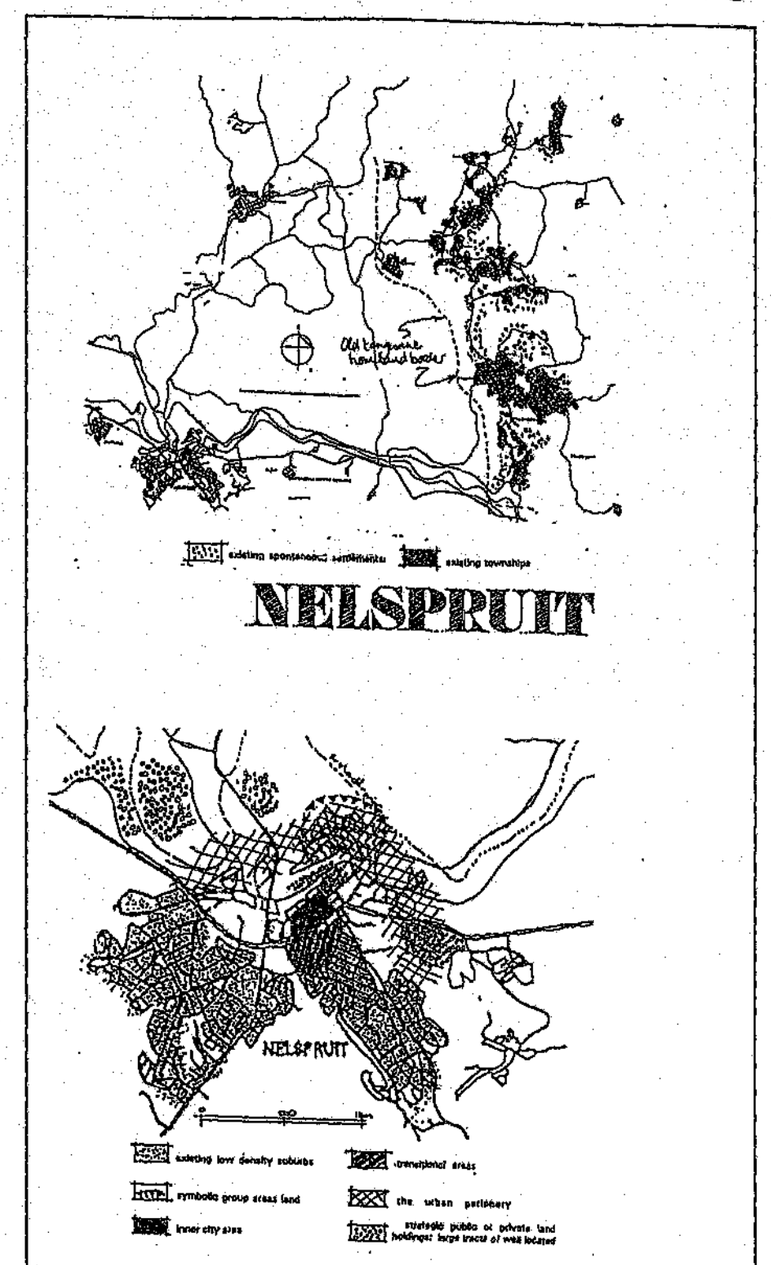


Fig 3.2 Zones within the conceptualised South - African city translated to Randstad Nelspruit.

3.2.1.2. THE WITWATERSRAND, CAPE TOWN AND NELSPRUIT METROPOLITAN REGIONS AS MANIFESTATION OF THE CLASSIC APARTHEID CITY MODEL.

3.2.1.3 THE RELATIONSHIP OF THE ISF AND MDF TO GENERAL SOCIAL CHOICE THEORY.

In its future phases the ISF and MDF will develop into legal documents. In their present form they consist mainly of principles which are subject to ratification through consensus. (see fig 3.3). These policies will represent judgement by a group of agents(including urban design consultants) based on collected probability and objectivity information.

In the run-up to the formulation of the ISF and MSF document a process has been followed which is generally in line with the democratic principles of social choice theory as discussed in chapter one. The final draft is intended to comprise a document which has considered the choices and rights of a diverse client group.

For many years South - African planners and urban designers have been forced to look at and work within cities of racially segregated parts in which choice was severely marginalised. Since the abolition of the group areas act free choice has become relevant and designers are now able to respond to choice in a less restricted manner. Cape Town's MDF and the central Witwatersrand's ISF reflect this new "freedom" to accommodate choice. The present rethoric is much closer related to open-ended ,process driven urban design theory than traditional blueprint planning. The following quote attests to the emergence of a new planning paradigm: " The relatively peaceful transition to democracy has brought with it a recognition of the failure of past approaches to planning and development. We have witnessed a dramatic change in planning priorities, exemplified by the Reconstruction and Development Programme(RDP) which aims to provide the basis for access to economic and social resources by the poor and marginalised"(MDF, p2).

In the relatively stable societies of the USA and the UK where *urban design* developed, the discipline has often been described as **'not radical'** and **'patient'.** Within our new democratic society there is an **urgency** to redress inequalities and to establish an equitable and judicious society with improved access to choice and justice. This means that conventional urban design rethoric may in the interim be inappropriate due to both the scale and intensity of the problem. Because of the margin of disparity, circumstances effectively call for **radical** intervention at all scales of the South - African city. Many interventions seem obvious but are not practical or economically viable. That five million houses need to be built within the next five years may seem obvious but is it economically or practically possible ? Under such urgent circumstances as described above the urban designer/planner is likely to draw hasty and unfortunate inferences. The ISF and MDF represent documents compiled through wide consultation. Active on the task team, apart from planners and urban designers are representatives from diverse yet interdependent sectors such as commerce and transport who traditionally worked in spatial isolation but who each significantly influence urban morphology.

As discussed in chapter one, the participating urban designer has an important role to play as *competent public agent*. He/she has to exercise his/her ability to relegate the obvious in favour of the common good, based on accumulated objectivity probability information. This information is accumulated in various ways- through drawing on an extensive base of reference, by actively studying precedent, by analysing the given scenario, by listening to and distilling the choices of various interest groups.....

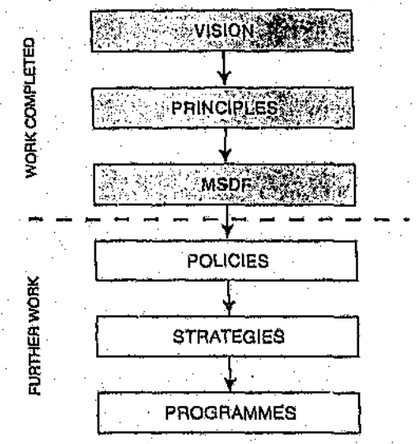


Fig 3.3 In its future phases the MDF and ISF will develop into policy documents

3.2.2. PRECEDENT STUDY: AN INTERIM STRATEGIC FRAMEWORK FOR THE CENTRAL WITWATERSRAND (ISF)

3.2.2.1. INTRODUCTION

Being appropriately divergent from the approach of traditional planning documents and leaning more towards the classic principles of urban design, this document forms a critical precedent for the broader Nelspruit Randstad, although regional peculiarities may require certain adaptions as will be illustrated in the case study chapter(chapter 5).

The ISF is defined as:"an instrument to guide decisions during the interim period regarding land use, bulk infrastructure and transportation in a way that addresses immediate crises and crystallizes a vision for the future".

In relationship to the topic of this discourse and urban design in general it goes further to state: "As we move to democracy through constitutional planning at National and local levels, let us not lose sight of the physical realm in which a-spatial processes find meaning and form".

and

"A fundamental of participatory democracy is to be found in the spatial structure of our urban systems and the extent to which all gain equal access to opportunities together with the right to make informed choices in day-to-day life".

3.2.2.2. THE ISF AS A BASIS FOR DEBATE.

"'The validity of the planning process relies on many aspects, but possibly none more than the extent to which the substance is exposed for rigorous debate". (ISF,p iv)

As yet the appropriateness of the framework, despite the thorough research on which it is founded, remains largely untested and relies on feedback and debate from those who are/will be affected by it. This is acknowledged by the (formal) authors. The framework task team has adopted a participant stance involving diverse interest groups. It is important to note that although being essentially a planning document it is not prescriptive but leaves opportunity for creative intervention/adaption to suit the specifics of the situation. The policy is therefore to inform and guide judgement related to spatial intervention through debate. The ISF represents an inclusive **process** in line with the principles of democracy and greater freedom of choice.

3.2.2.3. THE POLICY APPROACHES TO THE STRATEGIC AREAS OF CONCERN.

The ISF Policy Guidelines notes the following summarised strategic areas of concern and corresponding responses:

- The need for the intensification, densification and infilling of the existing urban pattern. ***In response the ISF must ensure that the existing pattern of development becomes more intense and fills in well located but under used pieces of land close to the mainstream of urban life.***

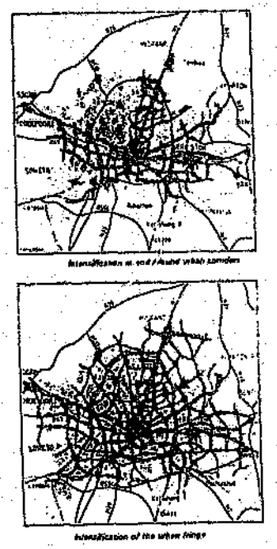


Fig 3.4 Intensification (ISF p24).

- The judicious assimilation of vacant land into the urban system. ***The ISF must bring additional vacant land into the logic of the existing urban system judiciously and use the development of this vacant land to shape a coherent city form.***

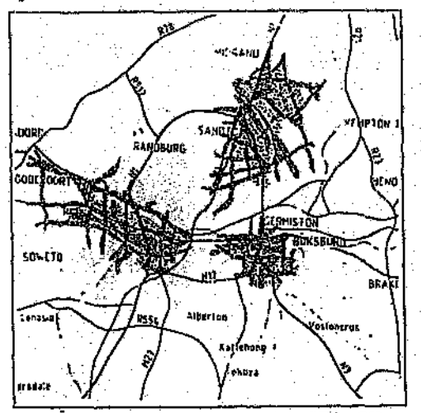


Fig 3.5 *Vacant land: infill opportunities* (ISF p 28)

- The upgrading and renewal of those parts of the urban system that are under stress. ***The ISF must embark on a programme of upgrading living environments that are inadequate in terms of shelter, services and social facilities, address areas of existing and potential urban blight, and integrate areas that have previously been excluded from the urban system as natural extensions of the system.***

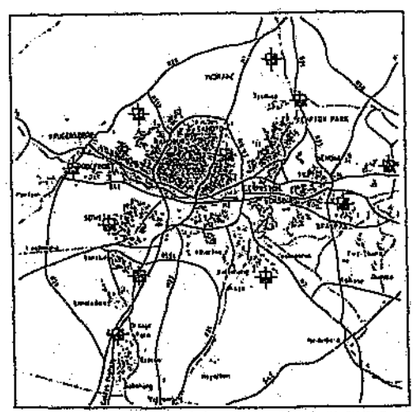


Fig 3.6 *Urban stress: infrastructural inadequacy* (ISF p 31)

- Reinforcing the urban economy and promoting those spatial patterns that enable complex networks of urban opportunity to develop. ***The ISF must ensure that all its initiatives reinforce the objective of creating complex urban activity patterns in which economic opportunity is spawned, nurtured and underpinned with social infrastructure and housing options.***

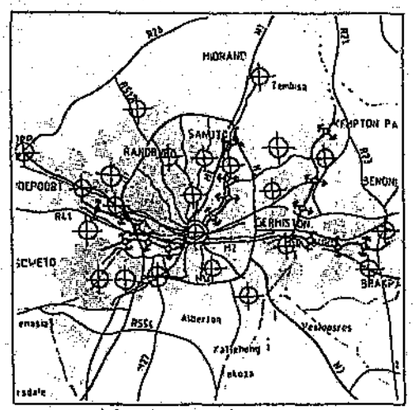


Fig 3.7 *Reinforcing complexity: stitching into the urban fabric* (ISF p 38)

- Making more of the existing investment in transport and directing future investment in this regard. ***The ISF must follow development policies based on reducing the need to travel, making better use of existing and upgraded transport infrastructure and ensure that further investments promote a coherent city form.***

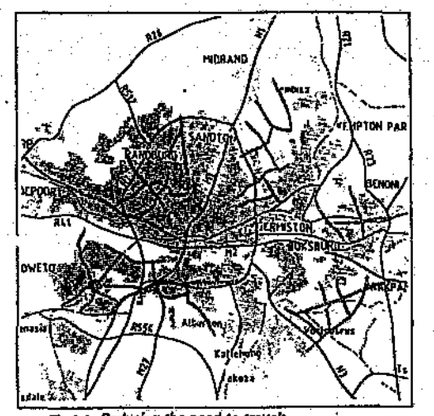


Fig 3.8 *Reducing the need to travel:.. extending activity spines* (ISF p 39)

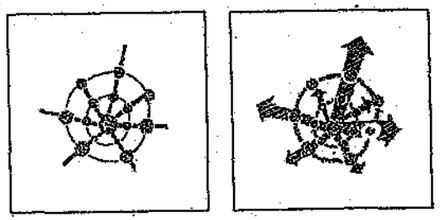


Fig 3.9 Matching form and transport (ISF, p 40)

- Making more of the existing patterns of investment in service infrastructure and directing future investment in this regard. ***The ISF must follow development policies based on making better use of the capacity in existing investments in bulk and local service infrastructure, and ensure that further investments promote a coherent city form.***

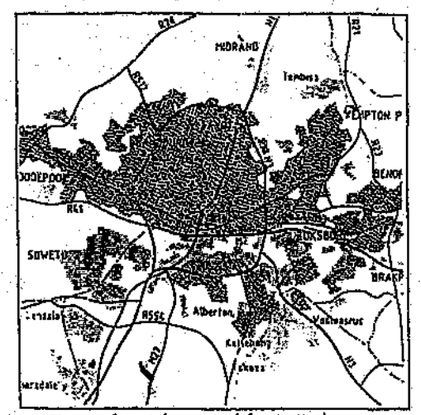


Fig 3.10 *Areas where spare infrastructural capacity may exist* (ISF p 42)

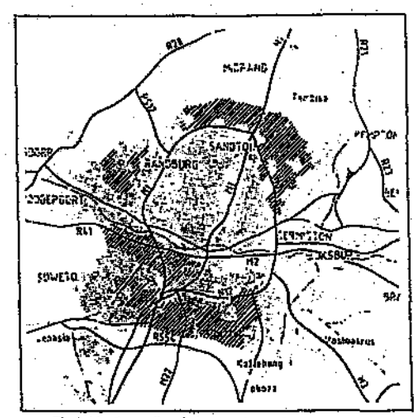


Fig 3.11 *Extending infrastructure at the perimeter* (ISF p 42)

- Ensuring the provision of balanced and integrated community planning and social development. ***The ISF must follow balanced and integrated community development policies that make better use of the capacity in existing investments in social infrastructure and ensure that further facilities provision is based on eliciting maximum benefit for the resources invested.***

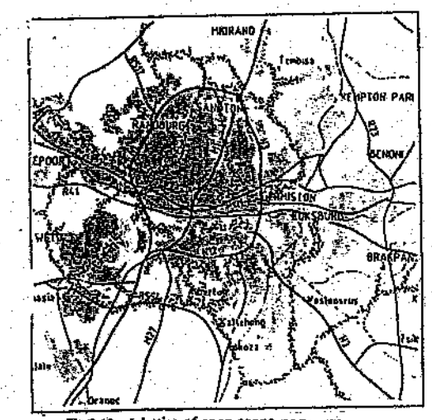


Fig 3.13 *A lattice of open space* (ISF p 47)

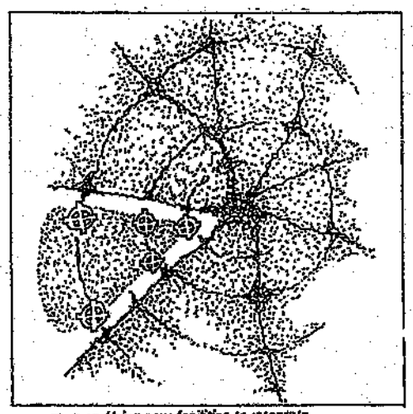


Fig 3.12 *Using new facilities to integrate marginalised communities* (ISF p 44)

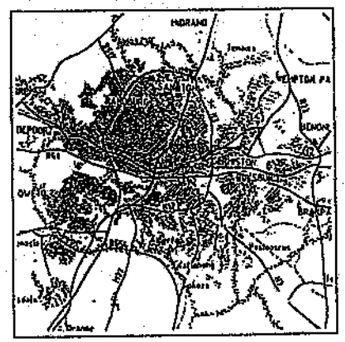


Fig 3.14 *Densifying around major open spaces* (ISF p 48)

- Ensuring that all development leads to an urban system predicated on a quality of life achieved within a sustainable environment. ***The ISF must reserve, as an integral part of the urban system, a cohesive system of open space that preserves the strategic needs of a growing urban population together with an environmental management framework that embodies sound ecological principles of upgrading, resource usage and sustainability.***

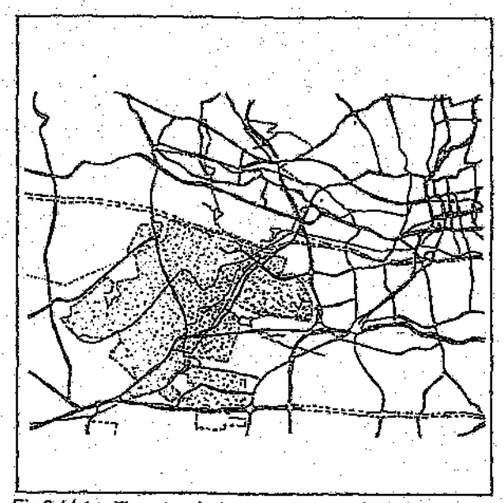


Fig 3.14.1a *The urban isolation of Soweto* (ISF,p33)

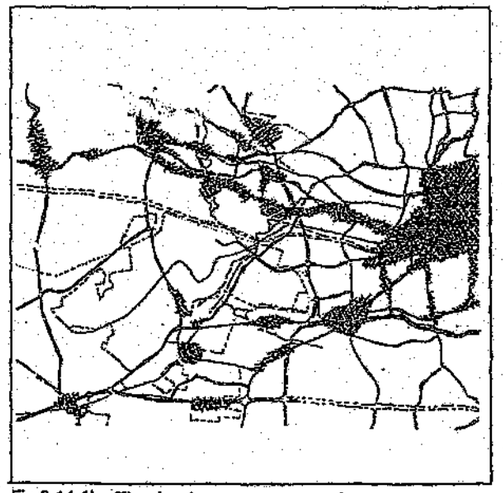


Fig 3.14.1b *The development vacuum of the south-western sector* (ISF, p33)

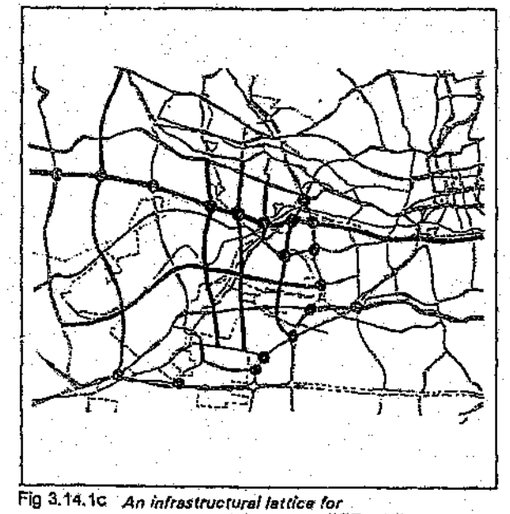


Fig 3.14.1c *An infrastructural lattice for the south-western sector* (ISF,p 33)

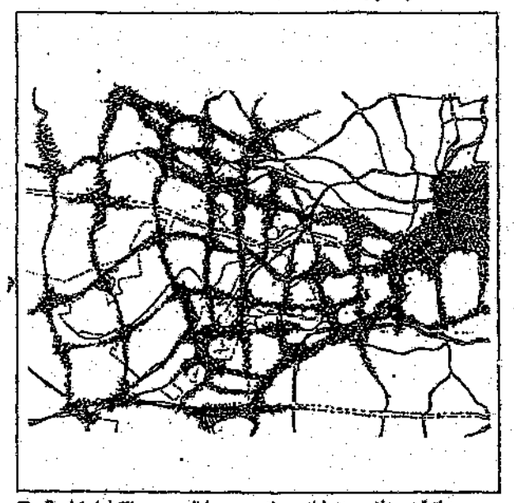


Fig. 3. 14.1d *The possible growth and integration of the south-western sector into the urban system* (ISF,p33)

3.2.2.4 CREATING A FRAMEWORK FOR UPGRADING

In the foregoing, the long term macro-spatial aspects of the ISF has been reviewed. All of these are linked to facilitating improved access and choice in the long run. There is however one aspect of the ISF that needs special scrutiny because of the urgency and immediacy of its nature in facilitating choice and access to opportunity. This aspect deals with the stitching of the Soweto into the greater metropolitan region.

In response to this urgency the ISF needs to concentrate on how to equip the areas concerned with the necessary frameworks of enablement to ensure that this resource is not simply poured into areas that continue to be fundamentally unviable. Thus, while there is a need for resources to be directed into upgrading services, housing and social facilities in these far flung areas, ISF resources should equally be targeted at ensuring that these areas become integrated into the mainstream of the urban system.

The ISF demonstrates these principles as can be applied to the south - western sector of the Witwatersrand urban system. Rather than continuing to see greater Soweto as isolated from the city both in terms of the absence of linkages to the wider infrastructural network (figure 3.14.1a) and the broader activity pattern of the urban system (figure 3.14.1b), key initiatives should be targeted at improving the linkages within this sector of the city both in transportation terms and in terms of the strategic placement of major regional facilities. Thus if, for example, a net infrastructural enablement was flung over the entire sector, so that upgrading became more than simply a Soweto- based initiative and rather a city sector based strategy (figure y), Soweto, Lenasia, Eldorado Park, Riverlea and Newclare would all start to function within the logic of a city system rather than being consigned as dormitory areas in perpetuity. Irrespective of the time taken, the nature of development, the types of economies that go to work within such a framework - ultimately a network is achieved that allows development to extend in a manner that ceases to regard the sector as a development vacuum as has been the case in Harare(refer chapter 2).

RANDSTAD NELSPRUIT



ISF

ISF

ISF FOR THE CENTRAL WITWATERSRAND	APPROPRIATE? JUSTIFICATION
28. URBAN EDGE BOUNDARIES ARE SET AT THE POINT WHERE THE COST OF LAND CLOSE TO THE METROPOLITAN CBD IS EQUAL TO THE COST OF LAND FURTHER OUT.	
29. AGRICULTURAL VACANT LAND INTO THE SOUTH JOHANNESBURG AREA IS RESERVED FOR AGRICULTURAL USE.	
30. OPENSPACE AND BORDER ZONES, TRAVEL OR ENVIRONMENTAL CORRIDORS ARE SET AT THE BOUNDARIES OF THE URBAN SYSTEM.	
31. APPROPRIATE AREAS THAT HAVE PREVIOUSLY BEEN EXCLUDED FROM THE URBAN SYSTEM AS RURAL EXTENSIONS OF THE SYSTEM.	
32. RESPONSE TO OBJECTIVE OF CREATING COMPACT URBAN ACTIVITY PATTERNS TO FOSTER ECONOMIC ACTIVITY IS ENSURED.	
33. MAKE USE OF THE EXISTING PATTERN OF INVESTMENT IN ZONED INFRASTRUCTURE AND DIRECT FUTURE INVESTMENT IN THIS REGARD	
34. THE ISF MUST INCORPORATE AN IMPERIAL PART OF THE URBAN SYSTEM AS A RESERVE FOR OPEN SPACE THAT PRESERVE THE STRATEGIC NEED OF A GROWING URBAN POPULATION.	
35. PROVIDE SPATIAL PATTERNS THAT ENABLE COMPACT PATTERNS OF URBAN OPPORTUNITY TO DEVELOP E.G. HOUSING OPTIONS AND SOCIAL INFRASTRUCTURE.	



PRECEDENT

RELEVANCE TO RANDSTAD NELSPRUIT

VERY RELEVANT

RELEVANT

NOT RELEVANT

OPPORTUNITIES

1. NELSPRUIT AS NEW FIRST CAPITAL OF THE NEWLY ESTABLISHED EASTERN TRANSVAAL/MPUMALANGA PROVINCE, OWN REGIONAL GOVERNMENT WHICH CAN RESPOND TO SPECIFIC NEEDS AND HAS A PERSONAL INTEREST IN THE WELL BEING OF THE LOCAL POPULATION.

2. PREVAILING SPIRIT OF TRANSPARANCY.POLITICAL WILL TOWARDS GREATER INTEGRATION.

3. THIRTEEN LOCAL GOVERNMENT FUNCTIONS *NEED* TO BE ACCOMMODATED. CAN PROVIDE NEW INFRASTRUCTURAL GROWTH POINTS.

4. EXTENSION OF N4 PLANNED TO CREATE A BETTER LINK BETWEEN GAUTENG AND MOZAMBIQUE. CAN FACILITATE GREATER ACCESSIBILITY, RELIEVE EXISTING NELSPRUIT CBD FROM DANGEROUSLY FAST MOVING THROUGH TRAFFIC. ROUTE LINING IMPORTANT TO CREATE OPPORTUNITIES.

5. REGIONAL GROWTH HAS NECESSITATED THE UPGRADING/REPLACEMENT OF THE LOCAL AIRPORT WHICH CANNOT SERVE BOEING AIRCRAFT.

6. FERTILE AGRICULTURAL LAND CAN PROVIDE IN MUCH OF THE SUBSISTANCE NEEDS OF THE LOCAL POPULATION.

7. DEGREE OF CONSERVATIVE/AUTOCRATIC SWAZI VALUES.

8. TAX BASE EXTENDED TO FORM A COMMON TAX BASE INCORPORATING NELSPRUIT/WHITE RIVER AND TOWNSHIPS IN OUTLYING AREAS.

9. ERADICATION OF PREVIOUS KANGWANE BORDER.

10. INDISCRIMINATORY INDIVIDUAL LAND TENURE.

11. GOOD INFRASTRUCTURE OF ROADS AND RAIL MUST BE USED TO ASSIST IN CREATING IMPROVED ACCESSIBILITY IN CONJUNCTION WITH NEW INFRASTRUCTURE.

12. INDUSTRIAL/ECONOMIC GROWTH, DEMAND FOR INDUSTRIAL LAND.

13. GOVERNMENT SUBSIDIATION ON LOW-INCOME HOUSING.

LIMITATIONS

1. DISPROPORTIONATELY LONG DISTANCES BETWEEN INTERDEPENDENT SECTORS OF THE ECONOMIC COMMUNITY WITHIN THE RANDSTAD. E.G NELSPRUIT KANYAMAZANE 19KM.

2. TRADITIONAL ANTI -URBAN SWAZI VALUES RUNS CONTRARY TO DEMOCRATIC SPIRIT. CHIEFS COLLECT THEIR OWN TAXES, DISTRIBUTE LAND, ETC.

3. MANY STEEP SLOPES DENY DEVELOPMENT, MAKE PROVISION OF INFRASTRUCTURE COSTLY.

4. ENTRENCHED CONSERVATIVE ATTITUDES AMONGST FARMERS, URBAN WHITES AND THE LOCAL PLANNING AUTHORITIES. OCCUPATION OF IMPORTANT LINKAGE AREAS BY FARMLAND. A POTENTIAL EMOTIONALLY SENSITIVE ISSUE.

5. CURRENTLY POOR VEHICULAR ACCESS TO ROADS LEADING TO GAUTENG MARKETS.CLUSTERING OF INDUSTRYS AT NELSPRUITS NORTHERN OUTSKIRTS.(PREVIOUS BUFFER)

6. LOPSIDED MONOFUNCTIONAL SPATIAL DEVELOPMENT IN NELSPRUIT MAKE LINKAGES INTEGRATION DIFFICULT.

7. LIMITED FORMAL JOB OPPORTUNITIES.

8. LOCAL GOODS EXPORTED/DISTRIBUTED THROUGH OTHER REGIONAL MARKETS.PORTION OF REVENUE THROUGH PROFITS LOST TO THE PROVINCE.

9 NEGATIVE PERCEPTION REGARDING LOW INCOME HOUSING ON NELSPRUITS PERIPHERY. MAIN CONSIDERATION NOT ACCESSIBILITY BUT VISIBILITY FROM NELSPRUIT'S SUBURBS.

3.2.3. PRECEDENT STUDY: METROPOLITAN SPATIAL DEVELOPMENT FRAMEWORK(MDF) FOR THE CAPE METROPOLITAN REGION.



3.2.3.1. INTRODUCTION

Cape Town, although being representative of the apartheid city model, varies from the Witwatersrand in significant ways, most notably its age , racial composition and topography. Despite current political aspirations being consistent with those of Johannesburg, these factors influence spatial considerations significantly. Like Nelspruit, the topography is severely restricting - many of the framework principles are superimposed on an aerial perspective drawing on which the topographical limitations/opportunities are legible. This offers a fresh approach which recognizes the opportunities offered by specific spatial contexts.

3.2.3.2. THE MDF AS BASIS FOR DEBATE.

Fig A DOCUMENT STATUS

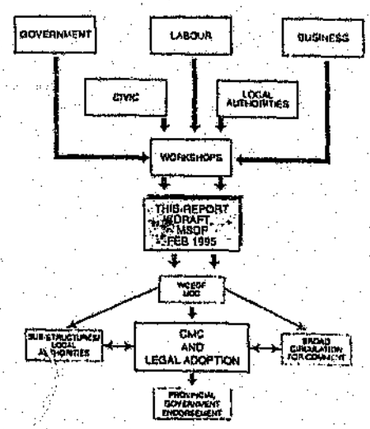
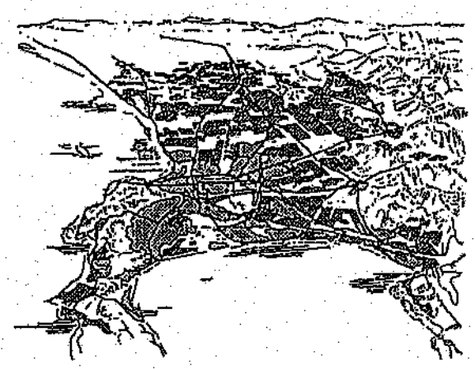


Fig: MDF - inputs from various sources(MDF, p iii).

Like the ISF for the central Witwatersrand, the MDF for the Cape Metropolitan region seeks to redress the inequalities i.t.o. spatial access to opportunity and choice created before and during the apartheid era through a consultative, debate-oriented process. Consultation also comprises the study of precedent. The MDF document includes brief discussions on Los Angeles' negative sprawling scenario, Sao Paolo's negative tidal wave scenario and Curitiba's successful scenario of effective city management.



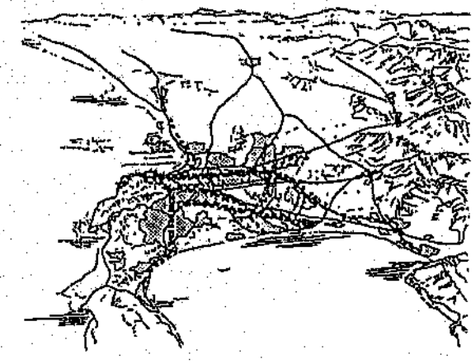
The CMR continues to grow in uncontrolled sprawl extending as far as the Picketberg in the North. This is accompanied by poor public transport and inner city decline with associated social and economic problems.

Fig 3.15.1. Los Angeles' negative sprawl scenario applied to Cape Town. (MDF p 23).



The wealthy of the CMR retreat to the best serviced and wealthiest parts of the CMR, whilst the poor occupy vacant land and live in unsanitary conditions on unserviced land.

Fig 3.15.2. Sao Paolo's ' tidal wave ' scenario applied to Cape Town (MDF, p 23)



A determined attempt is made to improve public transport, provide for low-income affordable housing and opportunities for economic development.

Fig 3.15.3 Curritiba's what works best scenario applied to Cape Town (MDF p 23.)

The draft document published in February 1995 is now being circulated to a wide range of community, public and private sector organisations for further comment. The MSDF in its current form is based on a vision and is compiled with the use of principles. The current format will be extended to include strategies and programmes for implementation.

3.2.3.3.THE POLICY APPROACHES TO THE STRATEGIC AREAS OF CONCERN

The MDF Policy Guidelines notes the following summarised strategic areas of concern and corresponding responses:

- Ensuring that all development leads to an urban system predicated on a quality of life achieved within a sustainable environment.

How? ***The ISF must reserve, as an integral part of the urban system, a cohesive system of open space that preserves the strategic needs of a growing urban population together with an environmental management framework that embodies sound ecological principles of upgrading, resource usage and sustainability.***



MANAGING *(MDF, p29)*

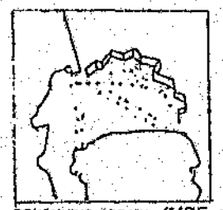
- manage all urban resources (environmental, financial, cultural) in order to meet current basic needs and achieve long term sustainability

How? ***Establish a co-ordinated system of metropolitan growth management informed by publicly agreed development and conservation priorities***

and

establish a publicly agreed environmental and cultural resource policy and management system.

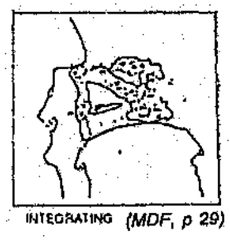
.....



CONTAINING SPRAWL *(MDF, p29)*

- guide and contain further urban sprawl

How? ***by limiting the expansion of urban development into areas with notable agricultural, recreational, mineral or ecological potential. The intent is to protect potential resources from destructive development and to encourage maximum use of development potential within the urban area.***



INTEGRATING *(MDF, p 29)*

- integrate the urban area

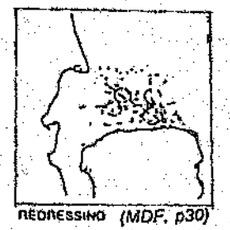
How? ***By promoting affordable housing in areas close to existing economic, social and transportation opportunities.***

and

Promoting a mutually supportive mix of residential,recreational, commercial and employment opportunities

and

developing an effective, efficient and equitable transport system to better link jobs, housing and other urban opportunities with particular emphasis on public transport.



REDRESSING *(MDF, p30)*

- redress the unequal distribution of, and access to facilities and opportunities

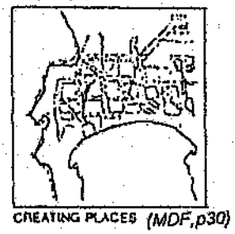
How? ***By directing a significant portion of new investment into public facilities in areas of greatest need and encouraging private investment in these areas.***

and

locating new housing close to existing urban resources

and

creating new centres for economic and other related activities, together with maintaining and enhancing the economic vitality of the metropolitan area's established centres of economic life in order to promote overall economic development, job creation and increased opportunities of all kinds;



CREATING PLACES *(MDF,p30)*

- create quality urban environments which provide opportunities for positive personal, social and economic development

How? ***Through competent, pro-active design.***

3.2.3.4. CREATING A FRAMEWORK FOR UPGRADING

Based on the policy approaches discussed above , the following spatial factors or structuring elements have been identified and should inform the Metropolitan Spatial Development Framework. These spatial factors or structuring elements reinforce and support each other in an integrated manner:

- urban nodes
- activity corridors
- a metropolitan open space system
- an urban edge

Each of the above will now be discussed in turn in relation to improved access to opportunity and choice.

URBAN NODES

An urban node is a point of high accessibility. Because of its accessibility, nodes offer the most rational location for public investment. Combined with incentives and opportunities for the private sector, some nodes have great potential for ensuring better access to facilities and services for those most disadvantaged by apartheid.

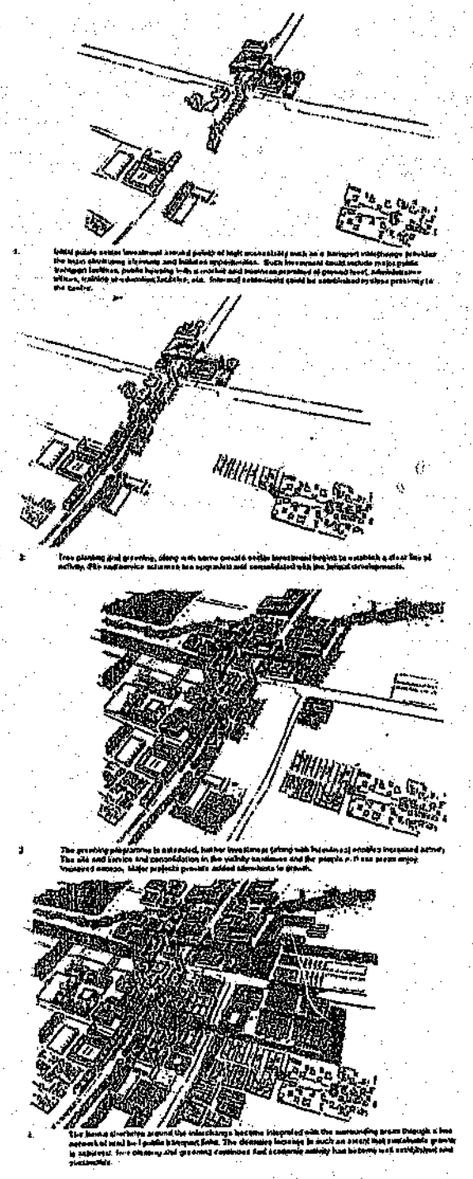


Fig 3.16: How a potential node could develop (MDF, p37)

The following are the key characteristics of nodes:

- they are located at transport interchanges

- they are locations for higher order health, recreational, educational, commercial, and residential activities.

- they allow for high residential densities

- they can create the conditions for sustained growth and development through major public and private sector investment and increased accessibility.

As with the other spatial elements, specific policies and strategies need to be formulated in order to guide implementation. These policies and strategies will need to address the following:

- how public investment can be used to create the conditions and lay the basis for nodes to develop

- what the most appropriate implementing mechanisms are in order to ensure that the private sector and communities benefit from the developments

- a framework to ensure co-ordination of land-use and transportation planning.

- the removal of restrictive legislation and procedures in order to allow for integrated, mixed-use development.

- strategies to ensure that affordable housing remains an integral part of developing vacant and under-utilised land.

- a management framework at the local and metropolitan level which will enable open and transparent decision - making, preferably involving authorities, the private sector and the public in an ongoing partnership.

ACTIVITY CORRIDORS

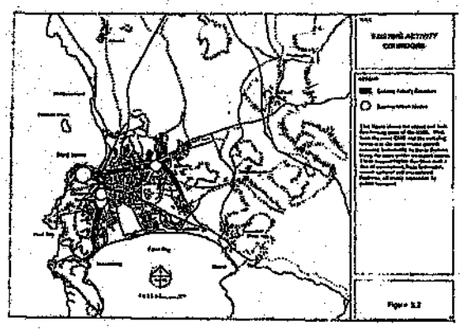


Fig 3.17: Activity corridors (MDF, p41)

The term 'metropolitan activity corridor' describes the pattern of urban development found between Belville and Cape Town along Voortrekker Road and the Belville railway line, and between Cape Town and Simon's Town along Main Road and the Southern Suburbs railway line (see figure 5.2 - existing activity corridors). These corridors are the best performing parts of the Cape Metropolitan region. They work well because:

- They link major urban nodes: Cape Town CBD to Belville and Wynberg.

- they include areas of mixed land-use where residential, commercial, industrial and recreational activities occur in close proximity e.g. Parrow, Maitland, Observatory, Rondebosch and Newlands

- They have a public transport system supported by high population concentrations which can sustain frequent services

- They have a variety of economic activities , which thrive on high levels of passing trade, economies of agglomeration and visual exposure

- they also have supporting rail systems, arterial roads, and where necessary, freeway systems. People can live convenient lives in these corridors without having to rely on motor cars.

- they support the growth of economic activity at major transport interchanges where access is the greatest; and

- they have the full range of economic, social, welfare, education and sporting facilities which can be shared by a large community.

Creating activity corridors in those parts of the metropolitan area where there is no coherent and integrated structure could substantially improve access to opportunities , provide jobs and fulfil a wide range of economic and social needs. Activity corridors offer a means of integrating poor communities with few choices into the more developed urban parts.

ILLUSTRATING ACTIVITY CORRIDORS: WETTON / LANSDOWNE ROAD

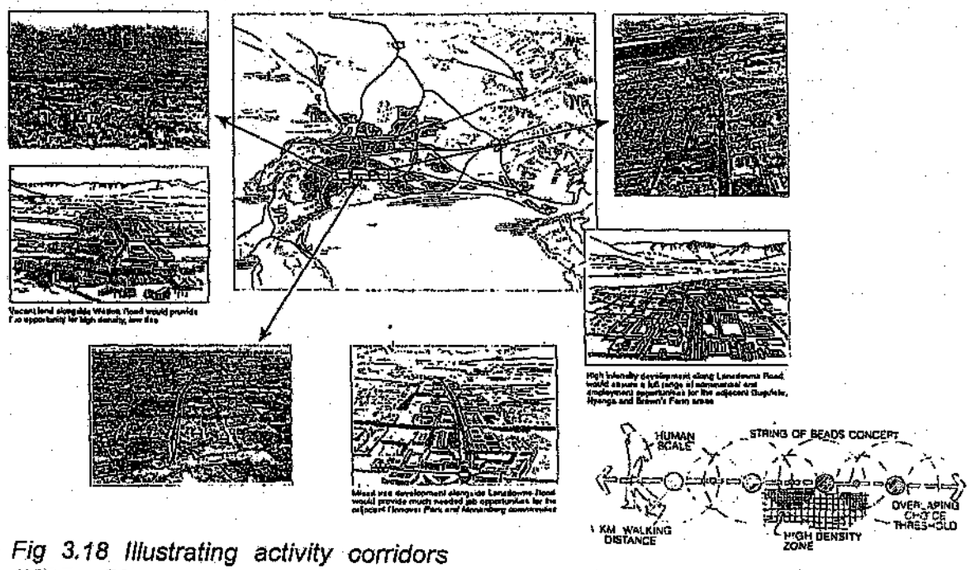


Fig 3.18 Illustrating activity corridors (MDF, p50)

At the core of the activity corridor is the activity spine which is a major road with high levels of access. It carries road-based public transport services which support most of the business and community activities in the activity corridor.

It is vital to stress that it takes time for activity spines to develop. In the first instance activity spines are largely recognisable by the fact that they are public transport routes linking major nodes or centres. Thus it is quite feasible for a developing activity spine to pass thrcugh informal communities as well as high to middle income residential areas. Activity spines grow and develop into activity corridors as the result of integrated and sustained policies aimed at developing them into major transport routes with high density, mixed - use along their length. Public investment will be important in initiating their growth.

One of the most important principles is that as many people as possible should live within walking distance (a maximum of 1 kilometre) of a linear public transport system (see fig 3.18-human scale and accessibility). The activity corridor's zone of influence covers areas in walking distance of railway stations(where they exist) and walking distance from the major road. Within this zone there should be higher densities. Where rail exists, passenger rail stations are additional points where higher densities can be encouraged.

A METROPOLITAN OPEN - SPACE SYSTEM

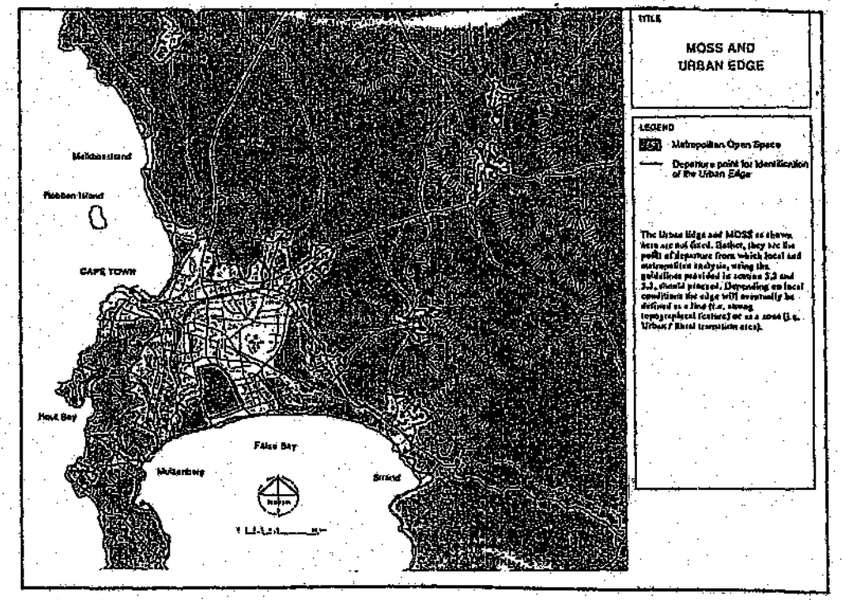


Fig 3.19 Moss and urban edge (MDF, p55)

A metropolitan open space system (MOSS), incorporating the diverse positive and negative elements of the environment, has been proposed as an ongoing mechanism.

The MOSS is an important spatial structuring element. Its purpose is threefold:
- to protect and enhance existing environmental resources and to create new resources
- to direct development away from hazard areas such as floodplains, unstable soils and slopes

and

- to provide opportunity for recreation and amenity.

Of particular relevance to the Nelspruit case study is a discussion on the need for protection of agricultural areas and of mountains, hills and slopes. Participants in work sessions proposed withholding urban development from high and medium high quality soils as a form of resource conservation. Yet soil quality is integrally linked to water availability, which in turn could depend on the provision of service infrastructure.

Accordingly, the procedure adopted was one of excluding all currently cultivated land or agriculturally zoned land from urban development and incorporating it into the MOSS. Future extension of the MOSS will be guided by more complex criteria that take into account soil potential, provincial policy on infrastructural development for small scale and service provision by Department of Water Affairs.

THE URBAN EDGE

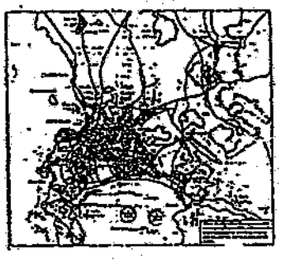
South-Africans are creating the biggest change ever in how we build cities. The urban edge becomes the threshold of integration and improved access and therefore deserves special attention. The phenomenon of a diffused, haphazard edge is common to most industrialised world cities. Elsewhere the problem is mostly one of compacting the edge and integrating it into the urban system. In South-Africa it is both that and one of using the edge effectively as a means of integrating previously segregated areas beyond the edge as natural extensions of the urban system. Because of its critical appropriateness to the issue of access to opportunity and choice, the urban edge is discussed separately in Chapter 4.

3.3. CONCLUSION

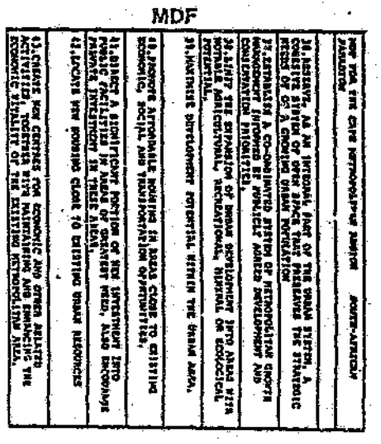
We have now looked at Johannesburg's ISF and Cape Town's MDF in a rather factual and uncritical manner. The aim is to draft these principles for high energy urban areas in transition into decisions matrix for Randstad Nelspruit and to critically assimilate them into an appropriate framework which acknowledges the different spatial, economical and social context. As broadly appropriate, and well researched topical documents they form a vital component of the principles drafted into the decisions matrix.

Principles exist in the ISF that do not exist in the MDF, or principles are contradictory. Maximising development potential in the existing urban areas(MDF) is for example not as relevant to Randstad Nelspruit in the short term - the polycentric spatial model favours linear development according to the Randstad Holland precedent. Location of new housing close to existing urban resources(MDF) is neither as important in the "low-energy" context in the short term because much of the local Swazi population living in the ring still adhere to traditional subsistence culture. These high-energy, principles of the MDF and ISF should however form part of the future vision as urbanisation and Westernisation increases in the new regional capital. The aim is to achieve optimum spatial solutions geared towards improved access, based on precedent well considered. Reciprocally, the principles developed here can inform other frameworks developed for low energy urban contexts.

RANDSTAD NELSPRUIT



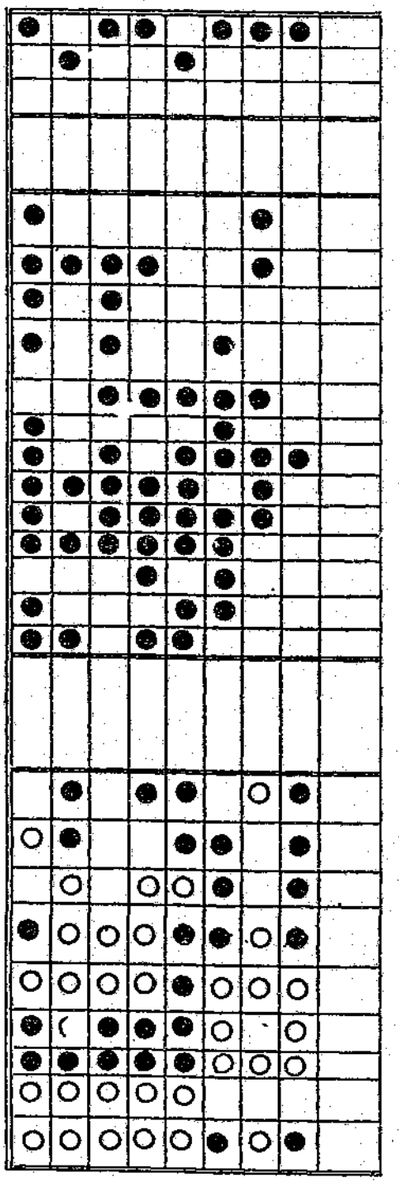
MDF



PRECEDENT



RELEVANCE TO RANDSTAD NELSPRUIT



VERY RELEVANT

RELEVANT

NOT RELEVANT

OPPORTUNITIES

1. NELSPRUIT AS NEWPWST CAPITAL OF THE NEWLY ESTABLISHED EASTERN TRANSVAAL/MPUMALANGA PROVINCE. OWN REGIONAL GOVERNMENT WHICH CAN RESPOND TO SPECIFIC NEEDS AND HAS A PERSONAL INTEREST IN THE WELL BEING OF THE LOCAL POPULATION.

2. PREVAILING SPIRIT OF TRANSPARANCY,POLITICAL WILL TOWARDS GREATER INTEGRATION.

3. THIRTEEN LOCAL GOVERNMENT FUNCTIONS NEED TO BE ACCOMMODATED. CAN PROVIDE NEW INFRASTRUCTURAL GROWTH POINTS.

4. EXTENSION OF N4 PLANNED TO CREATE A BETTER LINK BETWEEN GAUTENG AND MOZAMBIQUE. CAN FACILITATE GREATER ACCESSIBILITY, RELIEVE EXISTING NELSPRUIT CBD FROM DANGEROUSLY FAST MOVING THROUGH TRAFFIC. ROUTE LINING IMPORTANT TO CREATE OPPORTUNITIES.

5. REGIONAL GROWTH HAS NECESSITATED THE UPGRADING/REPLACEMENT OF THE LOCAL AIRPORT WHICH CANNOT SERVE BOEING AIRCRAFT.

6. FERTILE AGRICULTURAL LAND CAN PROVIDE IN MUCH OF THE SUBSISTANCE NEEDS OF THE LOCAL POPULATION.

7. DEMISE OF CONSERVATIVE/AUTOCRATIC SWAZI VALUES.

8. TAX BASE EXTENDED TO FORM A COMMON TAX BASE INCORPORATING NELSPRUIT,WHITE RIVER AND TOWNSHIPS IN OUTLYING AREAS.

9. ERADICATION OF PREVIOUS KANGWANE BORDER.

10. NON-RACIALISTIC INDIVIDUAL LAND TENURE.

11. GOOD INFRASTRUCTURE OF ROADS AND RAIL MUST BE USED TO ASSIST IN CREATING IMPROVED ACCESSIBILITY IN CONJUNCTION WITH NEW INFRASTRUCTURE.

12. INDUSTRIAL/ECONOMIC GROWTH, DEMAND FOR INDUSTRIAL LAND.

13. GOVERNMENT SUBSIDATION ON LOW-INCOME HOUSING.

LIMITATIONS

1. DISPROPORTIONATELY LONG DISTANCES BETWEEN INTERDEPENDENT SECTORS OF THE ECONOMIC COMMUNITY WITHIN THE RANDSTAD. E.G NELSPRUIT-KANYAMAZANE 19KM.

2. TRADITIONAL ANTI URBAN SWAZI VALUES RUNS CONTRARY TO DEMOCRATIC SPIRIT. CHIEFS COLLECT THEIR OWN TAXES, DISTRIBUTE LAND, ETC.

3. MANY STEEP SLOPES DENY DEVELOPMENT, MAKE PROVISION OF INFRASTRUCTURE COSTLY.

4. ENTRENCHED CONSERVATIVE ATTITUDES AMONGST FARMERS, URBAN WHITES AND THE LOCAL PLANNING AUTHORITIES. OCCUPATION OF IMPORTANT LINKAGE AREAS BY FARMLAND. A POTENTIAL EMOTIONALLY SENSITIVE ISSUE.

5. CURRENTLY POOR VEHICULAR ACCESS TO ROADS LEADING TO GAUTENG MARKETS.CLUSTERING OF INDUSTRYS AT NELSPRUITS NORTHERN OUTSKIRTS.(PREVIOUS BUFFER)

6. LOPSIDED MONOFUNCTIONAL SPATIAL DEVELOPMENT IN NELSPRUIT MAKE LINKAGES INTEGRATION DIFFICULT.

7. LIMITED FORMAL JOB OPPORTUNITIES.

8. LOCAL GOODS EXPORTED/DISTRIBUTED THROUGH OTHER REGIONAL MARKETS,PORTION OF REVENUE THROUGH PROFITS LOST TO THE PROVINCE.

9. NEGATIVE PERCEPTION REGARDING LOW INCOME HOUSING ON NELSPRUITS PERIPHERY, MAIN CONSIDERATION NOT ACCESSIBILITY BUT VISIBILITY FROM NELSPRUIT'S SUBURBS.

CHAPTER 4

CHAPTER 4
EDGE CITY

4.1. INTRODUCTION

The urban edge is critically related to the main topic of this discourse- the improvement of access to opportunity and choice. The spatial configuration and desire to firstly preserve the green heart and secondly to laterally stitch between the fringes of disparate parts of the Nelspruit Randstad becomes an important sub-problem which calls for a closer investigation of the edge condition of cities. The urban edge constitutes in morphological terms where the city ends and the countryside begins. The morphology of the edge is heavily influenced by the topography of the land and by the spatial alignment of infrastructure such as railways, pylons and motorways.

Considering the chaos which engulfs these transitional zones the real issue, when it comes to design, is the kind of morphological character that these areas will possess, both now and in the future. As the most dynamic part of the city, it should still retain fundamental morphological characteristics reflecting the normative values and aspirations of the community in which it is geographically located. The task of the urban designer is therefore to create an appropriate framework which is relevant to the urban edge of the Randstad and is capable of accommodating the kind of growth patterns typical of the meeting place of town and country.

4.2 WHAT IS EDGE ?

The morphology of the urban edge and its relationship with the surrounding countryside is in many ways a reflection of both socio political forces and technological innovation combining to shape and reshape urban form. Many authors have grouped the history of urbanism into neat compartments roughly comprising pre industrial, industrial and post industrial (Toffler 1984, Harvey, 1990 and Kostof, 1992). These definitions whilst useful have failed to explicitly synthesize morphological and socio political patterns into a unified understanding of growth and change. Furthermore the fact that each succeeding epoch has built on the foundations of the existing, with elements of the pre-industrial, industrial and post industrial lifestyle coexisting in enclaves and dependent upon access to information and power, is insufficiently recognized.

Authors such as Garreau(1989) and Rowe (1993) have highlighted what they have termed as the "edge city" or the "middle landscape". Garreau in particular celebrates "edge city as the new form of urbanism, the way forward in the age of information technology". Our traditional understanding of the city as a dominant centre and dependent periphery has increasingly become untenable as the monocentric model continues to erode due to the forces of decentralization. What was once considered central has frequently become peripheral and that which was once considered peripheral has become central.

No longer an edge, the periphery consists of a diffused collection of low density houses interspersed with retail, office, service, industrial and leisure facilities. In the light of the shift from the monocentric to the essentially polycentric metropolis, an appropriate edge morphology which expresses the uniqueness of the post industrial condition has yet to be found.

from: "Building tomorrow today" published by The Witwatersrand Metropolitan Chamber 1993

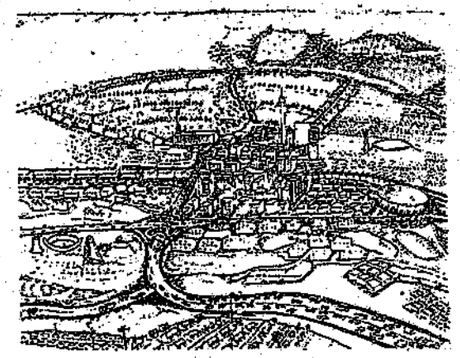


Fig 4.1 Johannesburg: no longer an edge, the periphery consists of a diffused collection of low density houses interspersed with retail, office, service, industrial and leisure facilities.

The city of Tobolesk in western Siberia. It was founded in 1527 at the juncture of two rivers as part of the Russian government's policy of controlling and exploiting the resources of Siberia. By the eighteenth century it was a thriving center for trade in furs and grain. [New York Public Library]

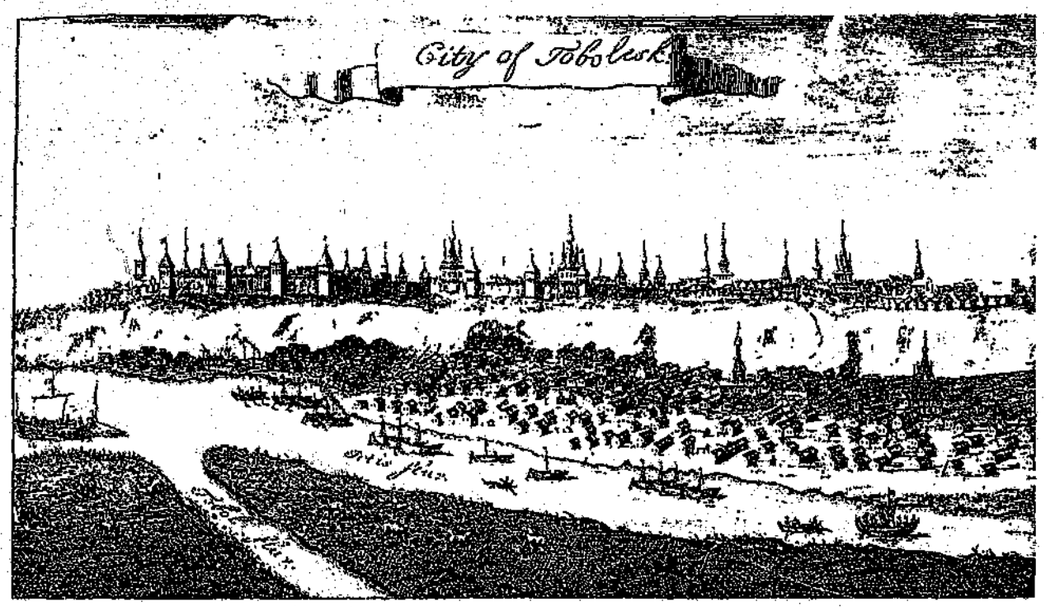


Fig 4.2 Pre-industrial settlement. City of Toblesk(1527). Not unslmmilar to the Apartheid city. (Kagan, 1983:510).

4.3. EDGE MORPHOLOGY

4.3.1. PRE INDUSTRIAL SETTLEMENT

Historically the edge of the city was easy to define, as a result of the walls and fortifications that enclosed the urban area and the fields of agriculture that extended out away from the built form. These elements easily identified the transition from town to the countryside. Walking distances within the settlement and to the surrounding fields and forests and settlements largely dictated boundaries. Even during this period the area of land immediately beyond the city walls or town boundary was being continually developed with buildings and land uses aligned to the city, as part of the process of growth and expansion. For various political, economic or social reasons these uses were located outside the urban area. Over time the city boundary shifted and these fringe activities were brought under the protection and control of the settlement. This is not unrelated to the Apartheid model where non physical boundaries represented the city wall and townships represented feudal villages.

Pre - industrial cities evolved having a balanced relationship with the land. There was an ecological sense of limits which bound the scale of the feudal village to local food production.

4.3.2. INDUSTRIAL SETTLEMENT

In the 19th century and much of the 20th, economic growth was largely provided by manufacturing industry which located on the urban periphery. Physical flows of commodities focused on points of concentration of both people and economic activities due to accessibility and resource criteria. The geographical determinism of the market place ensured that this process was tightly contained and the dichotomy between urban and rural was virtually absolute. The city became congested by industrial and commercial activity and high density slums. Technological innovations in transportation later enabled the rich to escape from the core to the more pleasant suburbs, leaving the poor trapped in the inner cities. In this process the distinction between the urban and rural became blurred for the first time as the centrality of the city eroded.

4.3.3. FORDIST SETTLEMENT

The expansion of the city accelerated rapidly during the industrial period and with the advent and advancement of rapid transport (rail and motor vehicle) a dramatic alteration of urban boundaries occurred. This process came about in parallel to a model known as fordism which according to Harvey(1989) entailed Ford's understanding that mass production meant mass consumption in a totally different kind of rationalised modernist and populist democratic society. The edge of cities stretched further out into the countryside and the style of development altered. Motorways and road networks provided ease of access away from the city centres and large commercial retail and industrial uses preferred large edge sites to the cramped locations and poorly accessed inner urban areas. The residential development of land was constructed in conjunction with this movement outwards and the suburb was created in most industrialised countries.

4.3.4. POST FORDIST SETTLEMENT

By the late 1960's Fordism began to experience severe problems associated with the rigidity of long term and fixed capital investments in mass production systems that prevented design flexibility and assumed long term growth in consumer markets. Rigidities were also built into labour markets, labour allocations and labour contracts. Profits from mass production began to decline and the growth of public services became a drain on the private sector which manifested itself in pressures to reduce public expenditure. More highly differentiated products began to be produced with short lifespans and large companies decentralized production, while new information technology enabled companies to maintain control in a decentralized system. The dynamism of the periphery represented a shift to information age cities. The physical flows of the industrial city has been replaced by the information flows of the post industrial city. (Garreau, 1991) The automobile with the new information technologies have enabled the city to expand rapidly in a way which contradicts the previous incrementally ordered growth patterns of cities and which poses few constraints to future growth. In the process the edge has developed into a collection of low density centres, connected by a common infrastructure incorporating both urban and rural elements in a seemingly random fashion.

The only shaping element in this landscape is the hard and soft lines of communication (Harvey, 1989). The hard lines being transportation infrastructure while soft lines refer to information systems.Through real estate speculation socio economic segregation and the actions of security conscious citizenry, the metropolis has expanded into disparate autonomous communities forming inward looking enclaves. The history of edge morphology has radically altered from the old certainty of a physical expression between urban and rural to one where it has become an almost impossible task to define a peripheral fringe condition. Speed and fragmentation have ensured that we can no longer create an image of what the city should be or what it can offer other than a collage of fragments with no discernable centre or periphery.

4.3.5 CONCLUSION

Most of what has been described above as the edge condition is related to high energy cities such as Johannesburg and Cape Town, yet many of its characteristics are prevalent in Nelspruit. Planning geared towards creating a buffer in the north-eastern sector of Nelspruit has created a loose edge not unrelated to the Fordist and post-Fordist eras.

The following quote summarising the post-Fordist condition applies directly to Nelspruit's North-Western edge: "Through real estate speculation, socio economic/political segregation and the actions of security conscious citizenry, the metropolis has expanded into disparate autonomous communities forming inward looking enclaves". Nelspruit's edge enclaves are represented by an Indian suburb, a coloured suburb (socio-political), a jail complex with auxiliary staff facilities, industry served by and cut-off by a railway line, a municipal workshop area and a white primary and secondary school with auxiliary facilities clustered together. In tandem with this exists the



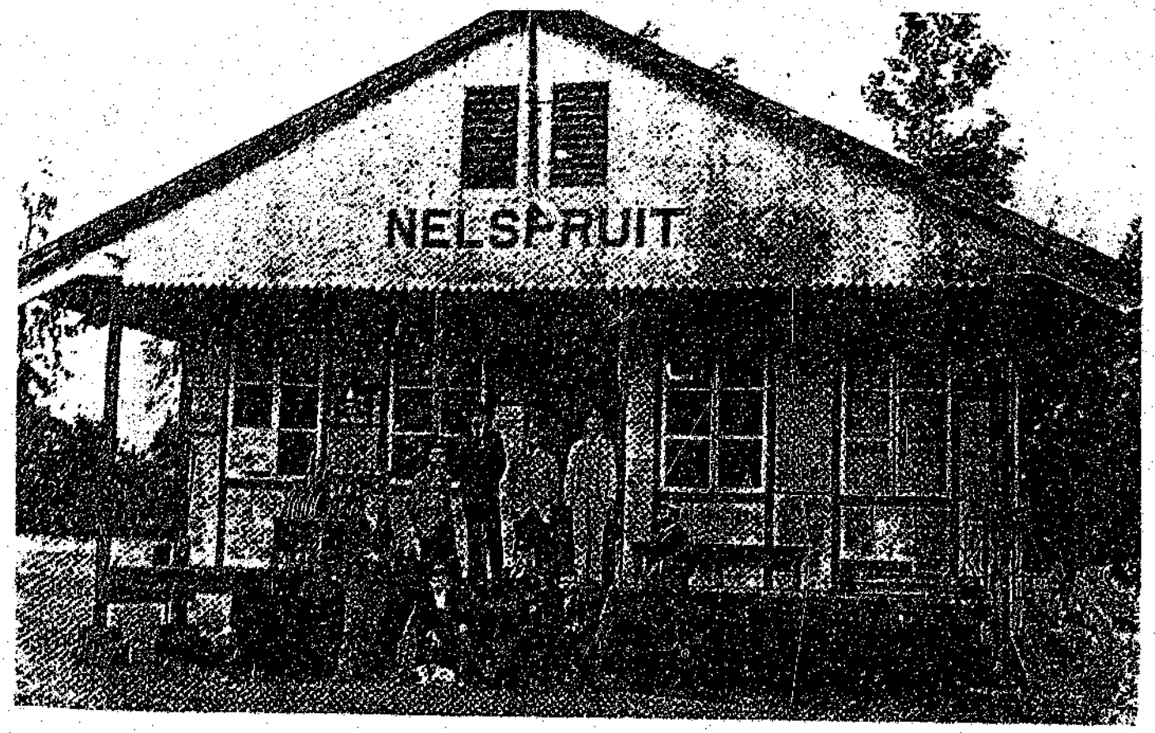
Fig 4.3 Nelspruit's Eastern edge. Representing the pre-industrial city wall, it consists of a segregated and loose grained mixture of industrial, institutional and group-residential land.

apartheid "city wall" of the pre industrial model. This wall exists at different levels. Sheer forbidden land created a twenty kilometre deep wall between Nelspruit and the townships where blacks were resettled. The rail, municipal workshops and a ten metre high man-made embankment represent the wall between Nelspruit proper and its Indian suburb Valencia. The jail complex, schools and some agricultural land represent the wall between Nelspruit proper and its coloured suburb Nelsville.

Regardless of the various characteristics of the urban edge across the world, all recognise its blighted nature and lack of cohesion with the remainder of the city. In the case of Nelspruit, the existence of an important shaping element in the form of the Crocodile river should be included in strategies to contain the edge. Within the contained edge, enclaves should be opened up to form accessible and natural extensions of the urban system. In reducing the width of the "wall" between Nelspruit and its outlying black townships the edge has the opportunity to become the threshold of an enabling corridor served by a rapid transit system. Under such conditions the edge will become the most obvious position for migrants to latch onto in their search for improved access.

Appropriate strategies for dealing with Nelspruit's edge is illustrated in the case study chapter. Like Garreau, we still have to find the answers for an ever changing edge condition which is extremely sensitive to socio/political and economical change. What we do know is that what exists must change because the edge(which is also a wall) has become sensitive to South-Africa's current paradigm shift.

ANALYSIS



NELSPRUIT STATION 1898: THE HUB OF THE LOWVELD (BORNMAN, 1980)

HISTORIC OVERVIEW:

(SOURCE: Bornman, H 1980; Malan, 1983, personal interviews)

FIRST SETTLEMENT

The predominantly Swazi which today populate Nelspruit and surrounds is said to have originally fled after tribal clashes in what is now Zimbabwe during the sixteenth century. No accurate representation of events exist.

FIRST WESTERN SETTLEMENT

Before the construction of a railway line between the Rand and Mozambique commencing in 1884 Nelspruit was neither town nor hamlet. Nelspruit formed an important part in the draft agreement for the construction of the railway. It was named as railhead of the first section of construction undertaken by the Nederlandsche Zuid Afrikaansche Spoorwegmaatskappy (NZASM).

The choice of Nelspruit as the first temporary terminus on the new route from Mozambique was obvious. In reaching Nelspruit , the railway will have passed through fly country; from there transport by ox wagon would be safe and the healthy Highveld was not so far as to render Malarial fever an unsuperable obstacle.

THE FOUNDING OF NELSPRUIT

With the commissioning of the railwayline and the publishing of a report related to it in the Staats Courant no 185 (the government gazette) on 28 August 1884 Nelspruit was officially named and this is therefore the official founding date.

Nelspruit is named after the three Nel brothers who came down to the area during the winter months with their sheep and cattle (to avoid malaria fever contracted during summer months). As they were well known in the area the stream east of the station was named Nel's spruit and and the Railhead Nelspruit.

THE DEVELOPMENT OF NELSPRUIT

As new transport hub Nelspruit became the focal point of the Lowveld and development took place rapidly. The terrain in and around Nelspruit was surveyed in 1888.

For 21 years agricultural land around Nelspruit was leased to farmers. In 1890 the first land was leased through an auctioneering process. HL Hall, a name still today linked to quality citrus produce attended that first auction and rented Mataffin. Mataffin, to the west of the town centre is today still the grounds cultivated by HL Hall and sons, forming an impressive gateway as one enters Nelspruit on the N4 from Gauteng.

FORCED REMOVAL OF BLACKS, INDIANS AND COLOUREDS

During the years following 1967 black townships were established 20-30 km outside Nelspruit and blacks forcedly removed. The area where the blacks predominantly lived was immediately to the north of the railway line in what is

HISTORIC OVERVIEW
ANALYSIS

RANDSTAD NELSPRUIT

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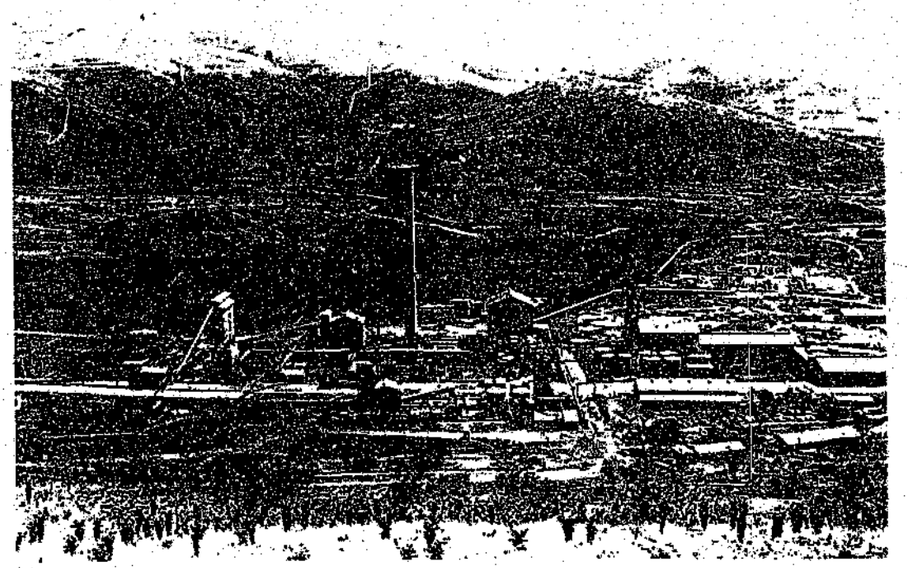


THE NGODWANA KRAFT PULP MILL IN THE ELADSRIVER VALLEY 1966.THE BARREN HILLSIDES IN THE BACKGROUND IS NOW COVERED UNDER PINE FORRESTS (BORNMAN, 1980)

Bombella and all that remains is the cemetry. Like in other areas of forced removals such as Johannesburg's Sophiatown and Cape Town's District Six, ex-residents are actively trying to regain ownership of this land. (information from Nelspruit Transitional Local Council)

An Indian township: Valencia was established on Nelspruit's north-eastern edge and a coloured township: Nelsville along the N4 approximately one kilometres outside Nelspruit, to the east.

INDUSTRY

Favourable rainfall and fertile soil contributes to a large agricultural output. Citrus farming is the dominant industry. The largest producers are HL Hall and sons and Crocodile Valley Estates .

HL Hall & sons has 930 ha under citrus, with a tree poulation of 260 000. Apart from citrus farming, HL Hall & sons today has 4500 cattle and there are 280 registered Jerseys in the dairy division.

Crocodile Valley Estates, to the east of Nelspruit ranks amongst the largest citrus growers in South Africa, comprising some 175 000 citrus trees which produce one million cartons of oranges annually for export.

Sappi operates a large paper pulp factory at Ngodwana to the east of Nelspruit, established in 1966. It produces 250 metric tons of unbleached kraft chemical pulp a day.

The disposal of effluent was a major in the planning of the mill. By restoring the chemical balance in the effluent, Sappi is able to irrigate kikuyu grass pastures which support sheep and cattle.

Much economic potential lays with tourism. The natural beauty of the area and the proximity of the Kruger National Park act as drawcards. Many private lodges exist in the viscinity. The new importance of the route from Gauteng to Mozambique will make Nelspruit a often used and convenient stopover.

Other industries:

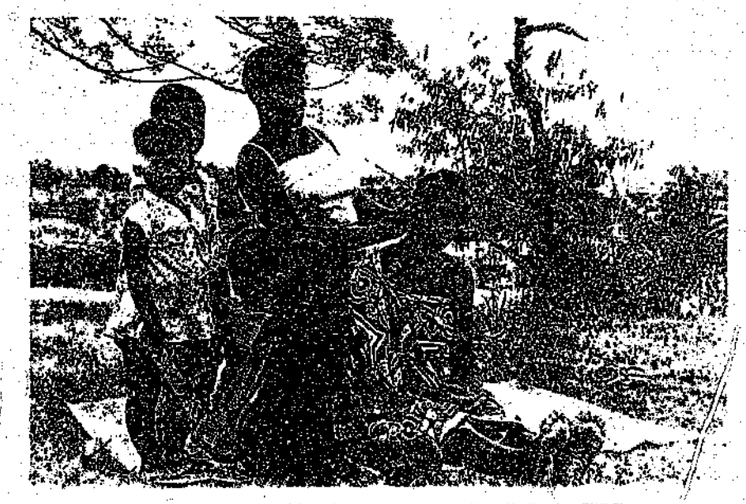
- manganese enrichment plant: an unattractive landmark on Nelspruit's northern fringe but important provider of employment opportunities.

- a range of food processing and packaging facilities in Nelspruits industrial fringe, other service industry.

- tobacco farming: farms are mostly situated to the south of Nelspruit en route to Barberton.

HISTORIC OVERVIEW
ANALYSIS

RANDSTAD **NELSPRUIT**



ALMOST 50% OF THE POPULATION IN THE GREATER NELSPRUIT AREA IS UNDER 14 YEARS OF AGE (PHOTO BY AUTHOR)

DEMOGRAPHIC INFO

(FROM 1992 HSRC "STAT PACK")

1.SPREAD OF POPULATION: NELSPRUIT

BLACKS	26 247
WHITES	20 729
COLOUREDS	880
ASIANS	854
TOTAL	48 710

2. LEVEL OF BLACK URBANISATION

34% OF BLACKS URBANISED
(EASTERN TRANSVAAL)
VS. 91% WESTERN CAPE
87% PWV
28% KWAZULU

3. LEVEL OF URBANISATION

URBAN 11.9% OFFICIAL
68.9% FUNCTIONAL*

RURAL 88.1% OFFICIAL
31.1% FUNCTIONAL*
*= CONSIDERS MIGRANT WORKERS

4. KANGWANE LEVEL OF EDUCATION

NONE(5+YEARS) 15.9%
PRIMARY SCHOOL 45.7%
SECONDARY SCHOOL 19.2%
POST SCHOOL(STD 10+) 0.3%
NONE/ UNSPECIFIED (INCL<5YRS+) 18.9%

5. PREVIOUS KANWANE REGISTERED VEHICLES

MOTOR CARS	5615	1.1% OF POPULATION.
MINI BUSES	1092	1/463 PEOPLE
BUSES	547	1/925 PEOPLE

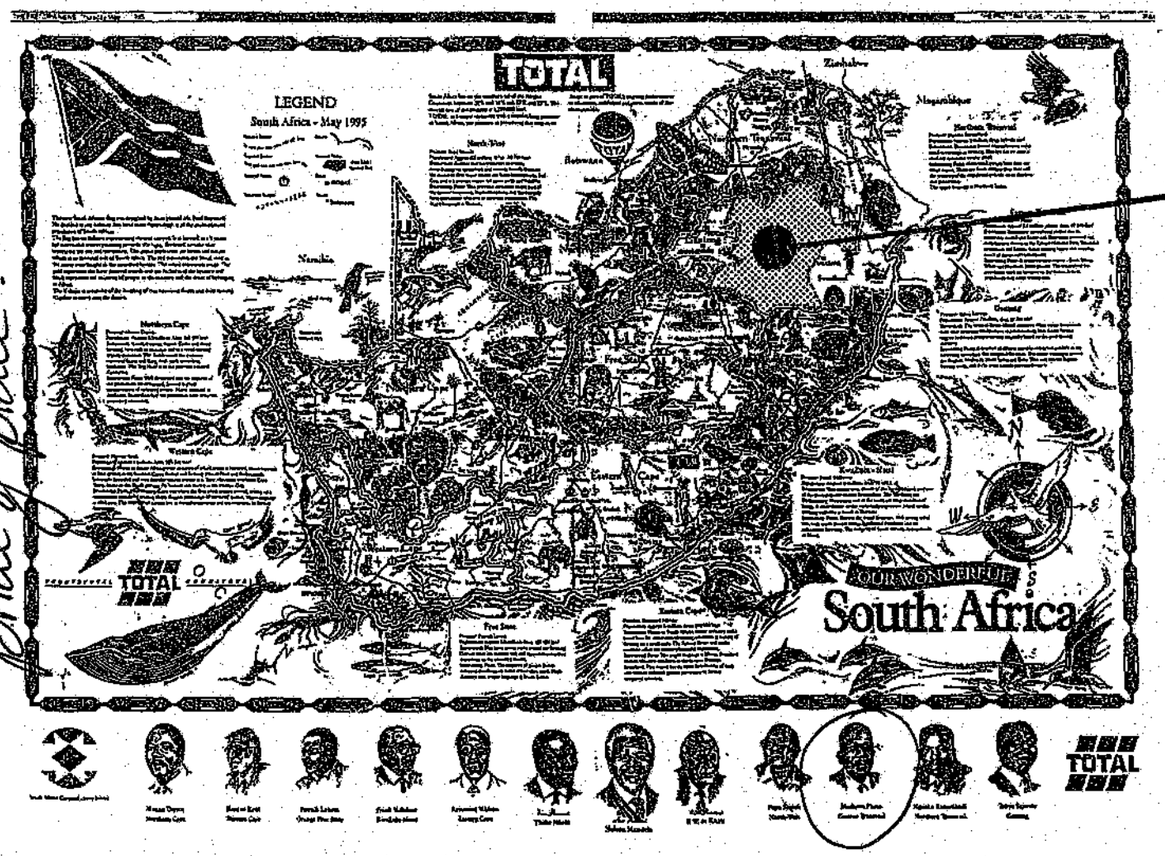
6. PREVIOUS KANGWANE

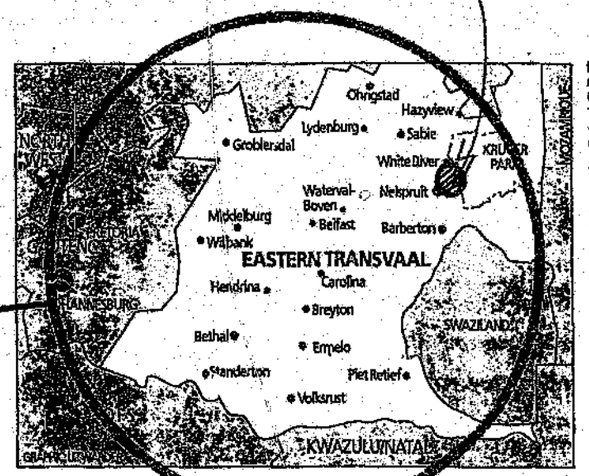
CAPITAL: LOUISVILLE
POPULATION: 506 000
POP DENS. 132.4 PEOPLE/KM2
KANYAMASANE 25000 POP
INDIVIDUAL DEVELOPMENT POINTS:
KABOKWENI
KANYAMASANE
MATSULU
KAMHLUSHWA

7. SPREAD OF AGE GROUPS

0 - 14 YRS 49.3%
15 - 64 YRS 48.8%
65+ YRS 1.8%

Randstad Nelspruit





Eastern Transvaal

Premier: Mathews Phosa
Population: Approx 2,8 million people. **Area:** 81 816 km²
Economics: Reasonable agricultural output due to favourable rainfall and fertile soil. Economic potential lies with tourism. Home to the Kruger National Park. Beautiful mountains and forests. A coal mining region that supplies much of the country's electricity.
Interesting Facts: A multi-cultural region - Zulu, Swazi, White and Northern Sotho people. The majority of the population work on farms or in the mines. A rural population with a low literacy rate. .

Mpumalanga.

THE PRETORIA NEWS · Friday March 31 1995

ANALYSIS

Regionalism within the new South-African paradigm.

RANDSTAD NELSPRUIT

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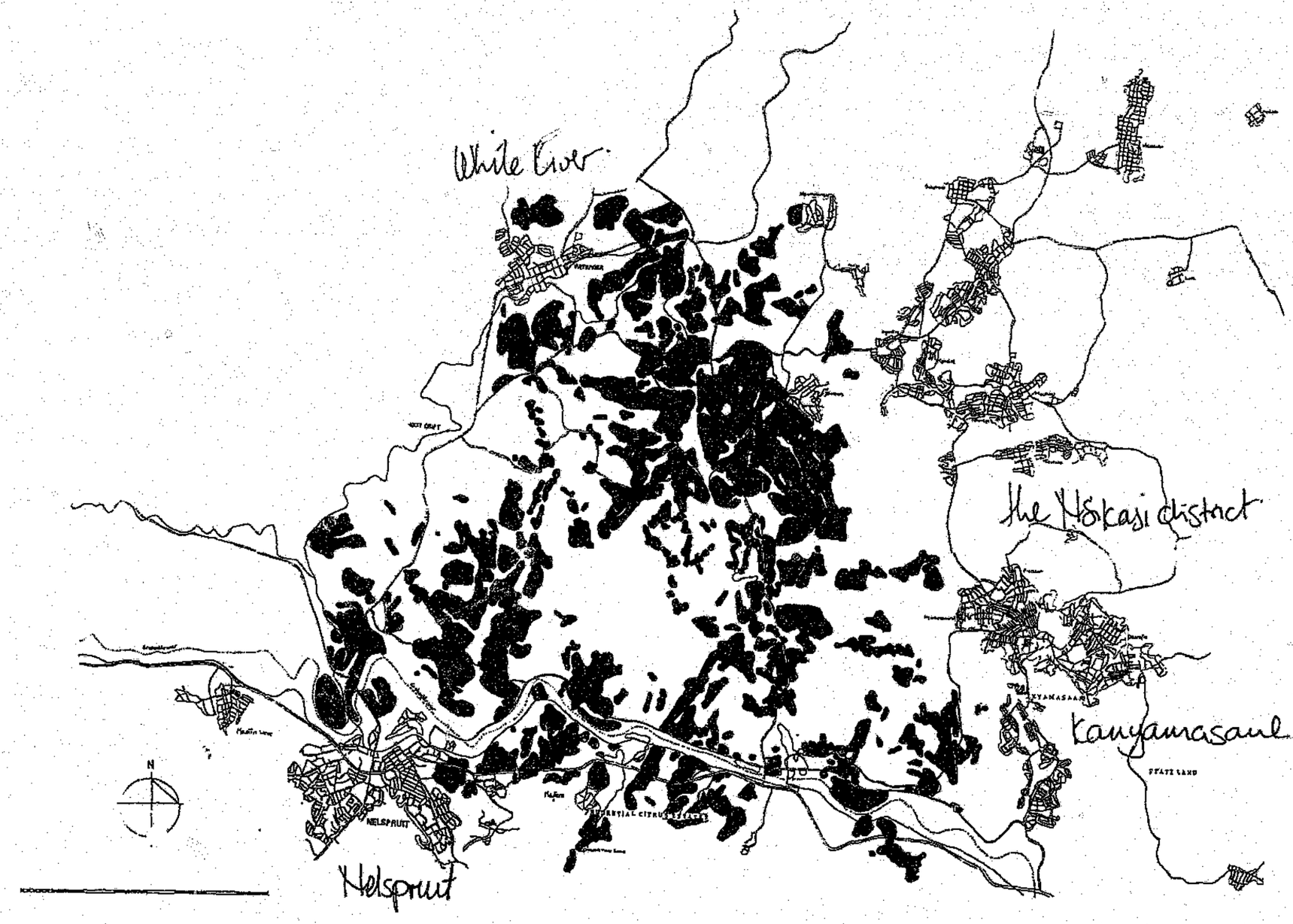

ANALYSIS

RANDSTAD **NELSPRUIT**

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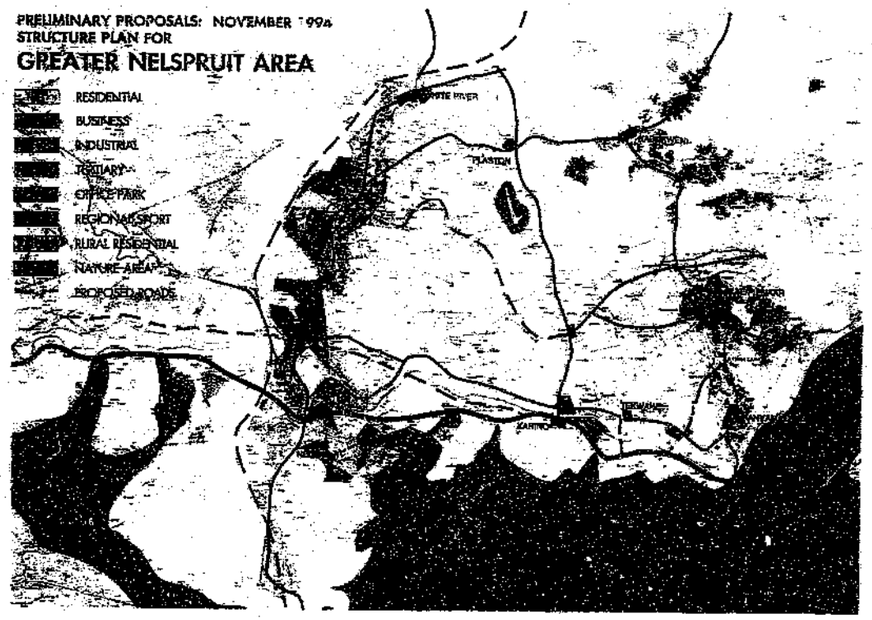
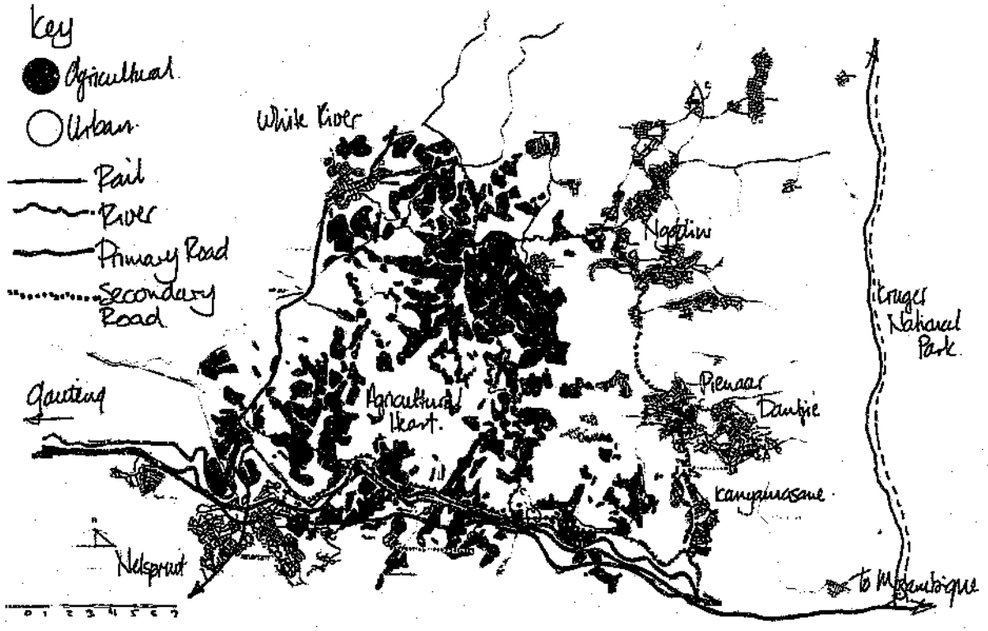


Nelspruit Structure Plan · November 1994

RANDSTAD **NELSPRUIT**

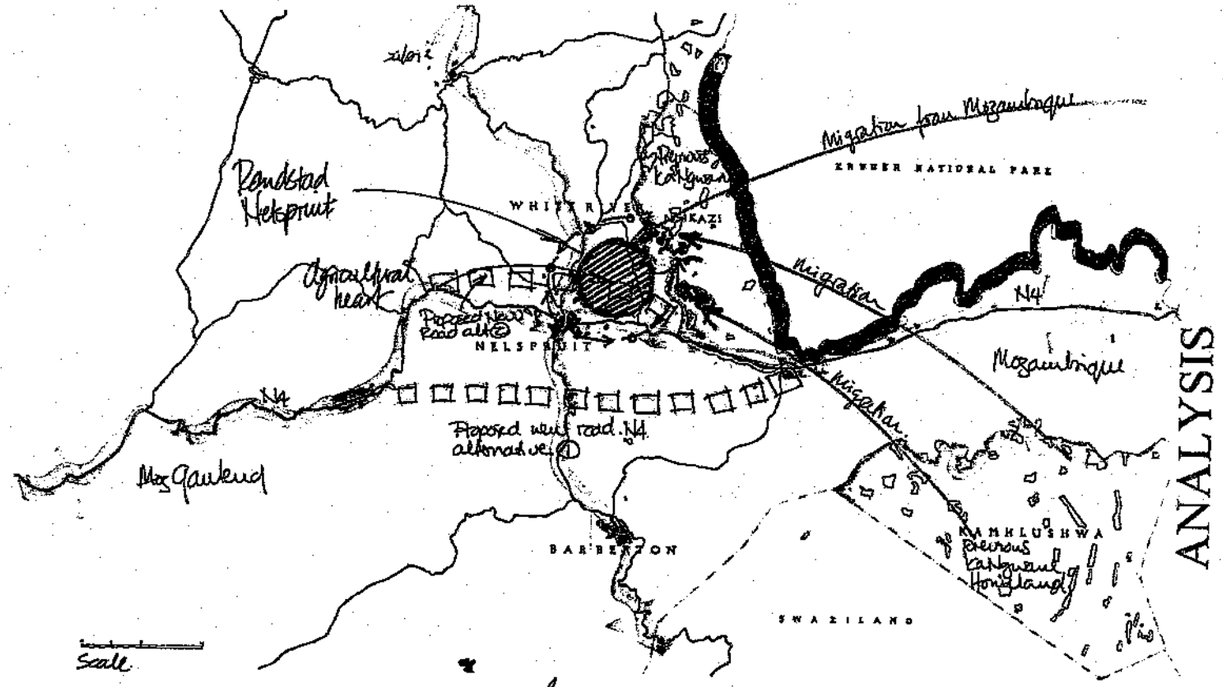
ANALYSIS



● Relationship of Urban to agricultural areas

RANDSTAD **NELSPRUIT**

ANALYSIS



● Randstad Nelspruit as focal point of in-migration

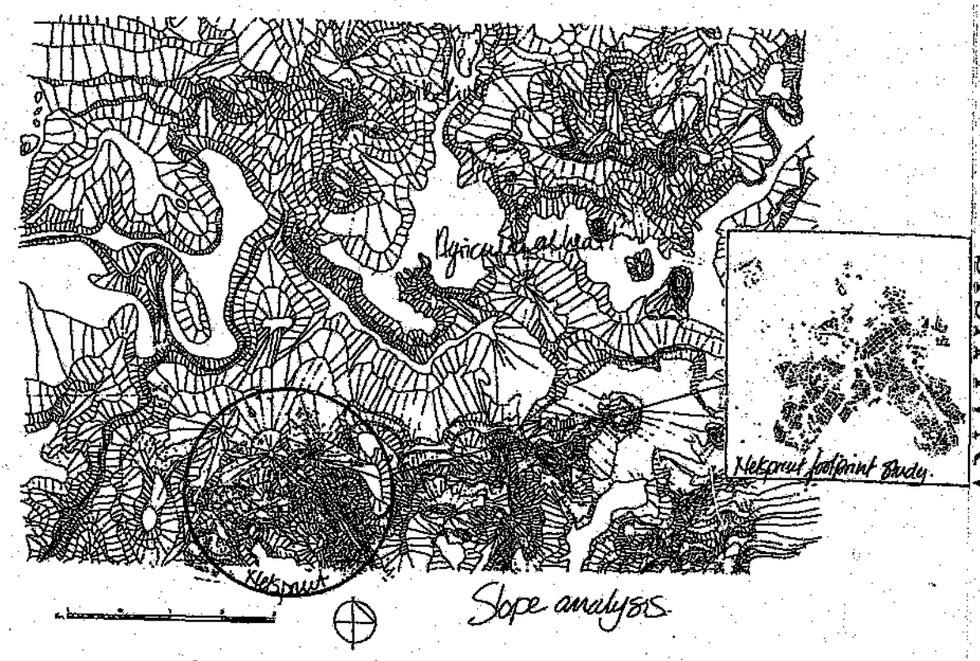
RANDSTAD **NELSPRUIT**

ANALYSIS



RANDSTAD **NELSPRUIT**

ANALYSIS



Slope analysis

ANALYSIS

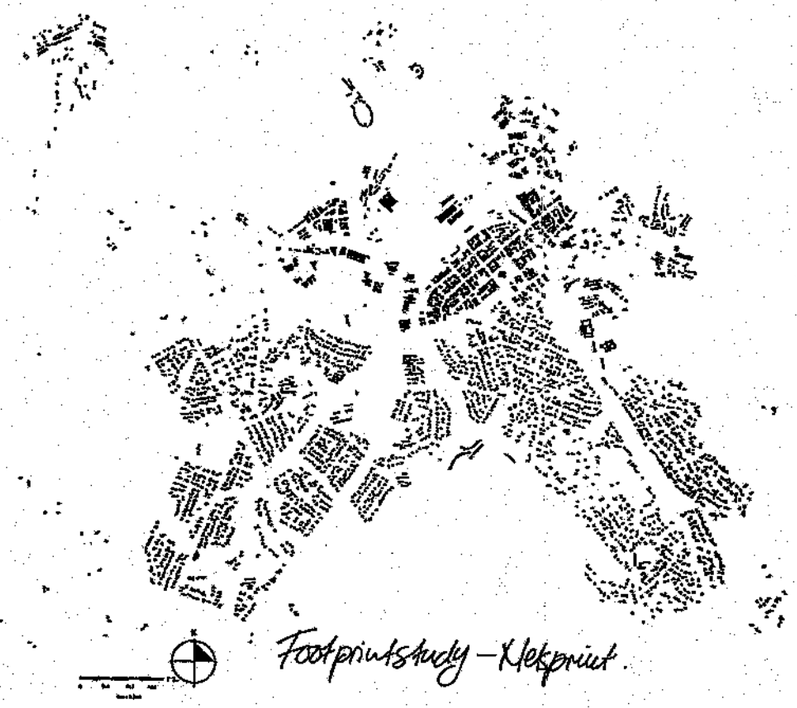
RANDSTAD **NELSPRUIT** 7.1



Negative footprint study - Nelspruit.

ANALYSIS

RANDSTAD **NELSPRUIT** 7.2



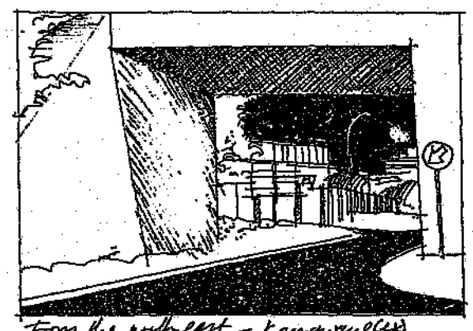
Footprintstudy - Nelspruit.

ANALYSIS

RANDSTAD **NELSPRUIT** 7.3



From the east - Maldane, Mozambique.



From the north east - Langwane(ex)



From the North - White River

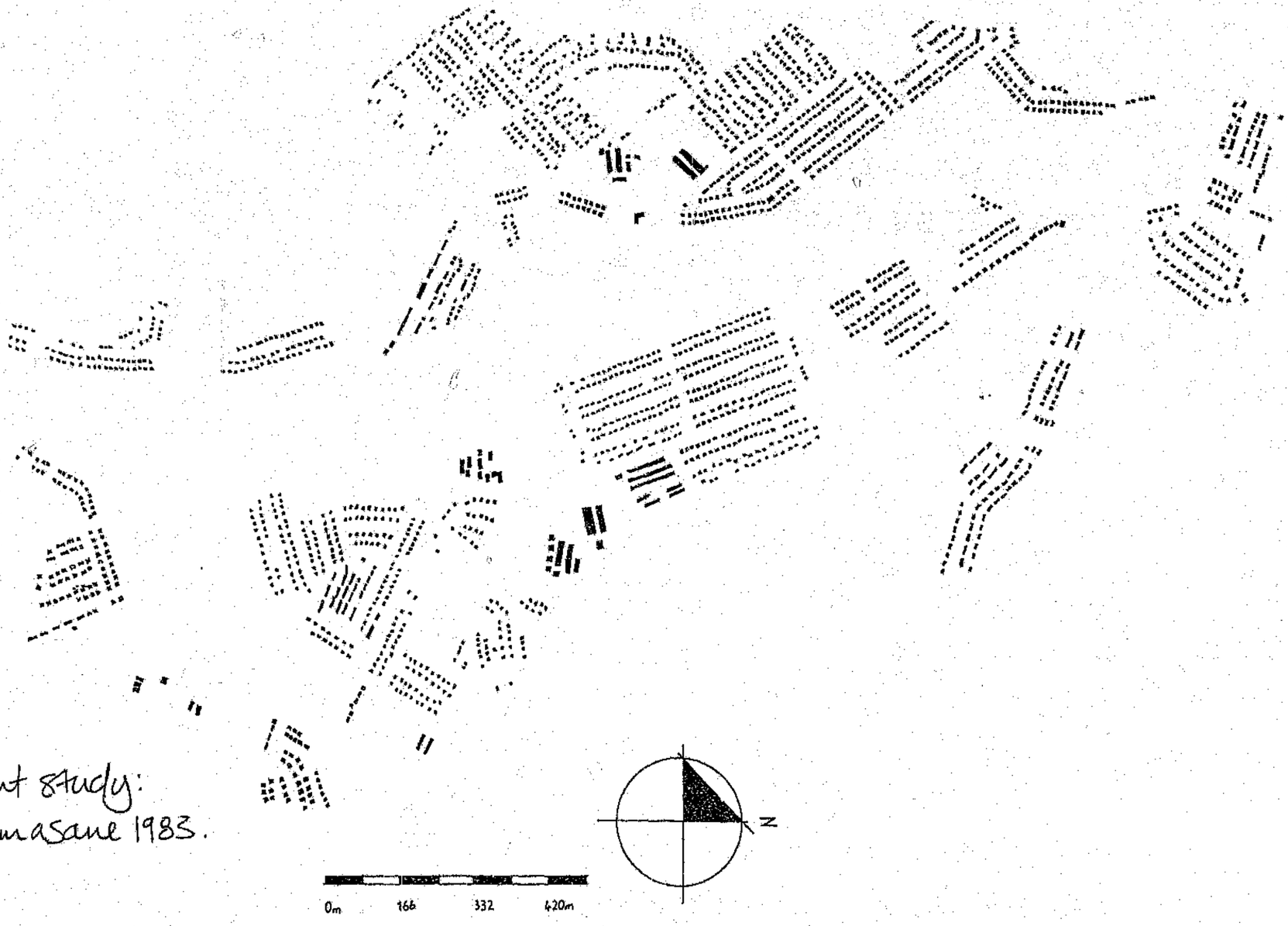


From the west - Gauteng

Gateways to Nelspruit

ANALYSIS

RANDSTAD **NELSPRUIT** 7.4



Footprint study:
Kanyamasane 1983.

RANDSTAD NELSPRUIT

Nelspruit - Elements of the urban system.

RANDSTAD **NELSPRUIT**

ANALYSIS

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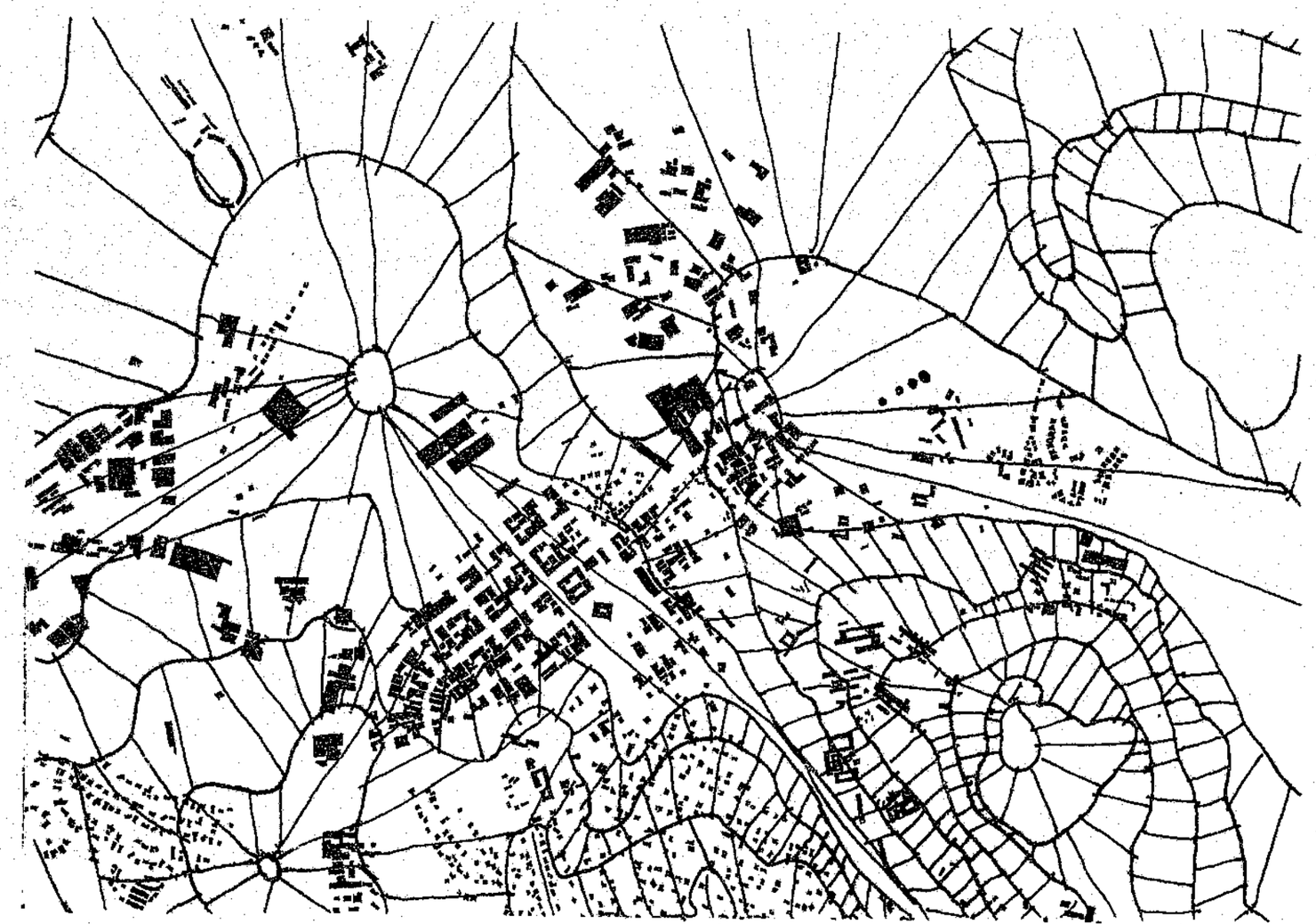
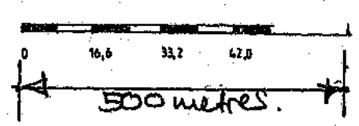




Nelspruit footprint superimposed on slope analysis drawing.

RANDSTAD NELSPRUIT

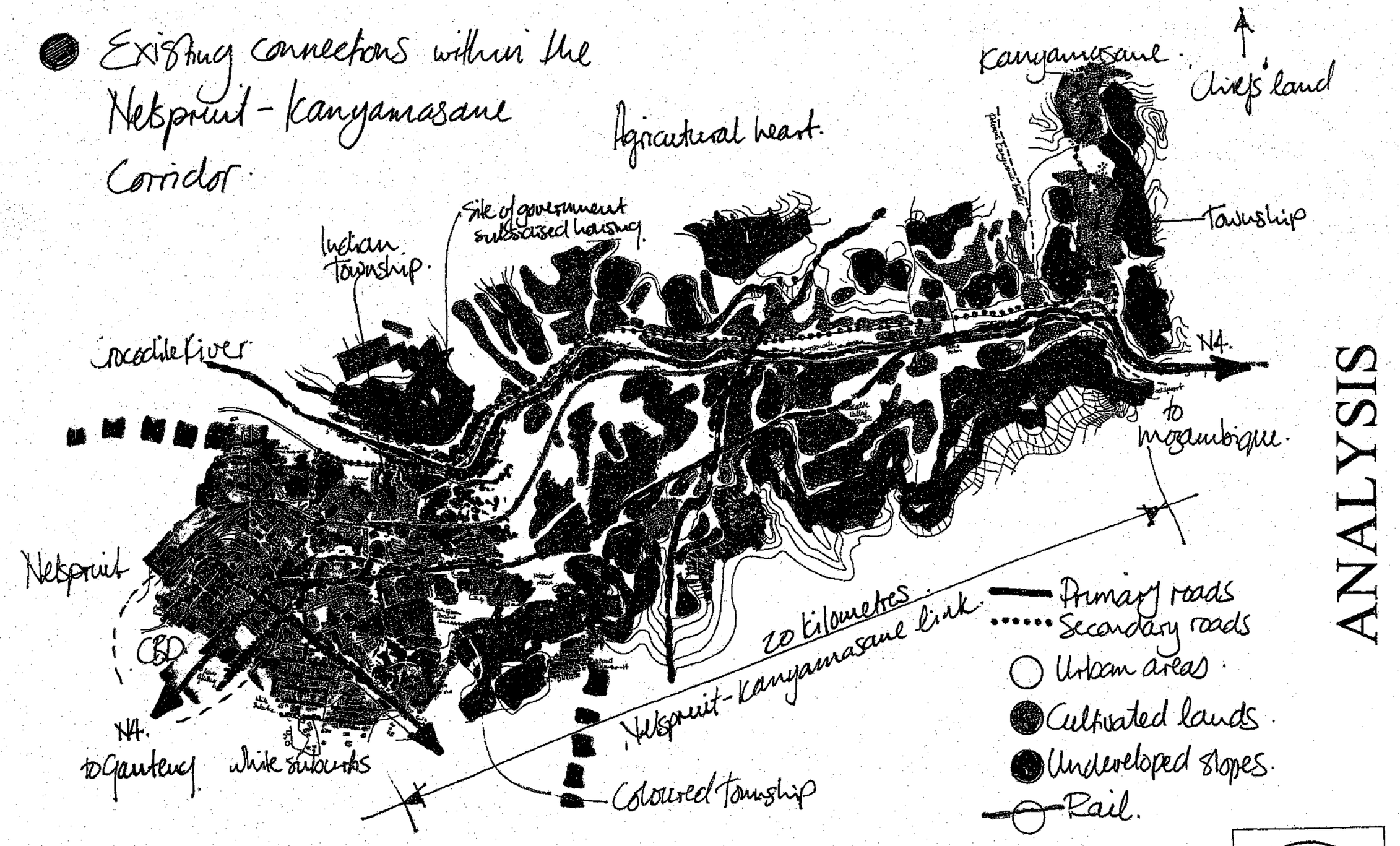
ANALYSIS

9



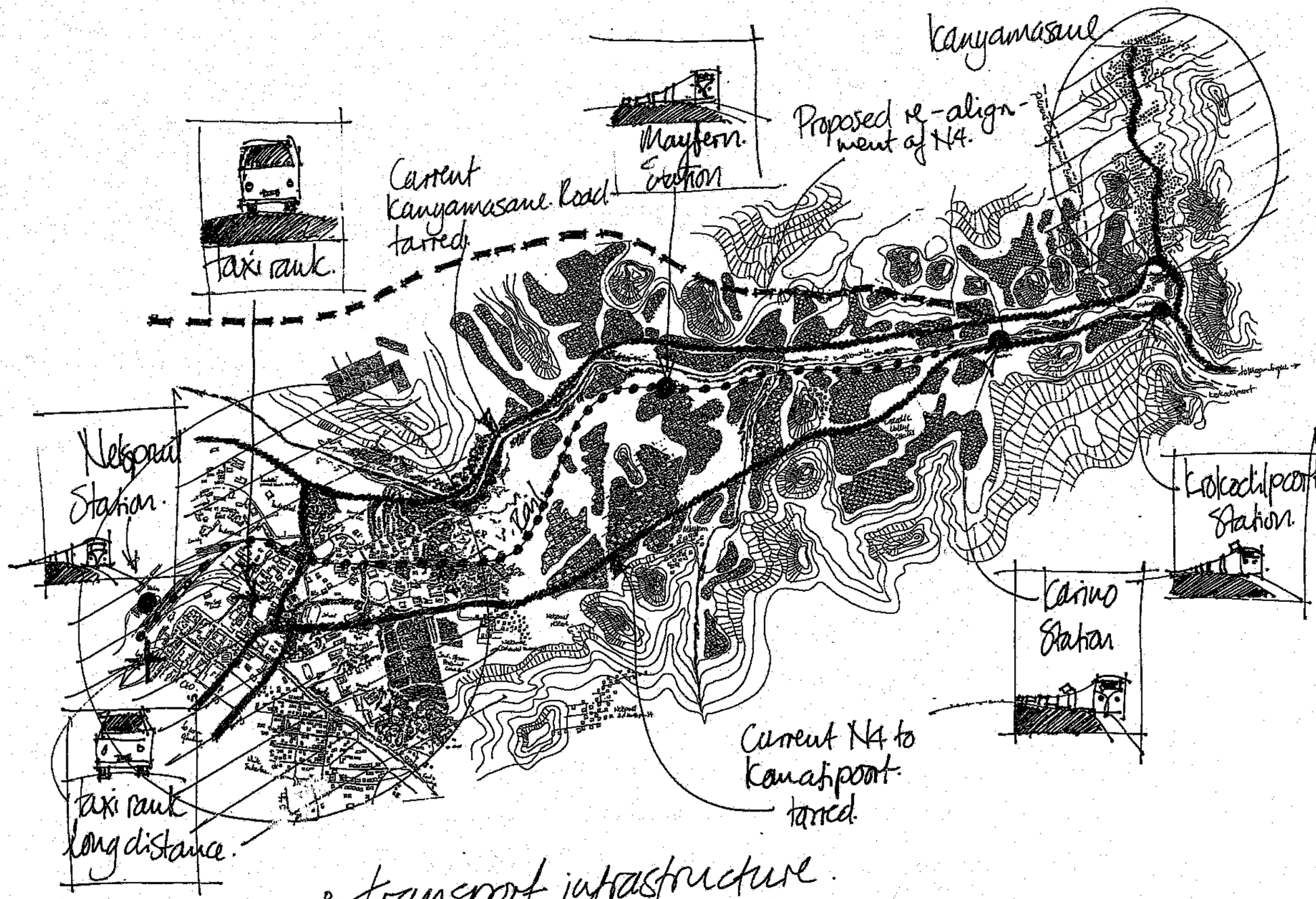
Larger Case Study site: Nelspruit - kanyamazane link.

RANDSTAD **NELSPRUIT**



ANALYSIS

RANDSTAD NELSPRUIT



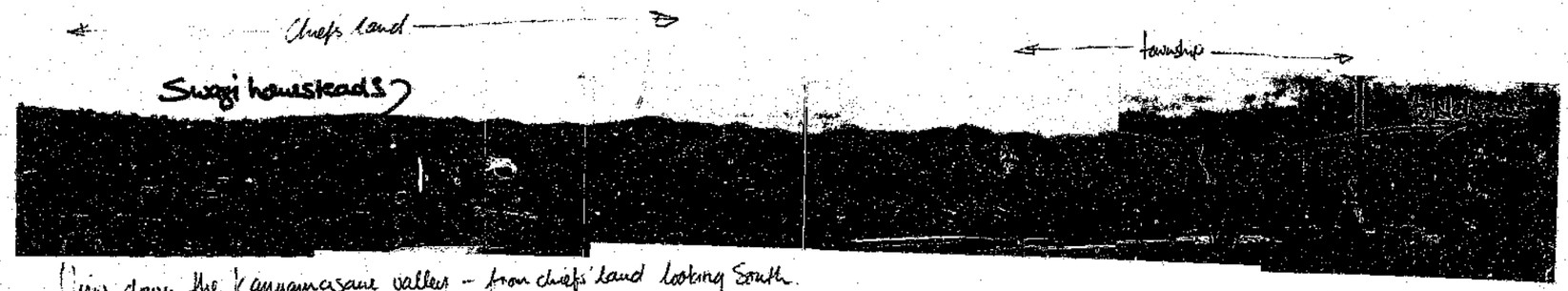
Existing and Proposed traffic infrastructure.

ANALYSIS

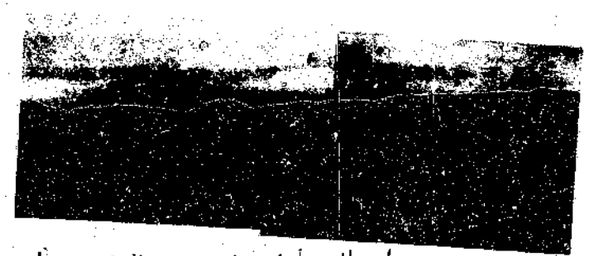
o. transport infrastructure.

RANDSTAD NELSPRUIT

12



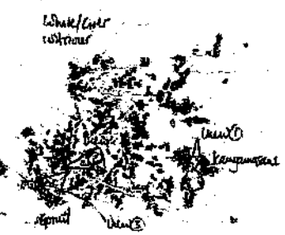
View down the Kanyamazane valley - from chiefs' land looking South.

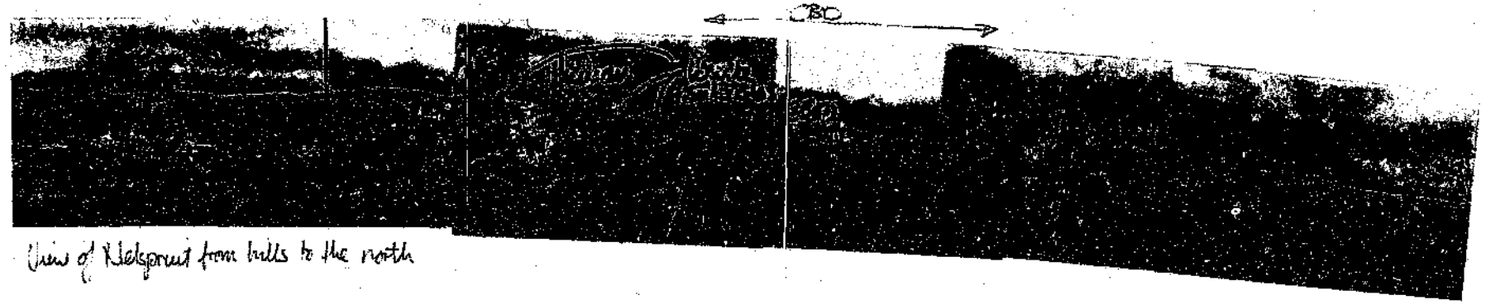


View into the agricultural heartland
looking north-east



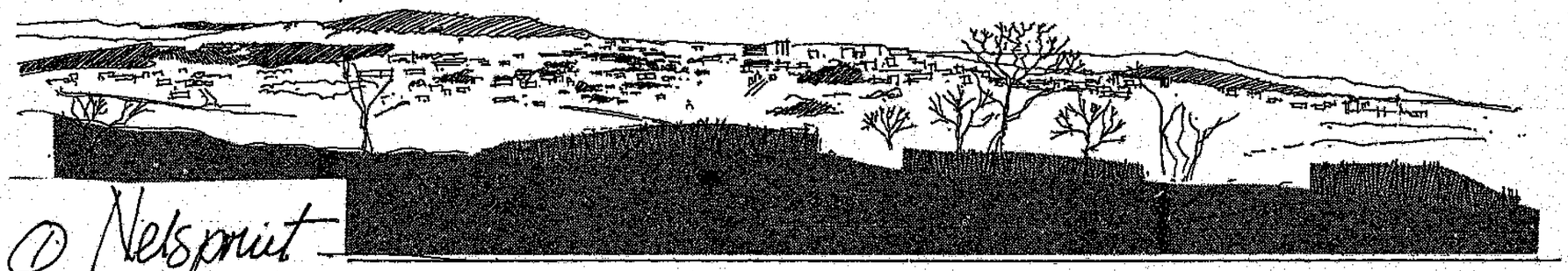
Hill-positioned site of new low cost housing scheme "Nelspruit first" 250 houses built with assistance of RDP subsidy



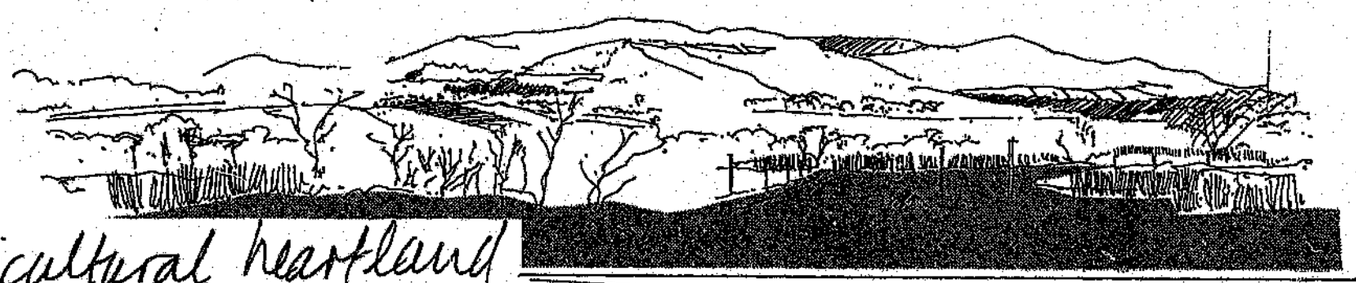


View of Nelspruit from hills to the north

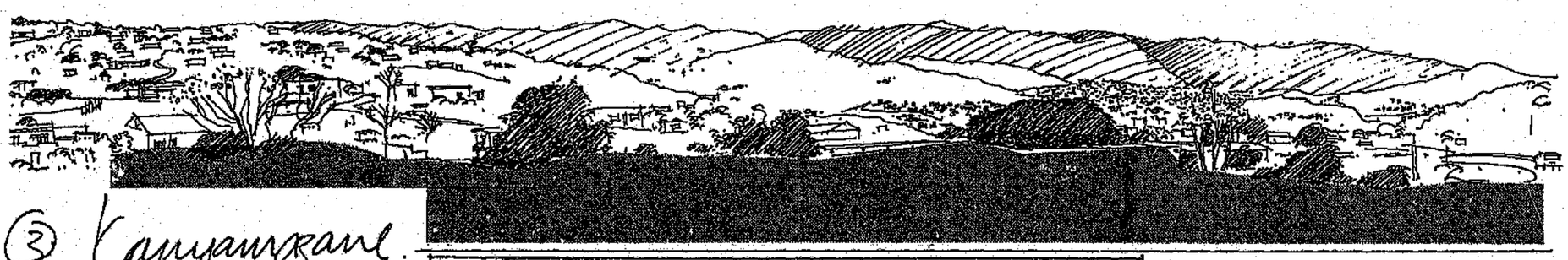
RANDSTAD NELSPRUIT



① Nelspruit

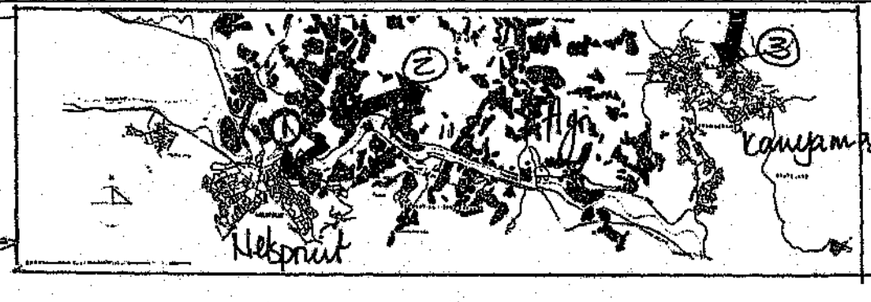


② Agricultural heartland



③ Kanyamazane

Southern sector of the Randstad.



Spatial diversity in the Randstad.

ANALYSIS

RANDSTAD NELSPRUIT

CASE STUDY
CHAPTER 5

PROBLEM STATEMENT

DISCOURSE TOPIC

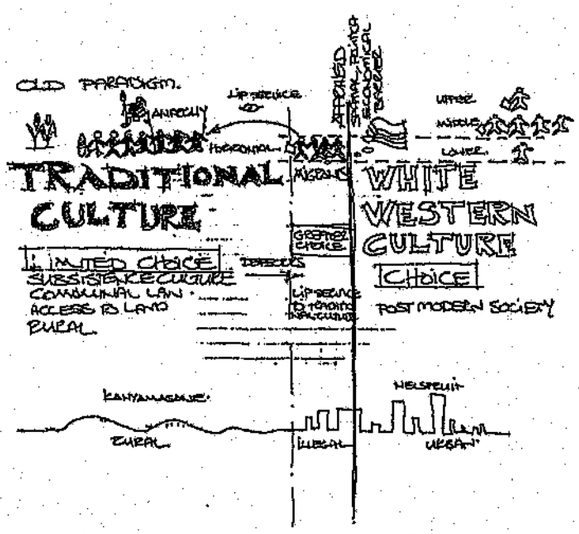
SOCIAL CHOICE: A FRAMEWORK FOR COLLECTIVE DECISIONS AND INDIVIDUAL JUDGEMENTS WITHIN A CROSS-CULTURAL SOCIETY

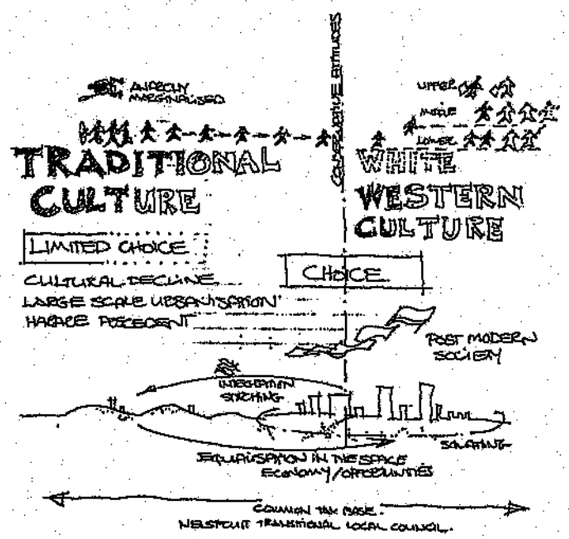
the urban design challenge is to .....

FORMULATE A THEORETICAL BASE - SOCIAL CHOICE THEORY: COLLECTIVE CHOICE, INDIVIDUAL JUDGEMENT	**SELECT AN ILLUSTRATIVE CASE STUDY - RANDSTAD NELSPRUIT REGIONAL IDENTITY, DIVERSE CHOICE**
NEW PARADIGM *HOW TO CREATE GREATER ACCESS TO CHOICE/OPPORTUNITY *HOW TO MAKE JUDGEMENTS RELATED TO SOCIAL CHOICE *HOW TO MAXIMISE THE TOTAL WELFARE FUNCTION	NEW PARADIGM: *NELSPRUIT= NEW REGIONAL CAPITAL *OPPORTUNITIES OF DIRECT REPRESENTATION THROUGH LOCAL GOVERNMENT *IMBALANCES MEASURABLE ON A LOCAL SCALE

MOTIVATION: DISCOURSE BASED ON AN EMERGING NEW PARADIGM OF GREATER ACCESS TO OPPORTUNITY AND CHOICE, REGIONALISM ALL FACILITATED BY SOCIAL AND POLITICAL CHANGE.

old paradigm ---------- **new paradigm**





RANDSTAD NELSPRUIT

P R O C E S S

QUALFICATION: THE PROCESS HAS BEEN SEPARATED INTO IDENTIFYABLE STEPS FOR REASONS OF ACADEMIC INTERPRETATION BUT WAS IN FACT AN INTERACTIVE ONE.

1 PROBLEM STATEMENT: URBAN DESIGN PROBLEM BOUND IN SPACE AND TIME : AWARENESS OF THE DEMANDS OF SOCIETY
SOUTH - AFRICA 1995: NEW POLITICAL ERA, CRITICAL MOVE TOWARDS GREATER INTEGRATION , IMPROVED ACCESSIBILITY. EMERGING HYBRID CAPITALIST/ SOCIALIST(WELFARE) SYSTEM. DEVELOPMENT OF REGIONAL IDENTITIES, ECONOMIES, POLITICAL STRUCTURES.

2 SELECT TOPIC OF THEORETICAL BASE
PURPOSE: LEARNING PROCESS INTENDED TO INFORM THE URBAN DESIGN FRAMEWORK. RELEVANT TO CURRENT SITUATION.

3 SELECT CASE STUDY SUBJECT LINKED TO THEORETICAL BASE
NEW PARADIGM BOUND TO HAVE MARKED SPATIAL CONSEQUENCES ON NELSPRUIT. NEW REGIONAL CAPITAL. EN ROUTE TO A MORE ACCESSIBLE MAPUTO PORT. MULTIPLE CLIENT GROUP. IN-MIGRATION. RAPID URBANISATION.

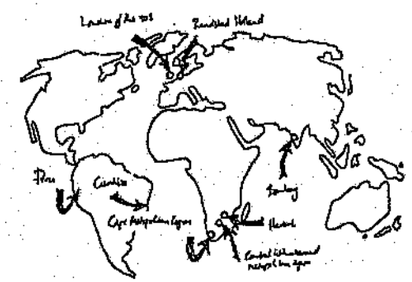
4 PROVISIONAL SITE VISIT- MARCH 1995
COME TO GRIPS WITH THE SCOPE OF THE PROBLEM. IDENTIFY THE RANDSTAD. IDENTIFY OPPORTUNITIES AND CONSTRAINTS SPEAK TO INTERESTGROUPS .

5 ACCUMULATE STATISTICAL DATA RELATED TO CASE STUDY PREPARE ANALYSIS DRAWINGS (MARCH 1995 ONWARDS)
TOPOGRAPHICAL MAPS, AERIAL PHOTOGRAPHS, NELSPRUIT STRUCTURE PLAN(1991), NELSPRUIT GUIDE PLAN(1984), HISTORICAL OVERVIEW.

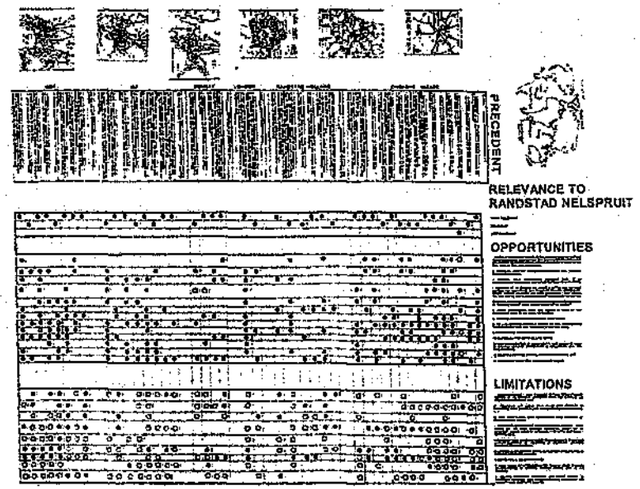
6 FOCUS ON THEORY WHILE CONTINUOUSLY TRYING TO RELATE IT TO THE URBAN DESIGN PROBLEM
STUDY SOCIAL CHOICE THEORY. STUDY THE ROLE OF THE URBAN DESIGNER AS AN EXPERT WHO HAS TO EXERCISE JUDGEMENT WHICH AFFECT SOCIETY IN DIVERSE WAYS.
STUDY THE VALUES/CHOICES OF WESTERN(POST MODERN) - AND TRADITIONAL(SWAZI) - CULTURES WHICH CO - EXIST IN NELSPRIT.

7 FROM THE THEORY, THE IMPORTANT ROLE OF PRECEDENT BECOMES APPARENT:
URBAN DESIGN JUDGEMENT, LIKE LEGAL JUDGEMENT MUST HAVE A RATIONAL BASIS WHICH CAN BE INTELLIGIBLY EXPLAINED. RATIONAL HERE DOES NOT MEAN RELIANCE ON UNIVERSAL PRINCIPLES BUT ON PRECEDENT AND ON THE DETAILS SET BY THE CONTEXT OF THE DESIGN PROBLEM.

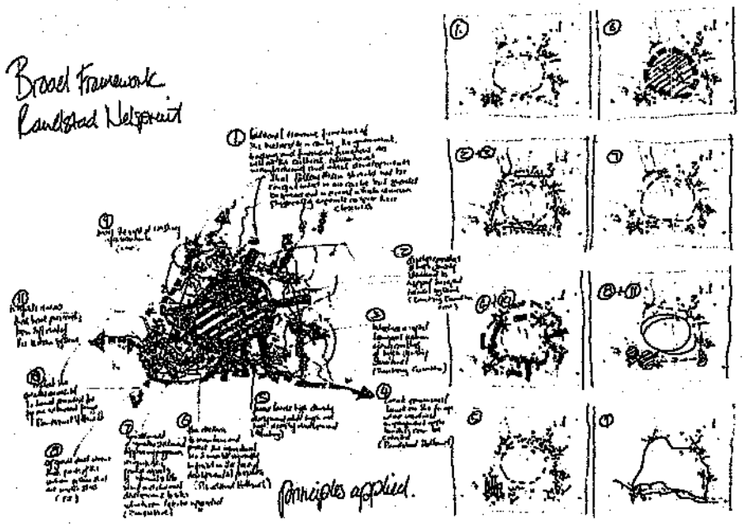
8 CREATIVELY SELECT PRECEDENTS.
URBAN DESIGN PROBLEMS PRESENT GENUINE OPPORTUNITIES FOR CHOICE OF PRECEDENT- NOT A CHOICE BETWEEN TWO PRECEDENTS, ONE WHICH MAY BE SAID TO BE ALMOST CERTAINLY RIGHT AND THE OTHER ALMOST CERTAINLY WRONG, BUT A CHOICE BALANCED SO THAT A NEW RIGHT AND A NEW WRONG WILL EMERGE FROM THE ADOPTION OF RELEVANT PRINCIPLES. (SEE PAGE 8 ,CHAPTER 2 : DISCUSSION ON THE REASONS FOR CHOOSING ZIMBABWE, LONDON OF THE 70'S, RANDSTAD HOLLAND, BOMBAY, THE MDF AND THE ISF AS PRECEDENT)



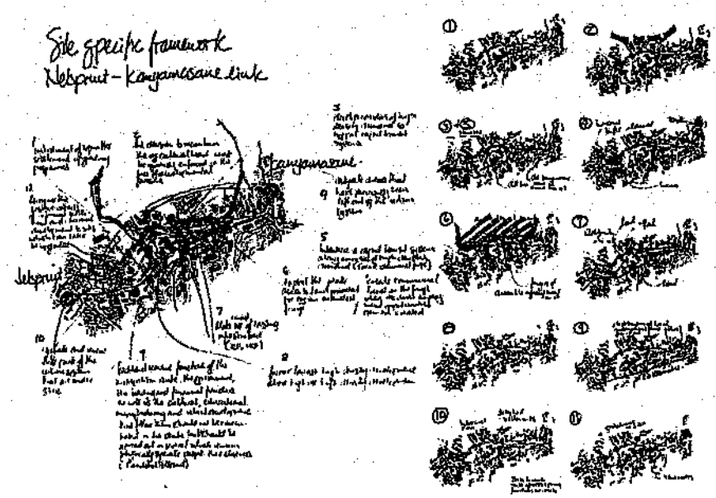
10 PREPARE A COMBINED DECISIONS MATRIX INCORPORATING THE PRINCIPLES FROM PRECEDENT, CREATIVELY SELECTED AND RELATED TO IMPROVED ACCESS TO CHOICE, OPPORTUNITIES AND CONSTRAINTS.



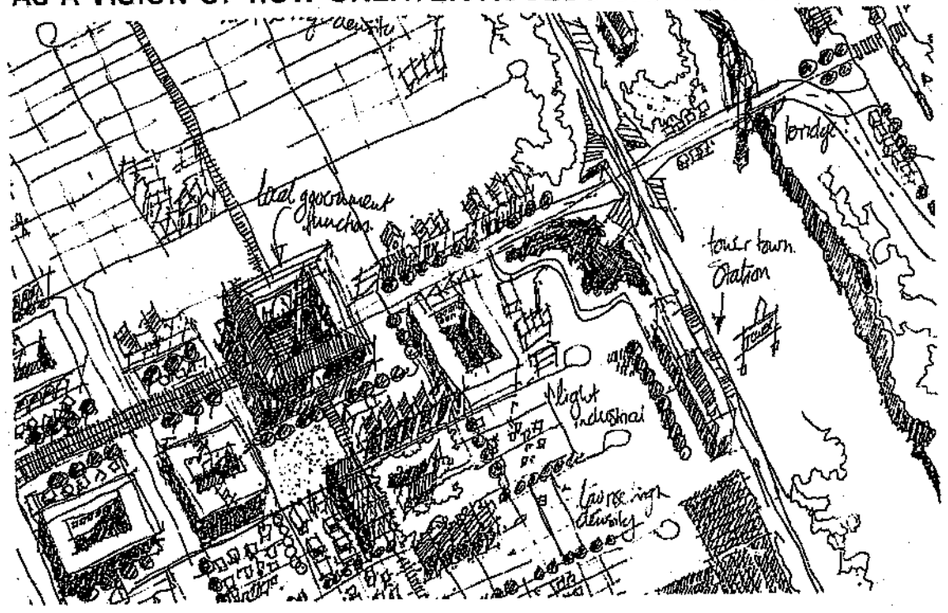
11 DETERMINE PRINCIPLES FOR THE TOTAL RANDSTAD , BASED ON PRECEDENT AND THEORY(EXERCISE INFORMED JUDGEMENT)



12 DETERMINE PRINCIPLES FOR A SECTOR OF THE RANDSTAD. THE NELSPRUIT-KANYAMASANE LINK IS USED TO ILLUSTRATE INTEGRATION.



13 ILLUSTRATE DEVELOPMENT OF COMPONENTS WITHIN THE NELSPRUIT KANYAMASANE LINK: PREPARE INCREMENTAL DEVELOPMENT AND URBAN FORM RESPONSE DRAWINGS TO ACT AS A VISION OF HOW GREATER ACCESS CAN BE ACHIEVED.



14 DRAW CONCLUSIONS: WHAT HAS BEEN LEARNT/ACHIEVED ?

9 **RE-ASSES THE SCOPE OF THE URBAN DESIGN PROBLEM, BASED ON THE KNOWLEDGE ACCUMULATED TO DATE.(AS A RESULT OF ADOPTING AN OPEN MINDED STANCE RECEPTIVE TO LEARNING)**

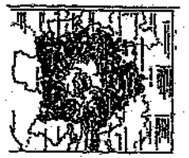
THE TABLE BELOW ILLUSTRATES WHAT WAS LEARNT FROM THE THEORY AND THE ANALYSIS AND HOW THIS SHOULD INFLUENCE THE URBAN DESIGN

SOCIAL CHOICE THEORY		ANALYSIS: CASE STUDY SITE	
what was learnt?	how do I respond?	what was learnt?	how do I respond?
with each urban design problem we are likely to be faced circumstances significantly different from our own	adopt an open, undogmatic stance allow yourself to be submerged in an initial state of confusion as alien choices are assimilated	Nelspruit , it's neighbours and satelite towns(townships) collectively form a polycentric city . From here on called Randstad Nelspruit	study Randstad Holland the worlds most famous polycentric city as precedent
the need to collect objectivity probability information	ask, analyze, study history- economical, social, geographical	traditional Swazi culture and kinship is still very relevant in the black rural areas fusing with the Randstad but is gradually declining as Western values are adopted.	acknowledge the choices related to traditional Swazi in future strategies while acknowledging its gradual decline. study Swazi culture
the importance of consulting creatively selected precedent	select precedent from own frame of reference, research possible precedent, enquire from knowledgeable people	at least 50% of the population is under 14 years of age	take a long term view of present strategies which incorporate the choices/values of this generation.
socialist and capitalist ideals are interrelated. we cannot only react to passionate socialist needs or wants or to the desires of egoist profit maximisers	determine the needs of and opportunities for capitalist/socialist interestgroups. add weights once a holistic view has been formed. Aim- to maximise the total welfare function	there are no squatters in the immediate viscinity of Nelspruit. Learn that they are vigorously removed with the assistance of the airforce	study Harare precedent- continued process of squatter removal after independence- likely outcomes
the need for the urban designer as public agent to make judgements from the *original position*	adopt a stance as close as possible to the original position.(see defenition of *original position* on page 4)	Nelspruit is situated in an agricultural heartland - experiences rapid urbanisation. satelite towns used as landing bases for in-migrants. undergoing socio-political change	study Harare as presedent. similar conditions during the eighties. Also London of the 70s- rising middle class, change of government

what was learnt?	how do I respond?	what was learnt?	how do I respond?
the need to relegate the obvious in favour of the common good. the obvious choice is not always the correct choice	use design to balance ends and means illustrate possible outcomes to make decisions more tangible.	disproportionate travel distances between residence and work for the majority. need for improved access	study Bombay precedent- improving access in the low-rise high density third world city.
the need for the urban designer to educate and be educated through the process	accept from the outset that answers will be found in the process. educate the client in this regard . use appropriate precedent to illustrate possible outcomes	discontinuity in the urban system because of Apartheid legislation need for integration	translate proposals for high energy contexts- Cape Town's MDF and Johannesburg's ISF to Nelspruit's low energy context
there is no totally objective view in urban design because of the wickedness/complexity of problems	adopt a stance of deliberative rationality according to Rawls in the absence of objectivity (see page 4)	agriculture is an overwhelmingly important component of the regional economy. there is both a need and desire to preserve the agricultural heart	acknowledge this in any framework refer to Randstad Holland precedent
that there is slim chance of making judgements that will be popular with all parties concerned- the aim must not be to benefit all but to maximise the total welfare function	make assertive decisions when they have to be made. do not try to please everyone. rigidly avoid serving sectional interests for personal gain	many still adhere to a traditional subsistance culture. access to land for non-commercial purposes important	related to preservation of the agricultural heart. facilitate access, determine trade-offs.
the urban designer can and must actively make choices on behalf of his diverse client group, once sufficient objectivity probability information has been collected collected	don't be noncomittal. make decisions which will, to the best of your knowledge, maximise the total welfare function.	high illiteracy rate. need for access to educational reources.	advance access to education opportunities. advocate the choices of a largely illiterate client group assume the role of the expert
consider the time factor related to choice. decisions taken now will often only affect a future generation/generations	extrapolate current events pre-determine trends determine the likely effects of a current paradigm shift	Nelspruit is en- route to the closest port to Gauteng. Upgrading of national roads infrastructure imminent	determine allignments for the "by-route" that can best benefit the randstad
The urban designer has to assume the position of the expert.He cannot make judgements related to the provision of infrastructure, the use or non-use of agricultural land or the provision of housing without some balancing of ends and means.	Consciously assimilate information from as wide a base as possible in order to obtain a holistic view of the consequences of selecting one set of principles over another	a strong reional identity exists. residents are proud to live in Mpumalanga	take advantage of the opportunity to strengthen that identity. Acknowledge the fact that a regional identity is partly found, partly created, allways changing.
knowledge of the state of economic and political development of a given society and other fairly general information is critically important for directing coices of one set of principles over another	become knowledgeable of the wider economical and political context in which we operate - from a general global scale, through the national scale down to the regional context	Randstad Nelspruit's topography is severely limiting. The hills to and the rivers form physical boundaries.	design spatially, not one dimensionally. inherent in these limitations are opportunities for spatial richness and contextual uniqueness

"IT IS CLEARLY UP TO THE EXPERT (URBAN DESIGNER) TO JUDGE THE COMPARATIVE IMPORTANCE OF ALL HIS ENDS". (RAWLS, 1972)



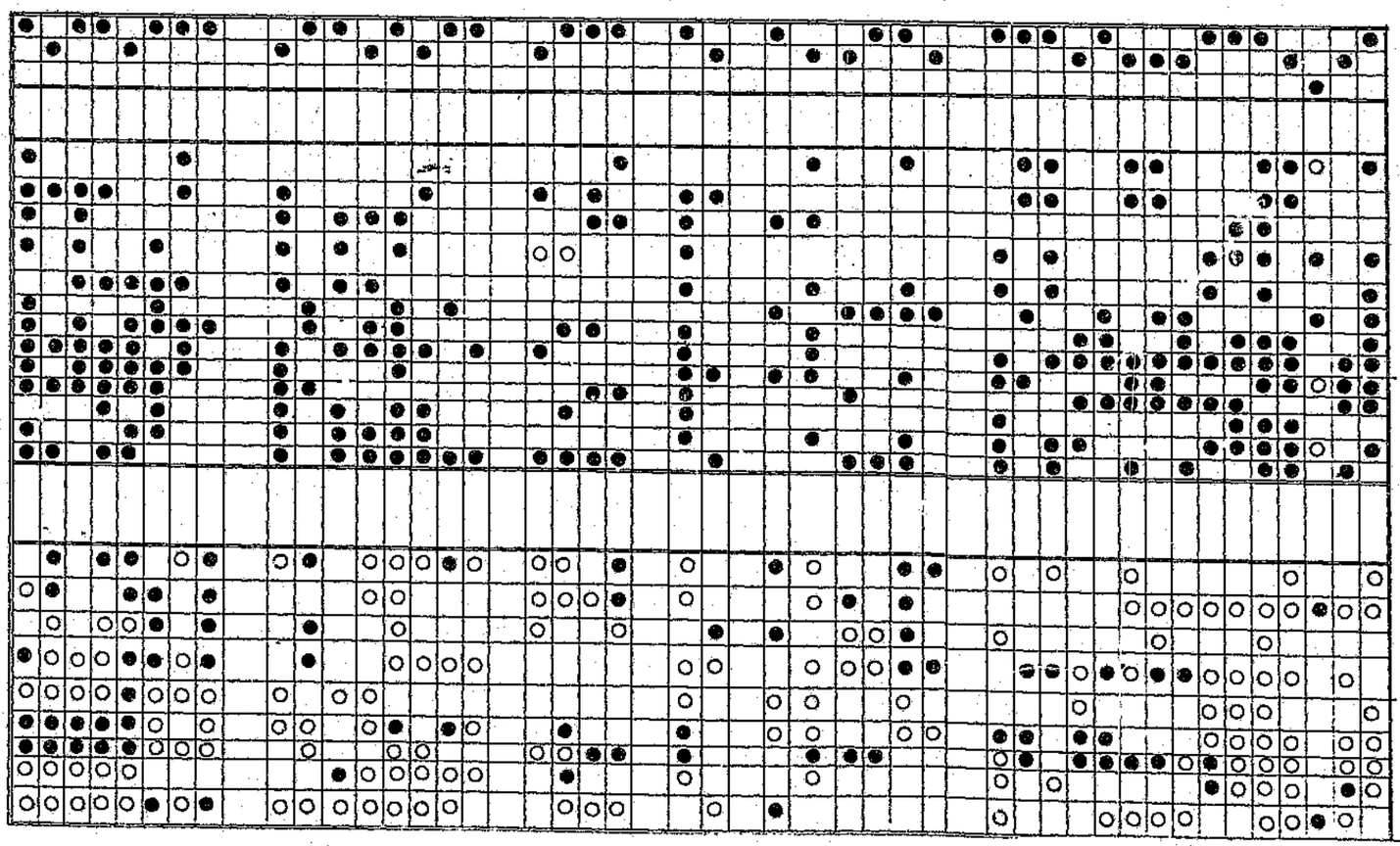





MDF | ISF | BOMBAY | LONDON | HOLLAND | ZIMBABWE - HARARE

PRECEDENT





RELEVANCE TO RANDSTAD NELSPRUIT

VERY RELEVANT

RELEVANT

NOT RELEVANT

OPPORTUNITIES

1. NELSPRUIT AS NEW FIRST CAPITAL OF THE NEWLY ESTABLISHED EASTERN TRANSVAAL/MPUMALANGA PROVINCE, OWN REGIONAL GOVERNMENT WHICH CAN RESPOND TO SPECIFIC NEEDS AND HAS A PERSONAL INTEREST IN THE WELL BEING OF THE LOCAL POPULATION.

2. PREVAILING SPIRIT OF TRANSPARANCY/POLITICAL WILL TOWARDS GREATER INTEGRATION.

3. THWATEN LOCAL GOVERNMENT TENSIONS NEED TO BE ACCOMMODATED, CAN PROVIDE NEW INFRASTRUCTURAL GROWTH POINTS.

4. EXTENSION OF N4 PLANNED TO CREATE A BETTER LINK BETWEEN GAUTENG AND MOZAMBIQUE, CAN FACILITATE GREATER ACCESSIBILITY, RELIEVE EXISTING NELSPRUIT CBD FROM CUMBERSOME FAST MOVING THROUGH TRAFFIC, ROUTE LINKS IMPORTANT TO CREATE OPPORTUNITIES.

5. REGIONAL OPPORTUNITIES INDICATED THROUGH UPGRADING/DEVELOPMENT OF THE LOCAL AIRPORT WHICH CANNOT SERVE BOEING AIRCRAFT.

6. FERTILE AGRICULTURAL LAND CAN PROVIDE IN MUCH OF THE SUBSISTANCE NEEDS OF THE LOCAL POPULATION.

7. DEBASE OF CONSERVATIVE/AUTOCRATIC SWAZI VALUES.

8. TAX BASE EXTENDED TO FROM A CONDOM TAX BASE INCORPORATING NELSPRUIT/WHITE RIVER AND TOWNSHIPS IN OUTLYING AREAS.

9. ERADICATION OF PREVIOUS KANGWANE BORDER.

10. RIDDOMPATORY INDIVIDUAL LAND TENURE.

11. GOOD INFRASTRUCTURE OF ROADS AND RAIL MUST BE USED TO ASSIST IN CREATING IMPROVED ACCESSIBILITY IN CONJUNCTION WITH NEW INFRASTRUCTURE.

12. INDUSTRIAL/ECONOMIC GROWTH, DEMAND FOR INDUSTRIAL LAND.

13. GOVERNMENT SUBSIDIZATION ON LOW-INCOME HOUSING.

LIMITATIONS

1. DISPROPORTIONATELY LONG DISTANCES BETWEEN INTERDEPENDENT SECTORS OF THE ECONOMIC COMMUNITY WITHIN THE ANNOTATED R.D.S NELSPRUIT/KANYAMAZANE TREE.

2. TRADITIONAL ANTI -URBAN SWAZI VALUES RUNS CONTRA-IT TO DEMOCRATIC SPIRIT, CHIEFS COLLECT THEIR OWN TAXES, DISTRIBUTE LAND, ETC.

3. MANY STEEP SLOPES DEMY DEVELOPMENT, MAKE PROVISION OF INFRASTRUCTURE COSTLY.

4. ENTRENCHED CONSERVATIVE ATTITUDES AMONGST FARMERS, URBAN DWELLERS AND THE LOCAL PLANNING AUTHORITIES OCCUPATION OF IMPORTANT LINKAGE AREAS BY FARMLAND, A POTENTIAL EMOTIONALLY SENSITIVE ISSUE.

5. CURRENTLY POOR VEHICULAR ACCESS TO ROADS LEADING TO GAUTENG MARKETS CLUSTERING OF INDUSTRYS AT NELSPRUITS NORTHERN OUTSKIRTS (PREVIOUS BUFFER).

6. IMPOSED MONOFUNCTIONAL SPATIAL DEVELOPMENT IN NELSPRUIT MAKE LINKAGES INTEGRATION DIFFICULT.

7. LIMITED FORMAL JOB OPPORTUNITIES.

8. LOCAL GOODS EXPORTED/DISTRIBUTED THROUGH OTHER REGIONAL MARKETS, PORTION OF REVENUE THROUGH PROFITS LOST TO THE PROVINCE.

9. NEGATIVE PERCEPTION REGARDING LOW INCOME HOUSING ON NELSPRUITS PERIPHERY, MAIN CONCERN NOT ACCESSIBILITY BUT VISIBILITY FROM NELSPRUIT'S SUBURBS.

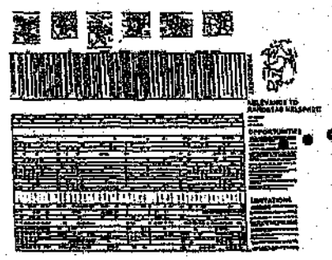
DECISIONS MATRIX

URBAN DESIGN FRAMEWORK

WHY THIS ?

HOW I GOT TO THIS.....

PRECEDENT
PRINCIPLES



+ANALYSIS
OPPORTUNITIES
CONSTRAINTS
CHOICES

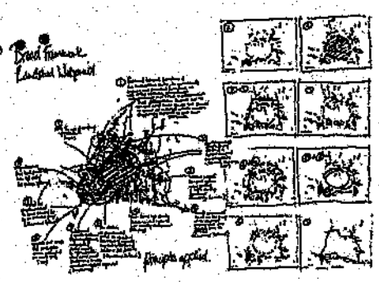


DISTILLING CHOICE

RELEGATING THE OBVIOUS IN FAVOUR OF THE COMMON GOOD

MOVING TO A POSITION AS CLOSE AS POSSIBLE TO THE ORIGINAL POSITION

11 DETERMINE PRINCIPLES FOR THE TOTAL RANDSTAD , BASED ON PRECEDENT AND THEORY(EXERCISE INFORMED JUDGEMENT)



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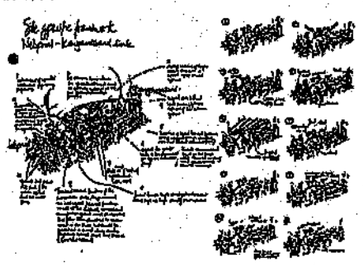


THE ROLE OF PRECEDENT

STUDYING PRECEDENT REPRESENTS FOLLOWING A PATH OF REASON. KNOWLEDGE OF PRECEDENT MINIMIZES THE RISK OF MAKING WRONG DECISIONS BY ILLUSTRATING THE LIKELIHOOD OF SUCCESS OF POLICIES APPLIED ELSEWHERE. PRECEDENT DOES HOWEVER NEED TRANSLATION TO THE SPECIFICS OF THE GIVEN CONTEXT. CREATIVE SELECTION OF PRECEDENT AMOUNTS TO A CERTAIN COMPETENCE ON THE PART OF THE URBAN DESIGNER.

DELIBERATIVE RATIONALITY

THE DECISIONS MATRIX REPRESENTS A PROCESS OF DELIBERATIVE RATIONALITY ACCORDING TO RAWLS (SEE PAGE 3: CHAPTER 1).THE URBAN DESIGNER IS CONCERNED WITH PRODUCING A SPATIAL FRAMEWORK WHICH MAXIMISES THE EXPECTED NET BALANCE OF SATISFACTION FOR HIS DIVERSE CLIENT GROUP. IT REPRESENTS A PROCEDURE FOR MAKING CHOICES BUT IT IS CLEARLY UP TO THE URBAN DESIGNER TO JUDGE THE COMPARATIVE IMPORTANCE OF ALL HIS ENDS. DELIBERATIVE RATIONALITY ALSO ASSUMES A CERTAIN COMPETENCE ON THE PART OF THE PERSON DECIDING - HE SHOULD HAVE A REASONABLE KNOWLEDGE OF THE GENERAL FEATURES OF HIS DIVERSE CLIENT GROUP'S WANTS AND ENDS.

THE URBAN DESIGNER'S CHOICE

THE BEST PLAN FOR AN INDIVIDUAL IS THE ONE HE WOULD ADOPT IF HE HAD *FULL INFORMATION*. AS THINGS ARE, OF COURSE, WHAT WILL HAPPEN IF WE FOLLOW THIS OR THAT PLAN IS USUALLY INCOMPLETE. IF THE URBAN DESIGNER DOES THE BEST A RATIONAL PERSON CAN DO WITH THE INFORMATION AND TIME AVAILABLE TO HIM, THEN THE PLAN IS A SUBJECTIVELY RATIONAL PLAN. HIS CHOICE MAY BE AN UNHAPPY ONE, BUT IF SO IT IS BECAUSE HIS BELIEFS ARE UNDERSTANDABLY MISTAKEN OR HIS KNOWLEDGE INSUFFICIENT, AND NOT BECAUSE HE DREW HASTY OR FALLACIOUS INFERENCES OR WAS CONFUSED AS TO WHAT HIS MULTIPLE CLIENT GROUP REALLY WANTED

EXPERT JUDGEMENT
URBAN DESIGNING

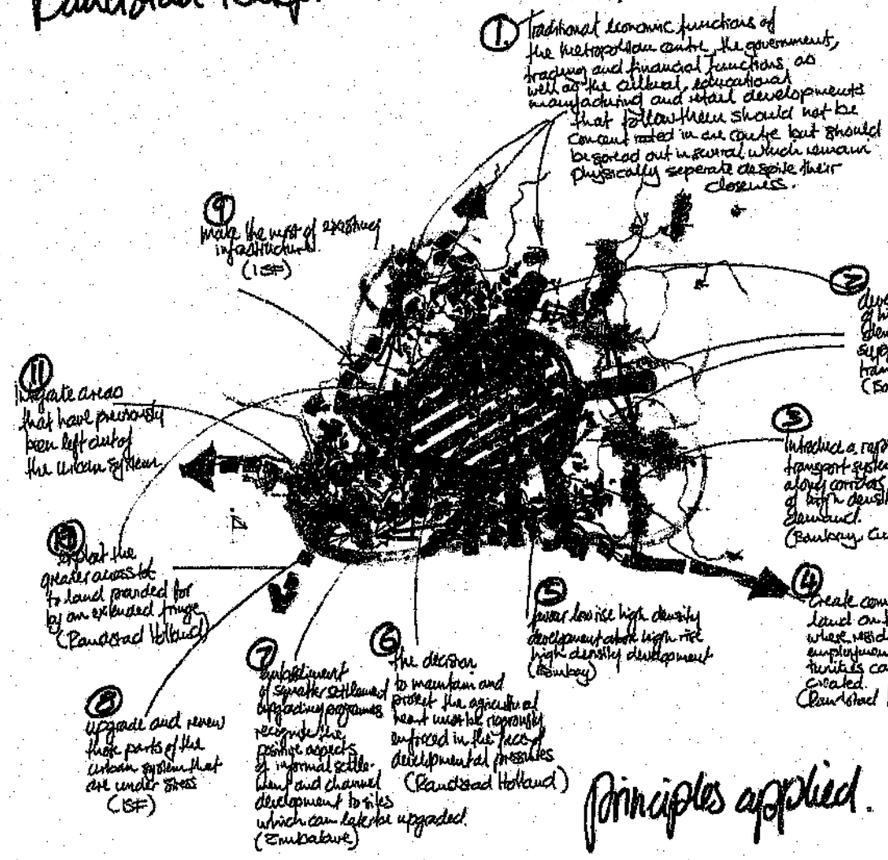
RANDSTAD NELSPRUIT

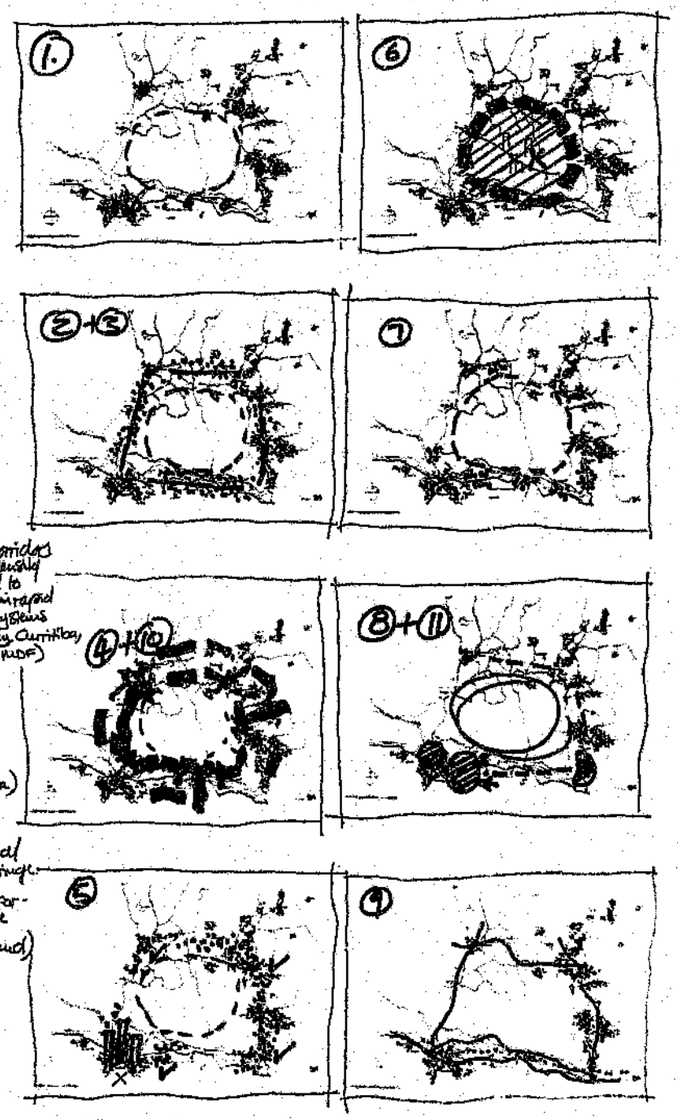
1

URBAN DESIGNING

ENABLING FRAMEWORK
BROADER RANDSTAD

Broad framework
Randstad Nelspruit



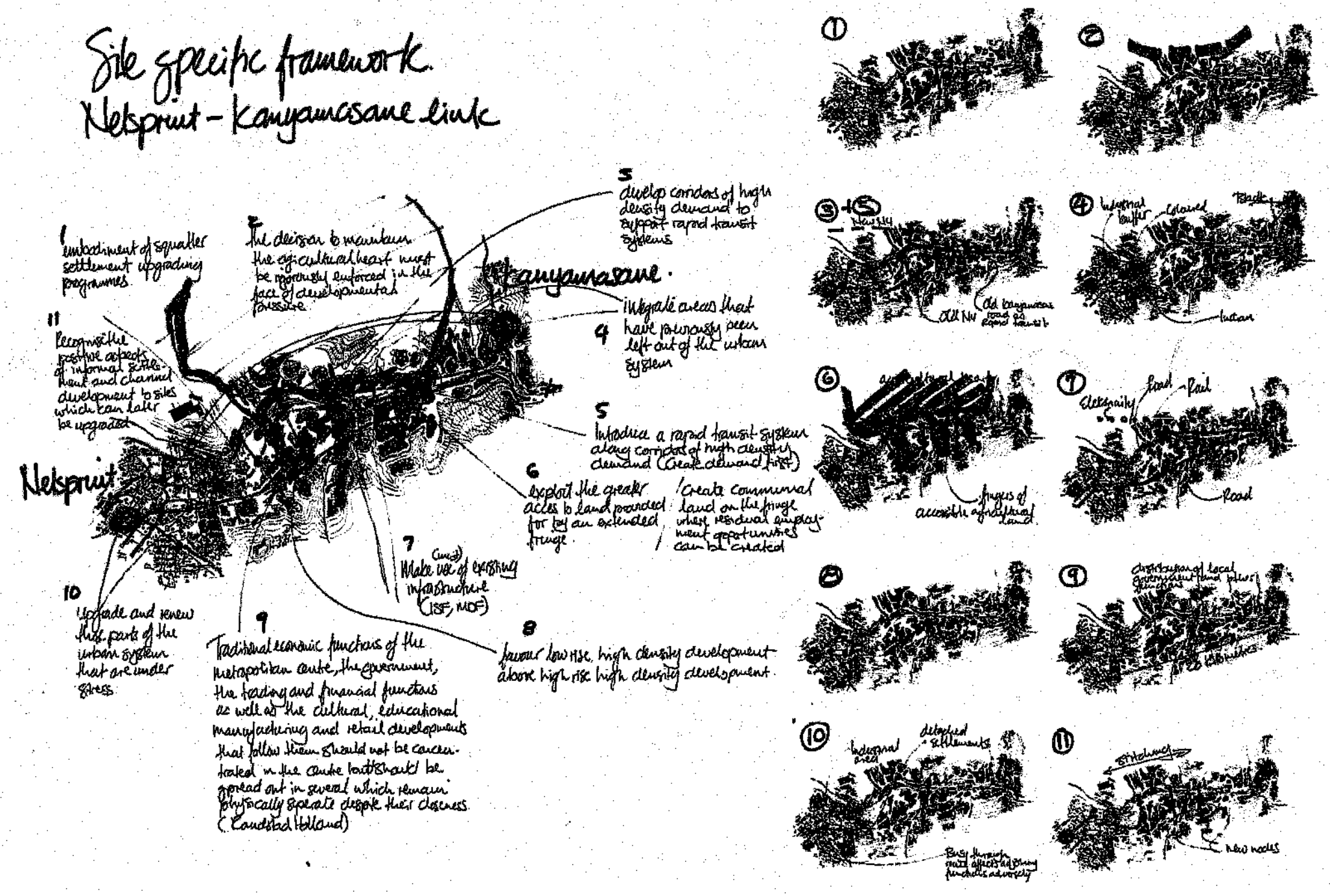


principles applied.

RANDSTAD NELSPRUIT

URBAN DESIGNING

ENABLING FRAMEWORK
NELSPRUIT KANYAMASANE LINK



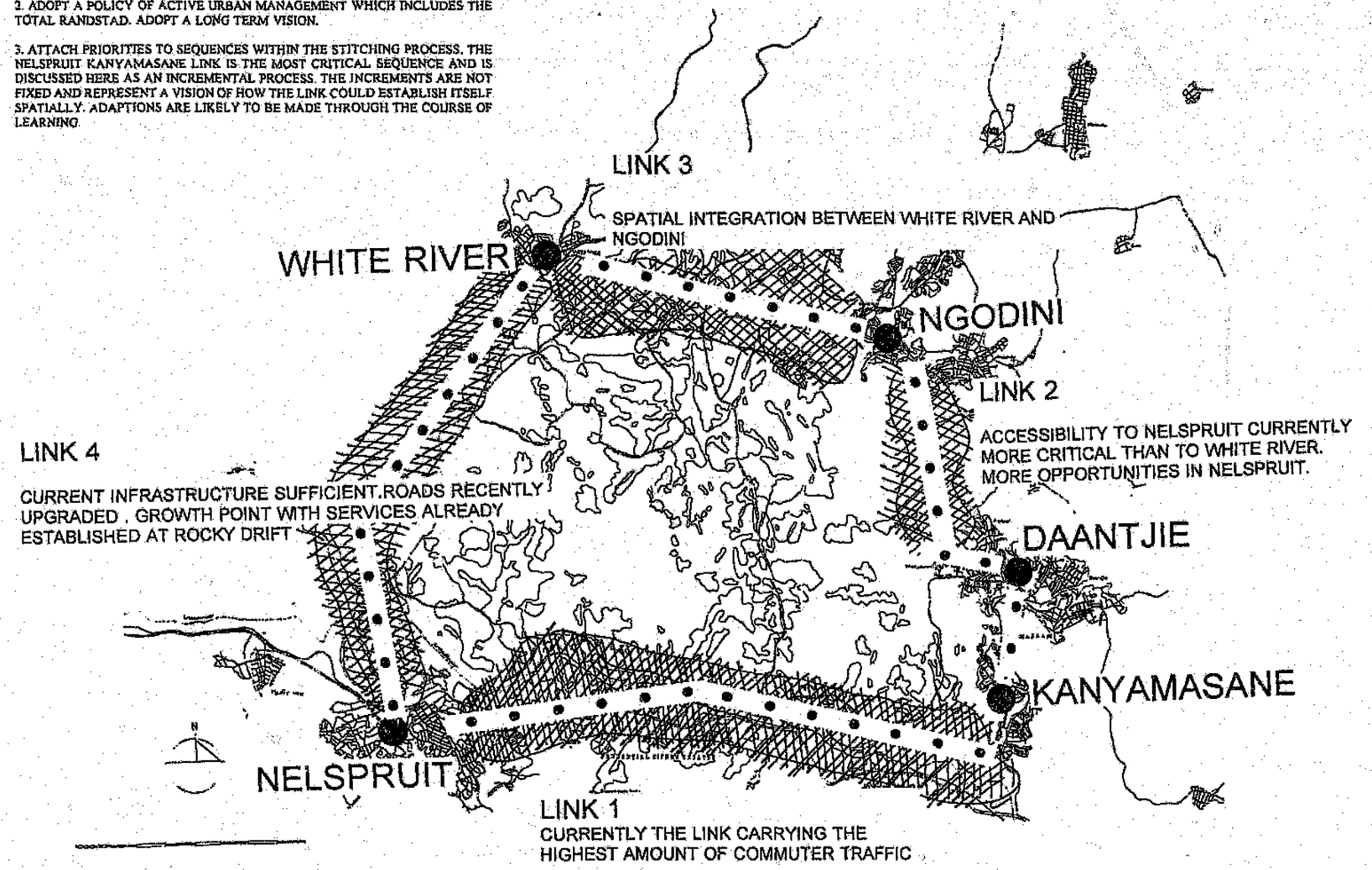
RANDSTAD NELSPRUIT

INITIATION

1. DRAFT THE PRINCIPLES OF THE FRAMEWORK INTO A POLICY DOCUMENT FOR THE RANDSTAD AFTER REACHING REASONABLE CONSENSUS THROUGH A PROCESS INVOLVING THE DIVERSE INTEREST GROUPS OF THE REGION. (AS WITH THE ISF AND MDF)

2. ADOPT A POLICY OF ACTIVE URBAN MANAGEMENT WHICH INCLUDES THE TOTAL RANDSTAD. ADOPT A LONG TERM VISION.

3. ATTACH PRIORITIES TO SEQUENCES WITHIN THE STITCHING PROCESS. THE NELSPRUIT KANYAMASANE LINK IS THE MOST CRITICAL SEQUENCE AND IS DISCUSSED HERE AS AN INCREMENTAL PROCESS. THE INCREMENTS ARE NOT FIXED AND REPRESENT A VISION OF HOW THE LINK COULD ESTABLISH ITSELF SPATIALLY. ADAPTIONS ARE LIKELY TO BE MADE THROUGH THE COURSE OF LEARNING.

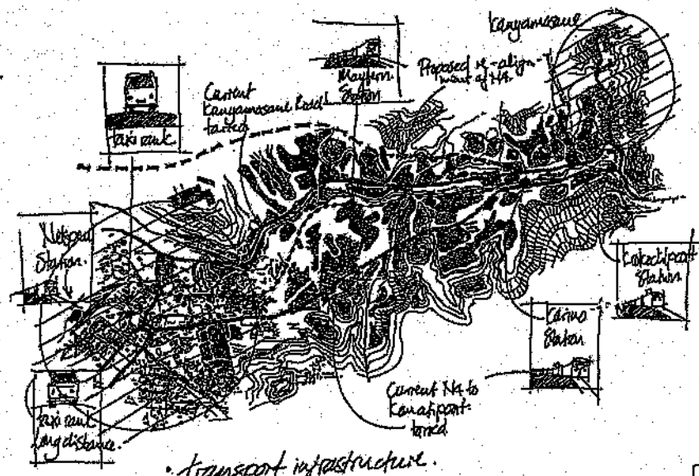


INCREMENTAL PROCESS:
INITIATION

URBAN DESIGNING

RANDSTAD NELSPRUIT

4



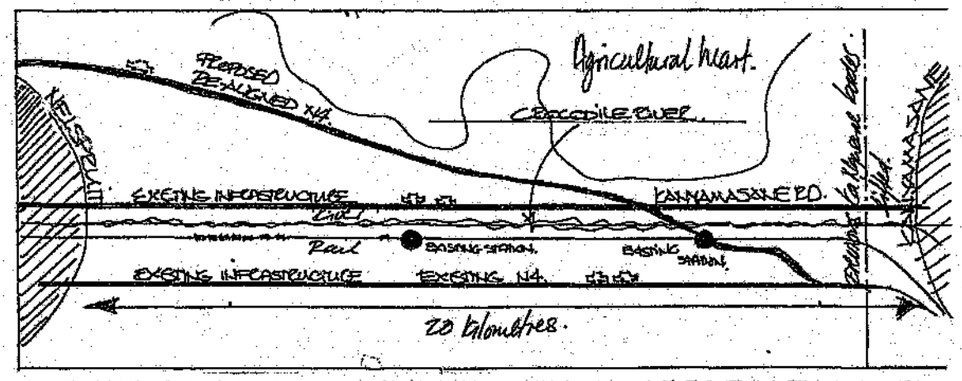
• transport infrastructure.

RANDSTAD NELSPRUIT

9

ANALYSIS

Existing and Proposed traffic infrastructure.



ABSTRACTED NELSPRUIT KANYAMASANE LINK

PRINCIPLES SAY

PRINCIPLE 7 SAYS : MAKE USE OF EXISTING INFRASTRUCTURE
PRINCIPLE 3 SAYS : DEVELOP CORRIDORS OF HIGH DENSITY DEMAND
PRINCIPLE 5 SAYS: INTRODUCE A RAPID TRANSIT SYSTEM ALONG CORRIDORS OF HIGH DENSITY DEMAND

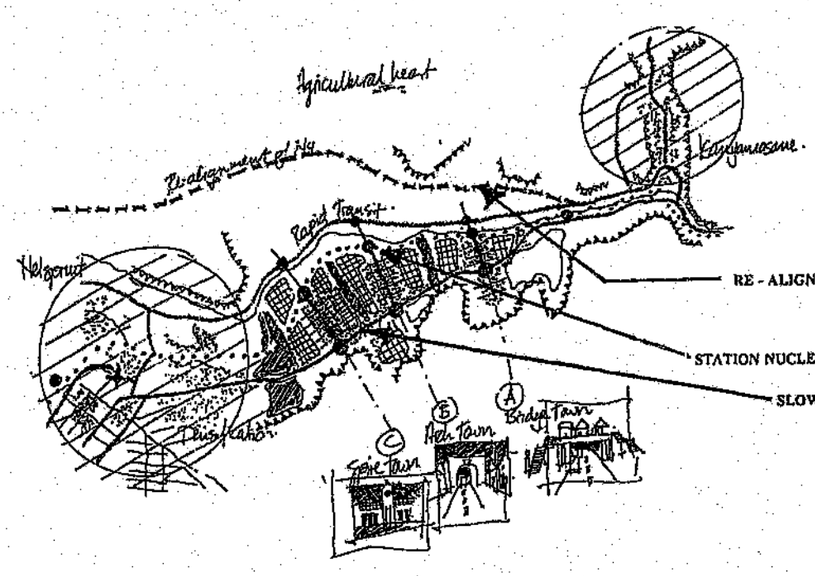
ANALYSIS SHOWS:

EXISTING INFRASTRUCTURE OF THE NELSPRUIT KANYAMASANE LINK IS IMPRESSIVE: TWO HIGH QUALITY ROADS A RAILWAY LINE AND THREE INTERMEDIARY STATIONS. IN ADDITION A RIVER THAT CAN SUPPORT AGRICULTURE AND INDUSTRY.

OPPORTUNITIES ARE.

RE-ALIGNMENT OF THE PRESENT N4 WILL RELIEVE BOTH EXISTING ROADS SO THAT THEY CAN SERVE THE PROPOSED CORRIDOR OF HIGH DENSITY DEMAND. ONE ROAD CAN BECOME TE RAPID TRANSIT ROUTE FOR BUSES/TAXI'S WHILE THE OTHER CAN BECOME THE SERVICE ROAD FOR SLOW MOVING TRUCKS, DONKEYCARTS, ETC.

EXISTING STATIONS AT MAYFERN, KARINO AND KROKODILPOORT CAN FORM THE NUCLEUS OF NEW DEVELOPMENT NODES ALONG THE CORRIDOR.

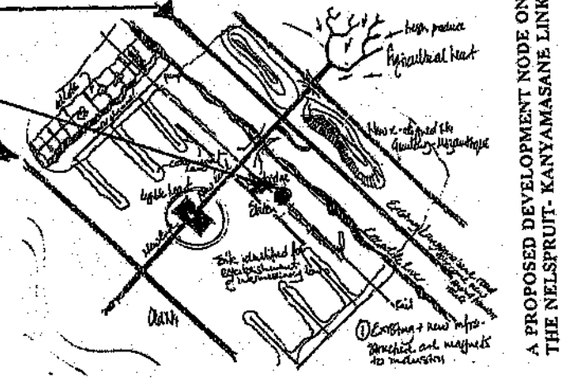


RE - ALIGNED N4

RAPID TRANSIT ROUTE

STATION NUCLEUS OF DEVELOPMENT NODE

SLOW TRAFFIC SERVICE ROUTE



A PROPOSED DEVELOPMENT NODE ON THE NELSPRUIT- KANYAMASANE LINK

RANDSTAD NELSPRUIT

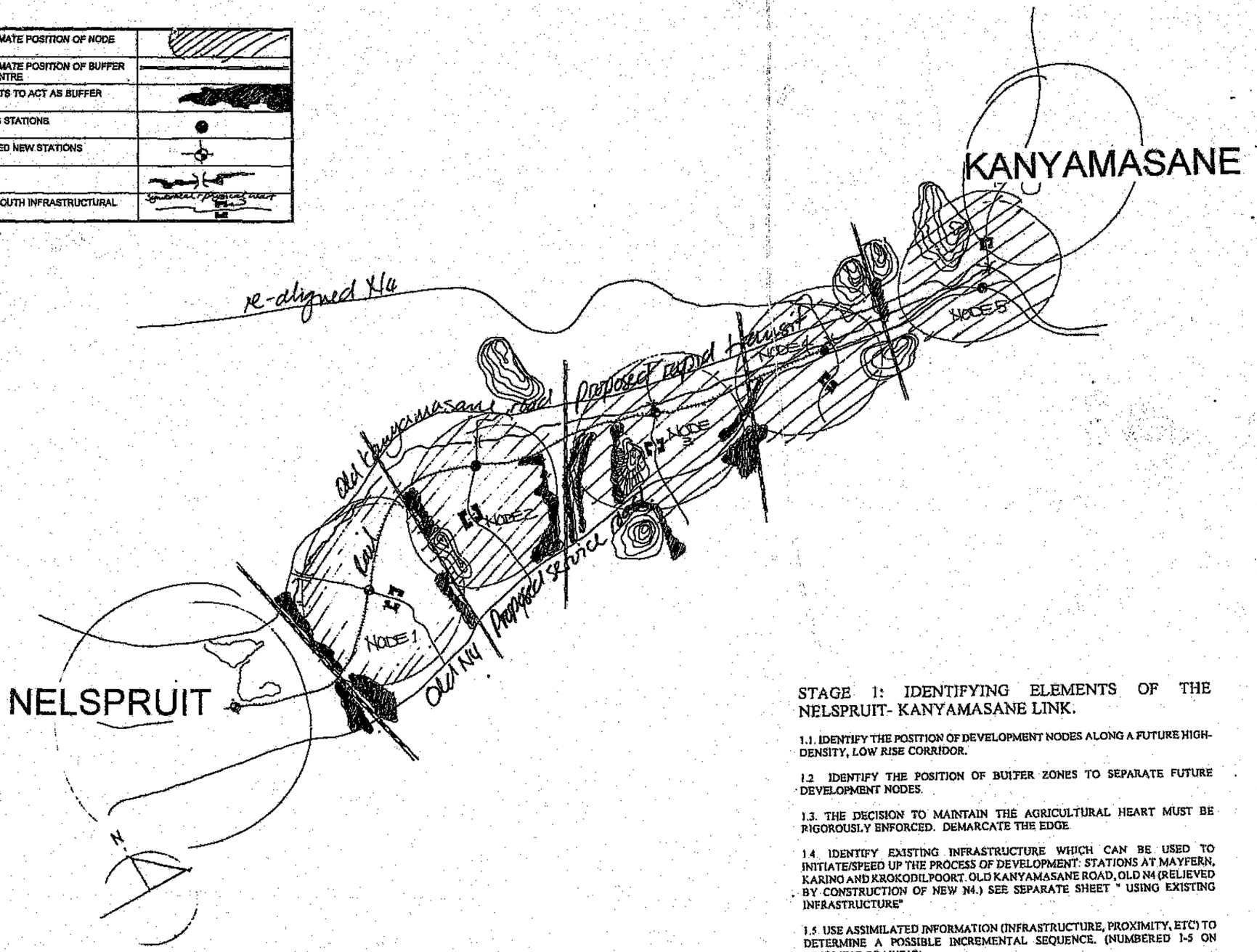
5

USING EXISTING INFRASTRUCTURE

URBAN DESIGNING

KEY

APPROXIMATE POSITION OF NODE	
APPROXIMATE POSITION OF BUFFER ZONE CENTRE	
WOODLOTS TO ACT AS BUFFER ZONES	
EXISTING STATIONS	
PROPOSED NEW STATIONS	
BRIDGE	
NORTH SOUTH INFRASTRUCTURAL ROAD	



STAGE 1: IDENTIFYING ELEMENTS OF THE NELSPRUIT- KANYAMASANE LINK.

1.1. IDENTIFY THE POSITION OF DEVELOPMENT NODES ALONG A FUTURE HIGH-DENSITY, LOW RISE CORRIDOR.

1.2 IDENTIFY THE POSITION OF BUFFER ZONES TO SEPARATE FUTURE DEVELOPMENT NODES.

1.3. THE DECISION TO MAINTAIN THE AGRICULTURAL HEART MUST BE RIGOROUSLY ENFORCED. DEMARCATE THE EDGE.

1.4. IDENTIFY EXISTING INFRASTRUCTURE WHICH CAN BE USED TO INITIATE/SPEED UP THE PROCESS OF DEVELOPMENT: STATIONS AT MAYFERN, KARINO AND KROKODILPOORT. OLD KANYAMASANE ROAD, OLD N4 (RELIEVED BY CONSTRUCTION OF NEW N4.) SEE SEPARATE SHEET " USING EXISTING INFRASTRUCTURE"

1.5 USE ASSIMILATED INFORMATION (INFRASTRUCTURE, PROXIMITY, ETC) TO DETERMINE A POSSIBLE INCREMENTAL SEQUENCE. (NUMBERED 1-5 ON ADJOINING DRAWING)

1.6. BE SENSITIVE TO THE IMPORTANCE OF MAINTAINING AGRICULTURAL LAND. PLACE INITIATING INFRASTRUCTURE SENSITIVELY (CAPITAL WEB).

INCREMENTAL PROCESS: STAGE 1

URBAN DESIGNING

RANDSTAD NELSPRUIT

6

STAGE 2: ESTABLISHING A COMMUNITY

2.1. RE - ALIGN THE EXISTING N4. THIS WILL ENABLE IT TO SERVICE THE PROPOSED CORRIDOR. FROM HERE ON THE EXISTING N4 WILL BE REFERRED TO AS *THE OLD N4.)*

2.2. CREATE INFRASTRUCTURAL LINK/ NORTH-SOUTH SPINE BETWEEN THE EXISTING STATIONS AT MAYFERN(NODE2), KARINO(NODE 4) AND CROCODILPOORT(NODE 5) RESPECTIVELY- AND THE OLD N4. DEVELOPMENT CAN LATCH ONTO THIS HIGHLY ACCESSIBLE SPINE SERVED BY A PRIMARY ARTERIAL ROAD(OLD KANYAMASANE ROAD) AND RAIL AT THE ONE END AND ANOTHER HIGH QUALITY ARTERIAL ROAD(OLD N) AT THE OTHER. IDENTIFY AND DEMARCATE A FUTURE PUBLIC SQUARE, SYMBOLICAL HEART ALONG THE SPINE.

2.3 MANAGE DEVELOPMENT OF NODES 2, 4, AND 5. CONSCIOUSLY AIM TO CREATE A LEGIBLE IDENTITY FOR EACH OF THE NODES.

2.4 JUDICIOUSLY IDENTIFY AND PREPARE FREE-SETTLEMENT AREAS WHERE SEMI-LEGAL DWELLINGS /TRADITIONAL DWELLINGS CAN BE ERECTED AND LATER UPGRADED. PROVIDE ACCESS TO COMMUNAL LAND WHERE THOSE WHO CHOOSE CAN PRACTICE TRADITIONAL SUBSISTENCE CULTURE. MAKE USE OF THE NEARBY RIVER TO SAVE ON COSTLY WATER RETICULATION INFRASTRUCTURE (COMMUNAL WASHING AREAS, BATHING AREAS ETC. ALONG THE ACCESSIBLE RIVER EDGE). USE A SINGLE PUMP AND GRAVITY -FLOW FOR IRRIGATION.

2.5 INCLUDE THE EMERGING COMMUNITY IN THE ONGOING PROCESS OF DEVELOPING THE NODE.

2.6 DEMARCATE A FLEXIBLE PEDESTRIAN MOVEMENT SYSTEM WITHIN THE FREE-SETTLEMENT AREAS WHICH CAN LATER BE UPGRADED.

2.7 IDENTIFY AND PREPARE AREAS WHERE FORMAL LOW-INCOME HOUSING OPTIONS CAN BE EXERCISED. MANAGE SPACE BETWEEN UNITS. ALLOW FOR MIXED-USE WHENEVER POSSIBLE. DEVELOP A FLEXIBLE GRID WHICH ALLOWS FOR VARIED RESPONSE.

2.8 ENCOURAGE THE DEVELOPMENT OF CO-OPERATIVE SERVICE INDUSTRY AND COMMERCIAL PROCESSING PLANT (SERVING COMMERCIAL AGRICULTURAL INDUSTRY OF THE AGRICULTURAL HEART) AT THE PROPOSED DEVELOPMENT NODES. PROMOTE IN-SITU/ INFORMAL EMPLOYMENT OPPORTUNITIES. SUSTAINABLE LOCAL ENVIRONMENT.

2.9 ALLOW FOR THE THREE DEVELOPING NODES TO WORK TOWARDS A COMMON GOAL OF INTEGRATION AND IMPROVED ACCESS AND TO LEARN FROM THE EXPERIENCES OF EACH OTHER. CREATE SPATIALLY BALANCED GROWTH BY ENCOURAGING INVESTMENT TO BE EQUALLY SPREAD AMONGST THE NODES.

2.10 ADJUST PRINCIPLES/POLICIES THROUGH THE COURSE OF LEARNING WHERE NEEDED. ESTABLISH REPRESENTATIVE WORKING GROUPS WITHIN THE NODES SEPARATELY AND COLLECTIVELY.

THE EDGE

E.1 ASSUME THAT NELSPRUIT WILL BECOME A NODE WITHIN THE SEQUENCE OF EMERGING NODES WITHIN THE RANDSTAD. THE EDGE WILL BECOME A POINT OF TRANSITION BETWEEN NODES IN THE SEQUENCE.

E.2 CONTAIN THE EDGE. CREATE A BUFFER STRIP WHICH SERVES TO RETAIN NELSPRUIT PROPPER'S IDENTITY.

E.3 CREATE COHESION WITH THE REMAINDER OF THE CITY BY FREQUENTLY PUNCTURING THE HARD EDGE CREATED BY THE RAILWAY LINE WITH ACCESSROADS- VEHICULAR AND PEDESTRIAN.

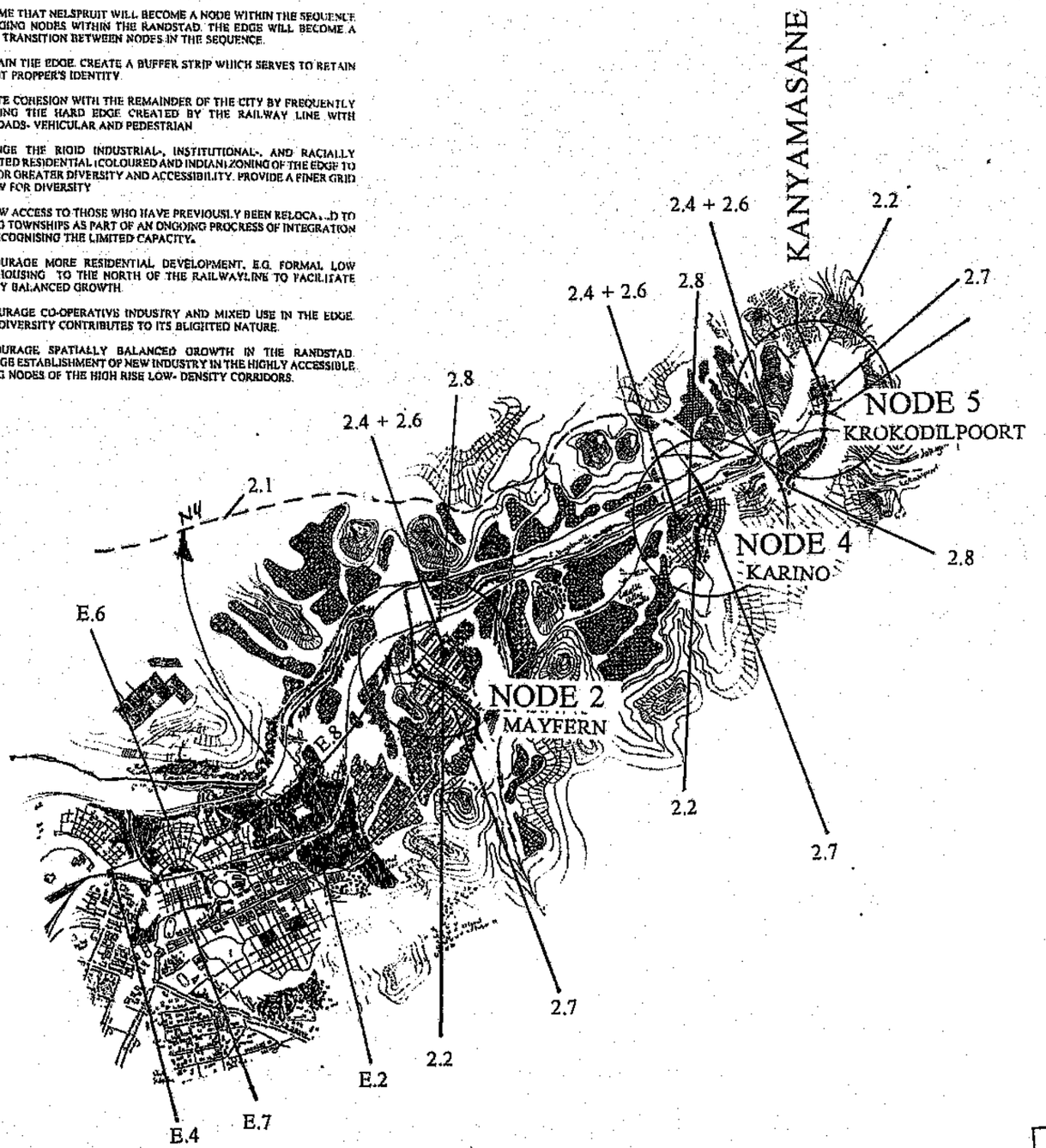
E.4 CHANGE THE RIGID INDUSTRIAL-, INSTITUTIONAL-, AND RACIALLY SEGREGATED RESIDENTIAL (COLOURED AND INDIAN) ZONING OF THE EDGE TO ALLOW FOR GREATER DIVERSITY AND ACCESSIBILITY. PROVIDE A FINER GRID TO ALLOW FOR DIVERSITY.

E.5 ALLOW ACCESS TO THOSE WHO HAVE PREVIOUSLY BEEN RELOCA...D TO OUTLYING TOWNSHIPS AS PART OF AN ONGOING PROCRESS OF INTEGRATION WHILE RECOGNISING THE LIMITED CAPACITY.

E.6 ENCOURAGE MORE RESIDENTIAL DEVELOPMENT, E.G. FORMAL LOW INCOME HOUSING TO THE NORTH OF THE RAILWAYLINE TO FACILITATE SPATIAL...Y BALANCED GROWTH.

E.7 ENCOURAGE CO-OPERATIVE INDUSTRY AND MIXED USE IN THE EDGE. LACK OF DIVERSITY CONTRIBUTES TO ITS BLIGHTED NATURE.

E.8 ENCOURAGE SPATIALLY BALANCED GROWTH IN THE RANDSTAD. ENCOURAGE ESTABLISHMENT OF NEW INDUSTRY IN THE HIGHLY ACCESSIBLE EMERGING NODES OF THE HIGH RISE LOW- DENSITY CORRIDORS.



RANDSTAD NELSPRUIT

STAGE 3: INTENSIFICATION/ DENSIFICATION

3.1 PLACE CERTAIN TRADITIONAL FUNCTIONS OF THE METROPOLITAN CENTRE ALONG THE DEVELOPING NORTH SOUTH-SPINES AND AROUND THE DEVELOPING PUBLIC SQUARES. AVOID MACHIAVELLIAN STRUCTURES OF THE OLDER ORDER. THIS SHOULD COMMENCE ONCE A COMMUNITY HAS BEEN ESTABLISHED. USE LOCAL LABOUR, APPROPRIATE CONSTRUCTION TECHNIQUES

3.2 ENCOURAGE/FACILITATE UPGRADING OF SEMI-LEGAL INFORMAL SETTLEMENT OF STAGE 2

3.3. ENCOURAGE /FACILITATE DENSIFICATION, INTENSIFICATION OF FORMAL LOW-COST OPTIONS WHICH COMMENCED IN STAGE 2

3.4. FURTHER ENCOURAGE INFORMAL COMMERCIAL ACTIVITIES/ CO-OPERATIVE SERVICE INDUSTRY SUPPORTED BY A GROWING LOCAL CLIENT BASE.

3.5 START IMPROVING LOCAL ROADS INFRASTRUCTURE AS THE DEVELOPMENT INTENSIFIES.

3.6. ENCOURAGE FORMAL COMMERCIAL ACTIVITIES ALONG THE CENTRAL SPINE AS PART OF A MIXED USE DEVELOPMENT INCORPORATING FORMAL HOUSING OPTIONS.

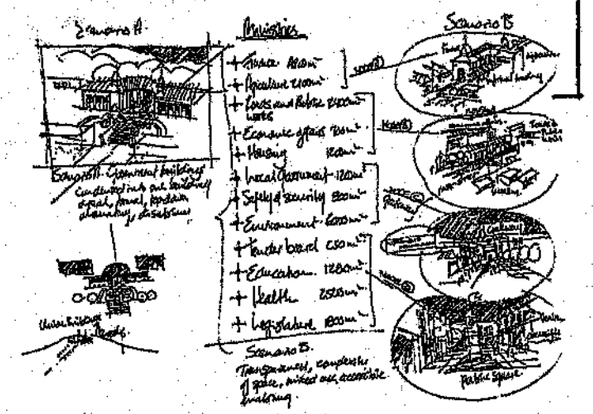
3.7 START TO OFFICIALLY USE THE OLD KANYAMASANE ROAD AS A RAPID TRANSIT SYSTEM CARRYING MOSTLY TAXIS AND BUSES. INTRODUCE LEGISLATION WHICH FORCES SLOWER MOVING TRAFFIC TO USE THE SOUTHERN ROUTE (OLD N4).

3.8 MAKE BETTER USE OF THE EXISTING RAILWAY LINE FOR PUBLIC TRANSPORT

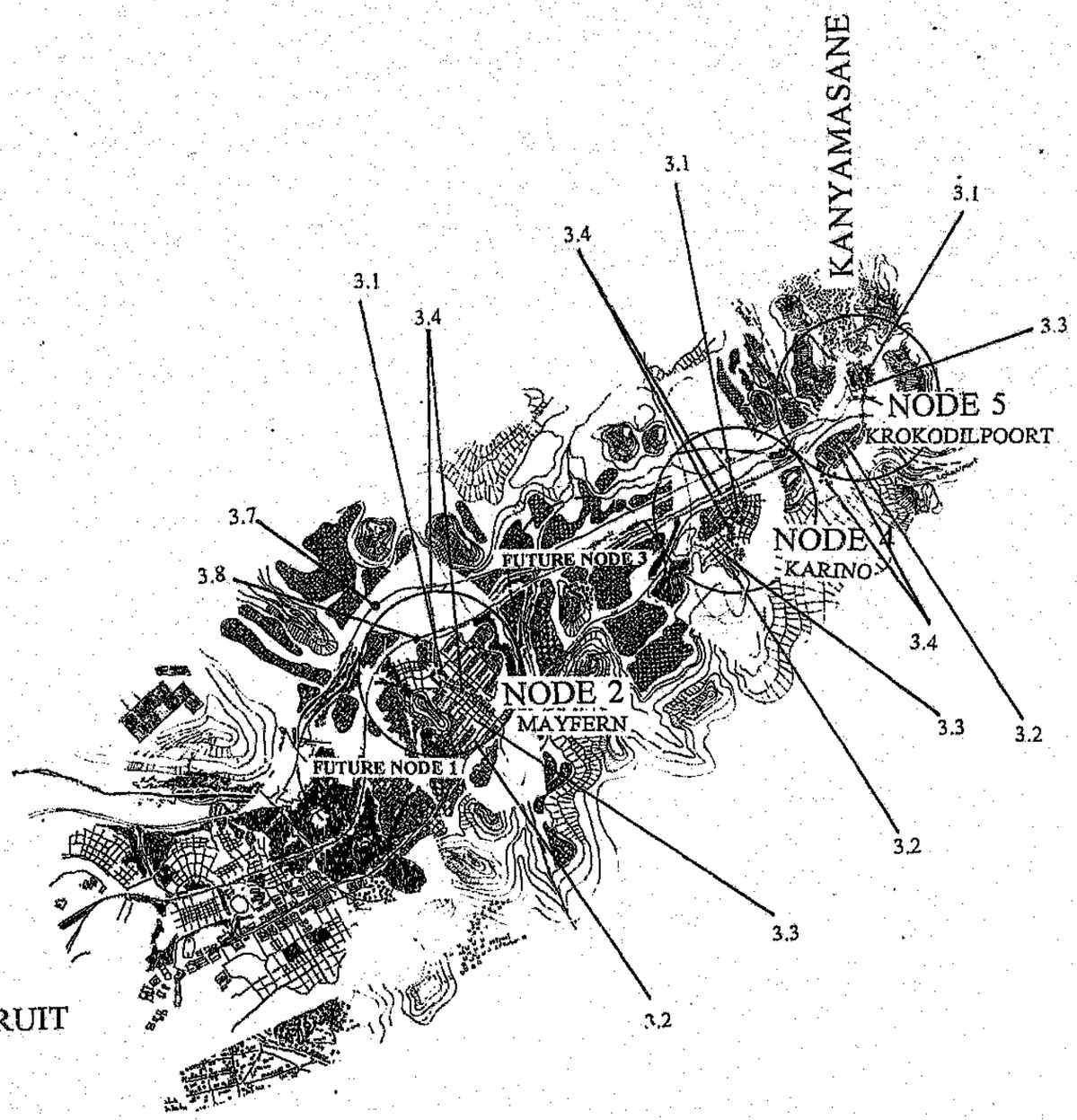
3.9 ENCOURAGE ONGOING INVESTMENT. ACKNOWLEDGE THE RELATIONSHIP BETWEEN CAPITALISM AND SPACE.

3.10. INVOLVE EMERGING INTEREST GROUPS IN THE ONGOING AND TRANSPARENT DEBATE/LEARNING PROCESS.

principle 3.1 illustrated



machiavellian.....accessible
old paradigm.....new paradigm



INCREMENTAL PROCESS: STAGE 3

URBAN DESIGNING

RANDSTAD NELSPRUIT

STAGE 4: COMPLETING THE LINK

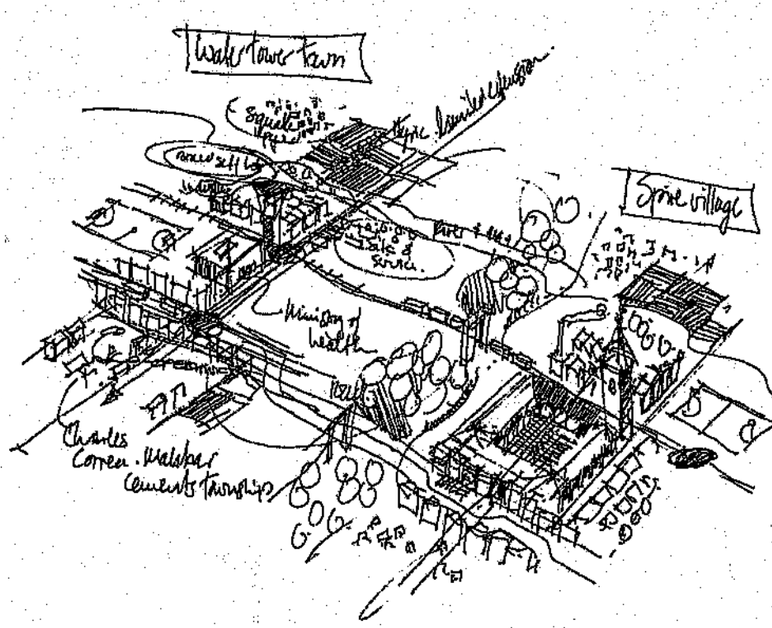
4.1 IF AND WHEN EXPERIMENTAL NODES 2, 4 AND 5 HAVE BEEN SUCCESSFULLY ESTABLISHED AFTER MAKING MOST OF EXISTING ROADS AND RAIL INFRASTRUCTURE; START PROVIDING THE NECESSARY INFRASTRUCTURE AT PROPOSED INTERMEDIARY NODES 1 AND 3. FIRSTLY BUILD STATIONS AS INDICATED AND THEN INTRODUCE THE ENABLING AND ACCESSIBLE SPINE AS WAS DONE DURING STAGE 2 FOR NODES 2, 4 AND 5.

4.2 ADOPT MANAGEMENT POLICIES FOR THE DEVELOPMENT OF THE INTERMEDIARY NODES IN RESPONSE TO SUCCESSES/ FAILURES OF PREVIOUSLY ESTABLISHED NODES (STAGES 2 AND 3 ABOVE).

4.3 WORK TOWARDS A COMMON GOAL OF DEVELOPING A SUSTAINABLE HIGH-DENSITY CORRIDOR. NODES SHOULD MUTUALLY SUPPORT EACH OTHER. DEVELOPMENT SHOULD BE BALANCED ALONG THE CORRIDOR.

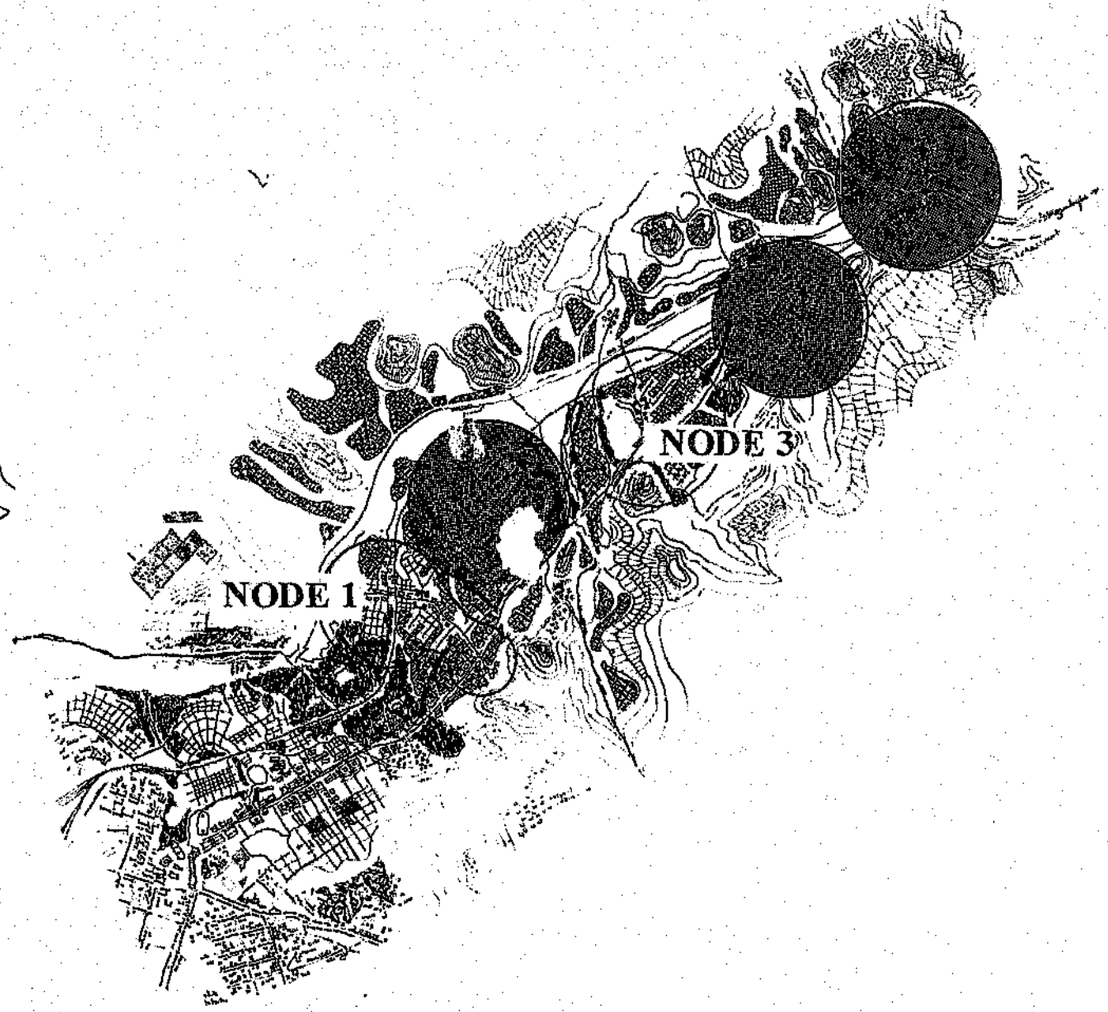
4.4 CONTINUOUSLY UPGRADE THE RAPID TRANSIT SYSTEM IN ORDER TO EFFECTIVELY IMPROVE ACCESS WITHIN THE TOTAL RANDSTAD. INTRODUCE A BUS LANE, SLIPWAYS ETC. TO ALLEVIATE CONGESTION WHEN NECESSARY.

4.5 CONTINUE THE PROCESS OF INFORMATIVE DEBATE WITHIN THE NODES SEPARATELY AND COLLECTIVELY AS PART OF THE ONGOING URBAN MANAGEMENT PROCESS.



EACH NODE SHOULD DEVELOP
IT'S OWN DISTINCT IDENTITY





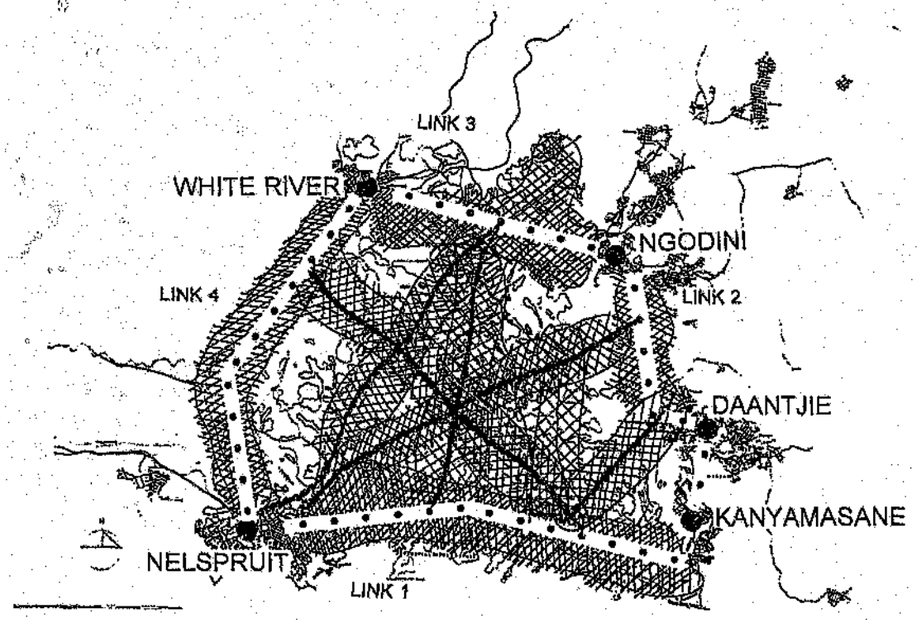
INCREMENTAL PROCESS: STAGE 4

URBAN DESIGNING

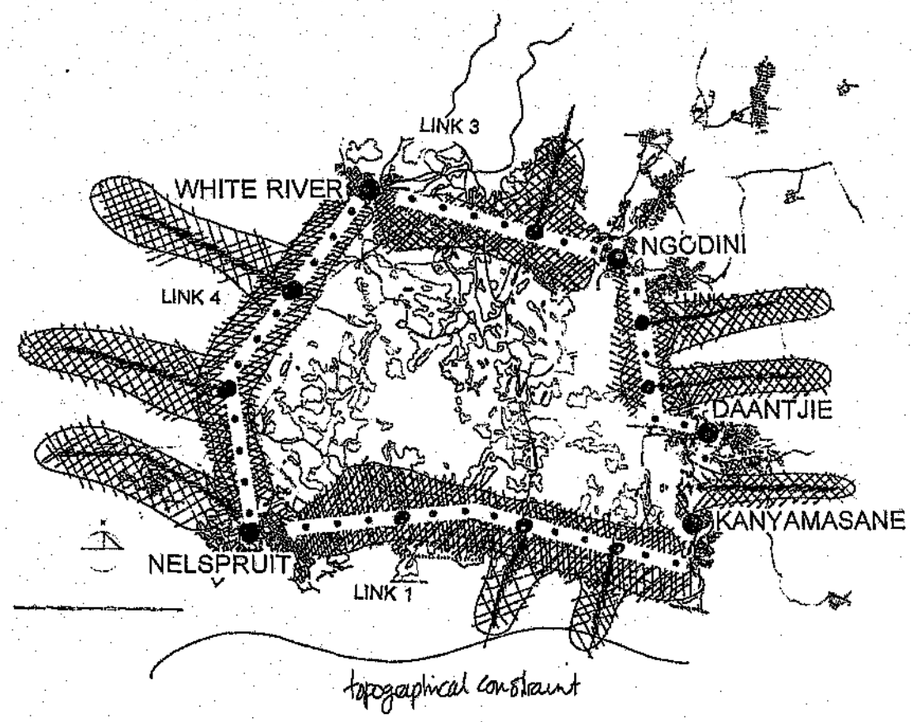
RANDSTAD NELSPRUIT

STAGE 5: MAINTAINING THE BALANCE

ASSUMING THAT THE IDENTIFIED NODES WITHIN THE CORRIDOR HAS BEEN SUCCESSFULLY DEVELOPED, ACCESS HAS BEEN PROVIDED BOTH WITHIN THE LINK AND WITHIN THE TOTAL EASTERN SECTOR OF THE RANDSTAD. THE EMPHASIS WITHIN THE RANDSTAD WILL NOW MOVE TOWARDS DEVELOPING THE OTHER LINKS WITHIN THE RING AND TO EVENTUALLY SERVE THE TOTAL RANDSTAD WITH A CIRCULAR RAPID TRANSIT SYSTEM. AT THE SAME TIME THE CHALLENGE WITHIN THE NODES OF THE KANYAMASANE-NELSPRUIT LINK WILL BECOME ONE OF COPING WITH OVERCROWDING AND CONTAINING DEVELOPMENT/SETTLEMENT SO AS NOT TO ENCROACH INTO THE AGRICULTURAL HEART. IF THE RANDSTAD CANNOT GROW INWARDS(AGRICULTURAL HEART) OR LATERALLY WITHIN THE RING(BUFFER ZONES) IT CAN ONLY GROW OUTWARD IN RADIAL LINES FROM THE RING AS HAS BEEN ESTABLISHED FOR RANDSTAD HOLLAND. THIS IS HOWEVER PART OF AN EXTREMELY LONG TERM VISION WHICH CAN ONLY BE VAGUELY FORESEEN IN THE IMAGINATION. PERHAPS FUTURE GENERATIONS WILL DECIDE TO FORFEIT THE AGRICULTURAL HEART SO THAT A LARGE AMORPHOUS MASS DOMINATES THE LOWVELD.



STITCHING THROUGH THE HEART - A LONG TERM SCENARIO TO BE DISCOURAGED

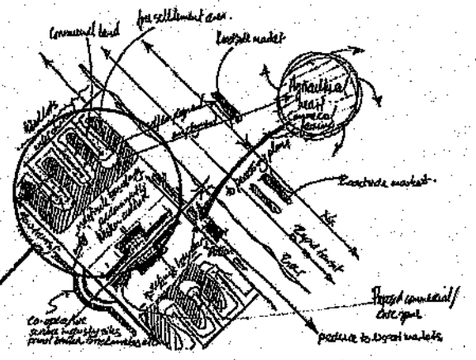


THE "WHAT WORKS BEST" LONG TERM SCENARIO ACCORDING TO THE RANDSTAD HOLLAND PRECEDENT

RANDSTAD NELSPRUIT

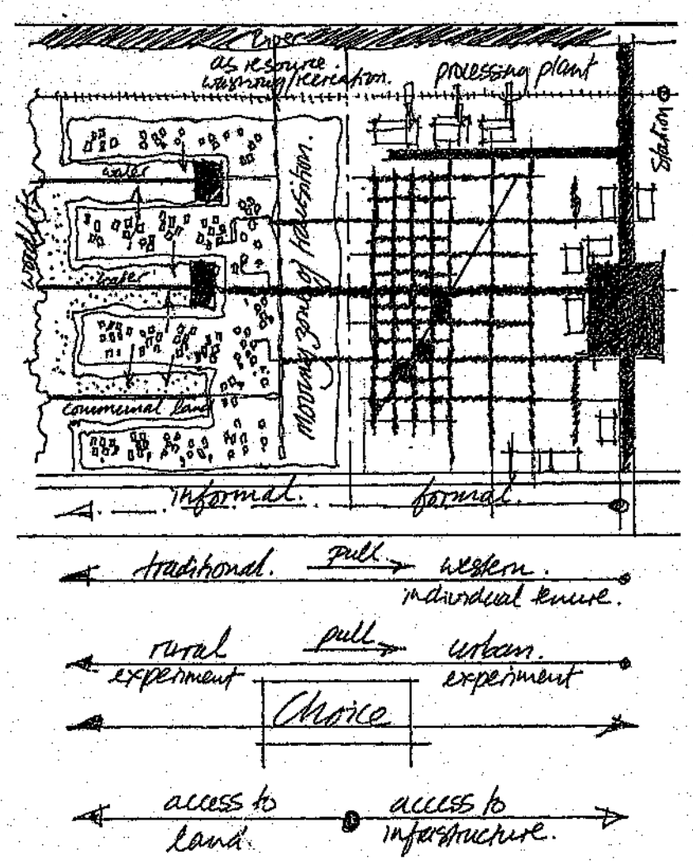


MAN IN THE ORIGINAL POSITION WOULD PROBABLY SAY:
"FACILITATE CHOICE/ ACCESS ON A LOCAL SCALE RESPONDING TO CURRENT NEEDS WHILE ALLOWING FOR INCREASED WESTERNISATION"

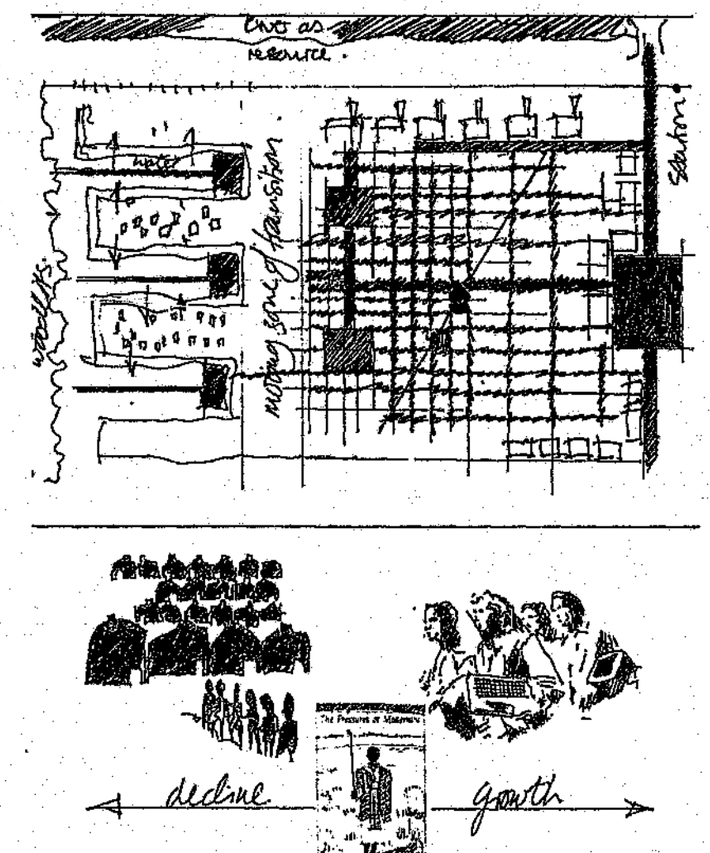


A PROPOSED DEVELOPMENT NODE ON THE NELSPRUIT- KANYAMASANE LINK

1998



2005



FLEXIBILITY: PROVIDING FOR CHOICE
DIVERSE CULTURE * DIVERSE VALUES

URBAN DESIGNING

RANDSTAD NELSPRUIT

DESIGNING URBAN DEVELOPMENT

FORM RESPONSE OF DEVELOPMENT NODE..... PRINCIPLES APPLIED

NO	PRINCIPLE
1	EMBODIMENT OF SQUATTER SETTLEMENT UPGRADING PROGRAMMES
2	THE DECISION TO MAINTAIN THE AGRICULTURAL HEART MUST BE RIGOROUSLY ENFORCED IN THE FACE OF DEVELOPMENTAL PRESSURE
3	DEVELOP CORRIDORS OF HIGH DENSITY DEMAND TO SUPPORT RAPID TRANSIT SYSTEMS
4	INTEGRATE AREAS THAT HAVE PREVIOUSLY BEEN LEFT OUT OF THE URBAN SYSTEM
5	INTRODUCE A RAPID TRANSIT SYSTEM ALONG CORRIDORS OF HIGH DENSITY DEMAND
6	EXPLOIT THE GREATER ACCESS TO LAND PROVIDED FOR BY AN EXTENDED URBAN FRINGE
7	MAKE USE OF EXISTING INFRASTRUCTURE
8	FAVOUR LOW RISE HIGH DENSITY DEVELOPMENT ABOVE HIGH-RISE HIGH- DENSITY DEVELOPMENT
9	TRADITIONAL ECONOMIC FUNCTIONS OF THE METROPOLITAN CENTRE, THE GOVERNMENT, THE TRADING AND FINANCIAL FUNCTIONS SHOULD NOT BE CONCENTRATED IN THE CENTRE BUR SHOULD BE SPREAD OUT IN SEVERAL WHICH REMAIN PHYSICALLY SEPERATE DESPITE THEIR CLOSENESS
10	UPGRADE AND RENEW THOSE PARTS OF THE URBAN SYSTEM THAT ARE UNDER STRESS
11	RECOGNISE THE POSITIVE ASPECTS OF INFORMAL SETTLEMENT AND CHANNEL DEVELOPMENT TO SITES WHICH CAN LATER BE UPGRADED
12	IMPROVE OPPORTUNITIES FOR THE RAPIDLY EXPANDING INFORMAL SECTOR THROUGH THE PROVISION OF NEIGHBOURHOOD SHOPS AND SEMI-INFORMAL PEOPLES MARKETS

CATTLE FARMING

INDUSTRY (E.G. PAPER PULP)
FOOD PROCESSING

The disposal of effluent was a major in the planning of the mill. By restoring the chemical balance in the effluent, Sappi is able to irrigate kikuyu grass pastures which support sheep and cattle.

NELSPRUIT - KANYAMASANE LINK

AGRICULURAL HEART
COMMERCIAL FARMING
FORESTRY

HIGH ROAD (FROM CHING: 1979)
MIXED USE

DEVELPMENT NODE

INFORMAL TRADING - ROADSIDE

GOVERNMENT FUNCTION

WOODLOT AS BUFFER

HYBRID CULTURE
SOCIALIST/CAPITALIST

WESTERN CULTURE
CAPITALISM

TOWN SQUARE (SOURCE: CHING:1979)
IGNORE TYPOLOGY

FORMAL/INFORMAL HOUSING OPTIONS

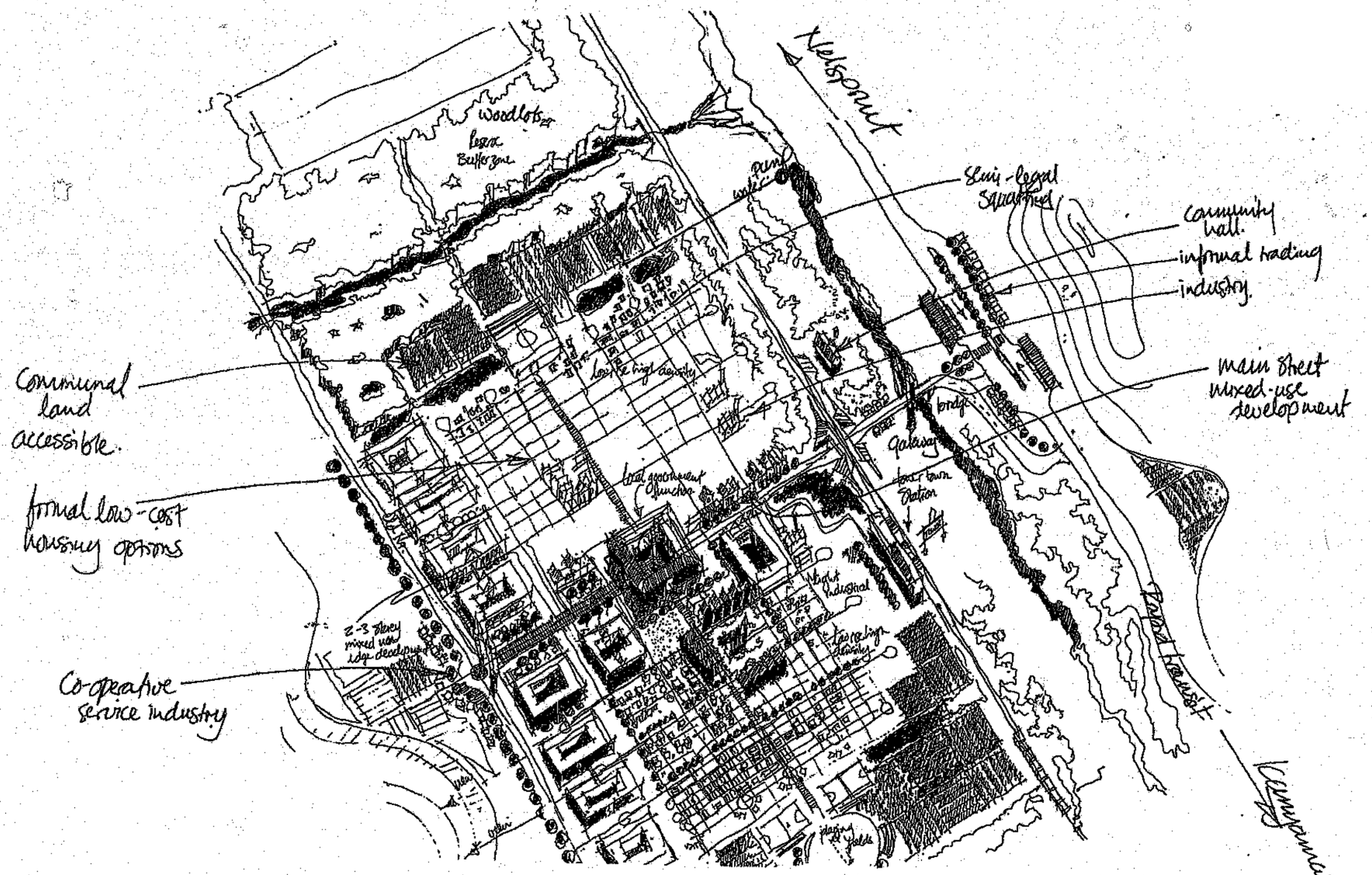
INFORMAL TRADING

CO-OPRATIVE INDUSTRY

SUBSISTANCE CULTURE
SOCIALISM
COMMUNAL FARMING LAND

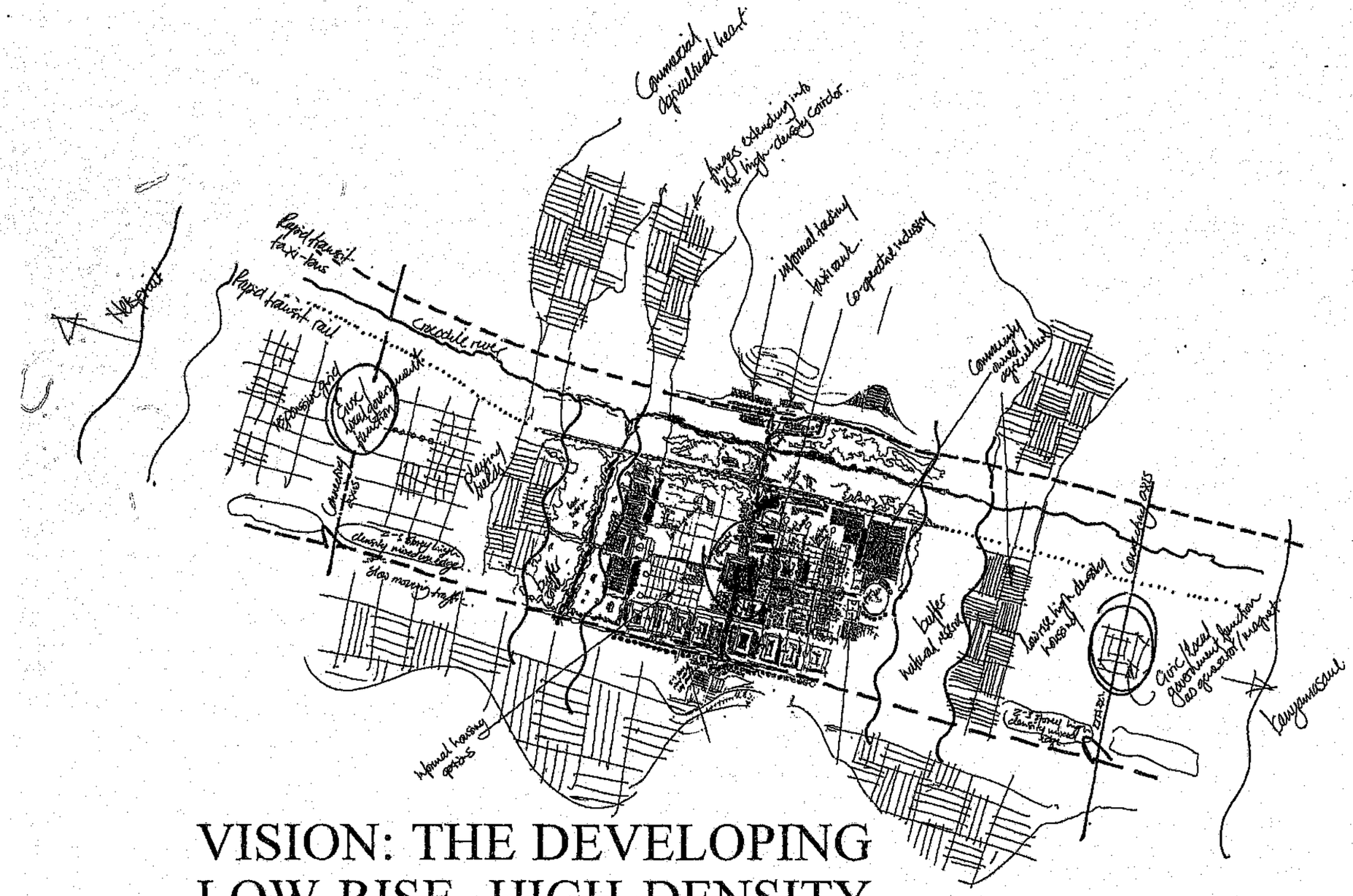
RANDSTAD NELSPRUIT

12



VISION: CONCEPTUAL NODE IN THE PROCESS OF DEVELOPMENT

RANDSTAD NELSPRUIT



VISION: THE DEVELOPING LOW-RISE, HIGH DENSITY CORRIDOR (CONCEPTUAL)

RANDSTAD NELSPRUIT

CONCLUSION (PAUSE)

As was said in the preface, this discourse represents a searching process. It's outcomes are consciously unpredictable and open-ended. In the spirit of urban design, the discourse represents a process - much learning and adjusting still has to occur during the trial and error implementation of a framework. Up to this pause much has however been learnt; both in terms of developing an appropriate urban design **approach** and on **facilitating greater choice and accessibility within a regional, low-energy context.**

DEVELOPING AN APPROPRIATE URBAN DESIGN APPROACH.

En-route to finding ways of facilitating greater choice and improving accessibility, the discourse developed a **methodology** commencing with finding ways of dealing with the urban designer's ethical dilemma of having to make judgements with consequences which significantly influence people's lives but the outcomes of which can only vaguely be foreseen in the imagination.

The following principle(practical hint) from Rawls(1959) initiated an approach:

We have to accept that we will occasionally make wrong judgements or exercise the wrong option simply because we cannot have full information. What will happen if we follow this or that plan is usually incomplete (as with the case study of this discourse)*. If the agent*(urban designer) *does the best a rational person can do with the information available to him, then the framework is a subjectively rational plan. His choice may be an unhappy one, but if so it is because his beliefs are understandably mistaken or his knowledge insufficient, and not because he drew hasty and fallacious inferences. In simple terms this means that we must not postpone the moment of taking decisions indefinitely while compiling excessive analytical information in the fear of exercising wrong options. Our information can never be complete- we need to arrive at a point when reasonable information has been collected ; related to the scope of the problem. At this point the urban designer must assume the responsibility of making expert judgement.*

In the preface the aim was set to find ways of facilitating greater access to opportunity and choice within the new South-African paradigm and within a regional context. The theory studied thereafter greatly influenced the direction of the discourse. The table on page 6 of the case study chapter represents an earlier pause which captured what was learnt during the theoretical run-up and how this was intended to influence the urban design approach of the case study. This was done in tandem with determining ways in which the analysis had to inform the design. The aim in considering both the theoretical base and the analysis information at that point was to consciously fuse the methodological principles of the theory with opportunities and constraints gleaned from the analysis- in anticipation of the design phase. This represented a point at which the author was ready to make expert judgement.

Study of precedent formed a crucial basis for the development of an appropriate framework. The author readily subscribes to the idea of creatively selecting and studying precedent as proposed by Collins(1971). This practice significantly eased the process of taking decisions related to a foreign context because it amounted to following a path of reason- despite the fact that assimilation of principles from precedent(decisions matrix) represents a subjective process.

WHAT HAS BEEN LEARNT AND CAN BE SHARED WITH OTHERS ON HOW TO FACILITATE GREATER ACCESS AND CHOICE THROUGH APPROPRIATE URBAN DESIGN ?

A conscious process of learning represents one function of this discourse. The other function is for the discourse to act as a useful document which can be used as precedent by those grappling with a common problem in present day South-Africa: that of integrating previously segregated societies into the urban system, especially when having to deal with the "low - energy" urban context.

Urban design problems present genuine opportunity for choice- not a choice between two decisions, one which may be said to be almost certainly right and the other almost certainly wrong, but a choice balanced so that a new right and a new wrong will emerge from the decision. In arriving at a framework, various precedents were distilled to partially develop a new theoretical precedent. Some principles from considered precedent were rejected while others were adopted. Principles were judiciously assimilated in relation to the physical(spatial) political, geographical, social and cultural context. The Randstad Nelspruit case study illustrated how critically conditions as found" can influence the framework. Although the elements of the typical apartheid city and the need for integration could readily be found in Nelspruit, the demands set by various regional(contextual) conditions demonstrated that a typical (national) framework will ignore most local opportunities and constraints. Many of those opportunities exist only now and will be lost if not considered in a pro-active framework. Stitching across the agricultural heart now (which may perhaps seem obvious to the uninformed) will mean that all the inherent potentialities created by forming a *ring city* will be lost and so will the opportunity to use the existing infrastructure along the Nelspruit-Kanyamasane link economically.

The case study also demonstrates the need for urban design intervention in the low-energy regional context- especially in a case such as Nelspruit where its new status as regional capital and place of opportunity will rapidly accelerate urbanisation. With regionalism has come the awareness amongst people(shareholders) of the possibility of now making real choices at a local level and the possibility of influencing decisions more directly. Pro-active urban design can greatly improve accessibility and facilitate greater choice by responding to the needs of diverse interest groups within a unique regional context while aiming to improve the total welfare function.

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