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Questioning Genetically Modified Maize: A Case of Public Debate in the Southern African Media (1997-2007)

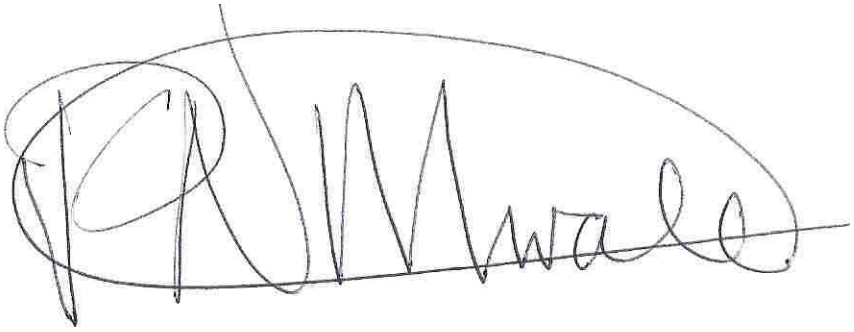
Pascal Newbourne Mwale

A Thesis submitted to the Faculty of the Humanities, the University of the Witwatersrand, Johannesburg, South Africa, in fulfilment of the requirements for the award of the degree of Doctor of Philosophy

January 2012

Declaration

I declare that this doctoral thesis is my own, unaided work. It is being submitted for the award of the degree of Doctor of Philosophy in the University of the Witwatersrand, Johannesburg, South Africa. It has not been submitted before for any degree or examination in any other university.



Pascal Newbourne Mwale

BA MA Philosophy (Malawi) MA Philosophy (Wits)

January 2012

Dedication

Helen Page

My spiritual mother and benefactor of my senior secondary school and undergraduate university education. May your retirement from secondary and high school maths teaching be physically and spiritually healthy, restful, tranquil and fruitful in your country, the Midlands of England.

The Omnipotent God, *El Yeshuati*, the God of my salvation, deliverance and victory, the God of Abraham, Isaac and Jacob.

Acknowledgements

Without the excellent support of the Constitution of Public Intellectual Life (PUIL) Research Project, especially Ford Foundation, my PhD research at Wits would have been doomed at its inception, in January 2004.[1] My two mentors and supervisors, Prof. Carolyn Hamilton and Prof. Susan Van Zyl, have rendered their invaluable resources to me, especially their precious time and intellectual energies to motivate me to accomplish this practically-ideal and ratiocinative mission –my personal statement to society. An emerging domain of my statement to society is Public Intellectual Ideas, PUIL's brainchild. I am profoundly grateful to the two luminaries. This PhD thesis emanates from, and has incubated in, an exceptionally rigorous pedagogy, which was kick-started by Wits' acceptance of my PhD proposal mid 2004. Minimally, the pedagogy involved regular discursive-critical interactions with my mentors as well as colleagues, my fellow doctoral research fellows, Dr. Litheko Modisane, Prof. Anthea Garman, Rory Bester, Yvette Grésle, and PUIL postdoctoral research fellow Dr. Windsor Leroke. PUIL research associate Lesley Cowling and her Masters Student Alan Finlay, both from Wits Journalism department, have been integral to my propædeutics, the research pedagogy's communicative action. Apart from its peripatetic component - four international conference papers, countless seminars and a couple of writing retreats -, the PUIL pedagogy took the form of internal workshops, minimally four in a year. Therefore, to some extent, the work before you is wrought and hewn out, and is integrally a critical synthesis, of several research papers I have presented at numerous academic deliberative forums. Finally yet importantly, Prof. Collins O. Miruka (North West University) deserves special thanks for inviting me, as his guest lecturer, to the master's degree program of Advanced Governance at the Wits Business School's Public and Development Management Unit. This opportune exposure to an advanced postgraduate classroom has earned me an appointment to the position of External Examiner in the Wits Business School.

P.N.M. January 2012

[1] I must also express gratitude to Chancellor College, my depot of public employment, for two occasional sums of money as top-up support

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List of abbreviations and acronyms

ACB	The Anti-Corruption Bureau of Malawi (Malawi)
ACB (SA)	The African Centre for Biosafety of South Africa
ACDP	The African Christian Development Party (South Africa)
ACIS (Malawi)	The African Church Information Service (Malawi Chapter)
ACSG	The African Civil Society Group
ADB	The African Development Bank
AFP	Agence France Presse
Afrol News	Africa Online News
AIDS	The Acquired Immunodeficiency Syndrome
AIPPA	The Access to Information and Protection of Privacy Act Cap 10:27(Zimbabwe)
a.k.a.	also known as
AMPS	All Media Products Survey
ANB-BIA	African News Bulletin-Bulletin d'information Africaine (Brussels)
ANC	The African National Congress (South Africa)
ANGOP	The Angola Press
Anti-GM	anti-genetic modifications technology
AP	The Associated Press
APRM	The African Peer Review Mechanism
ARC	Agricultural Research Council (South Africa)
AU	The African Union
BBC	The British Broadcasting Corporation
BEE	Black Economic Empowerment (South Africa)
BBBEE	Broad-Based Black Economic Empowerment (South Africa)
BINAS	**Bi**ologie, **Na**tuurkunde, **S**cheikunde [Dutch] (biology, physics, chemistry)
BioEROC	Biotechnology-Ecology Research and Outreach Consortium (Chancellor College, University of Malawi, Zomba, Malawi)
Biotech	Biotechnology

BRI (Zimbabwe)	The Biotechnology Research Institute of Zimbabwe
Bt	*Bacillus thuringiensis*
CADECOM	The Catholic Development Commission of Malawi
CAFOD	The Catholic Agency for Overseas Development
CBD	The UN Convention on Biological Diversity
CCJDP	The Catholic Centre for Justice, Development and Peace
CCZ	The Consumer Council of Zimbabwe
CDE	The Centre for Development and Enterprise (South Africa)
CFU	The Commercial Farmers Union (Zimbabwe)
CI (Africa)	Consumers International (Africa Chapter)
CIDSE	International Cooperation and Solidarity
COMESA	The Common Market for Eastern and Southern Africa
COSATU	Congress for South African Trade Unions
CSPR	Civil Society for Poverty Reduction
CU	Consumers Union (USA)
DA	The Democratic Alliance (South Africa)
DoA	Department of Agriculture (South Africa)
DPP	The Democratic Progressive Party (Malawi)
EJNF	Environmental Justice Network Forum
ETIP	Extended Target Inputs Program (Malawi)
FANRPAN	Food, Agriculture and Natural Resources Policy Analysis Network
FAWU	Food and Alliance Workers Union (South Africa)
FESRI	The Friedrich Ebert Siftung Research Institute (Berlin)
FEWS	Famine Early Warning System (USAID)
GM contamination	Genetic modification contamination
GM maize	Genetically modified maize
GM plants	Genetically modified plants
GM seed	Genetically modified seed
GM technology	Genetic modifications technology
GM Watch	Genetic manipulations Watch

GMFs	Genetically modified foods
GMOs	Genetically modified organisms
GMT	Greenwich Mean Time (UK)
GNU	Government of National Unity (Zimbabwe)
Grain SA	Grain South Africa
HIPCs	Highly Indebted, Poor Countries
HIV	The Human Immunodeficiency Virus
HSRC (SA)	Human Sciences Research Council of South Africa
IATP	Institute for Agriculture and Trade Policy
ICC	International Criminal Court
ICTs	Information and Communication Technologies
IDRC	International Development Research Centre
IFP	Inkatha Freedom Party (South Africa)
IFI	International Financing Institution
IFPRI	The International Food Policy Research Institute
IMF	The International Monetary Fund
Indie	The Independent (UK)
IOL	Independent Online (South Africa)
IPR	Intellectual Property Rights
IRES	The Institute for Resources, the Environment and Sustainability
IRIN	Integrated Regional Information Networks (UN Office for the Coordination of Humanitarian Affairs)
ISAAA	The International Service for the Acquisition of Agri-biotech Applications
IT	Information Technology
IUCN	The International Union for the Conservation of Nature (The World Conservation Union)
KATC	Kasisi Agricultural Training Centre (Zambia)
KZN	KwaZulu-Natal
LMOs	Living-modified organisms
LSM	The living standards measure

MA.	Massachusetts
MCP	Malawi Congress Party (Malawi)
MDC	The Movement for Democratic Change (Zimbabwe)
MDGs	The Millennium Development Goals (United Nations)
MEJN	The Malawi Economic Justice Network
MMD	The Movement for Multiparty Democracy (Zambia)
MISA	The Media Institute of Southern Africa
MIT	The Massachusetts Institute of Technology
NASFAM	National Association of Smallholder Farmers of Malawi
NAZI	Nationalsozialistische Deutsche Arbeiterparte [The National Socialist German Workers Party]
NCF	National Consumers Forum (South Africa)
NCM	The National Chamber of Milling (South Africa)
NEC	The National Empowerment Consortium (South Africa)
NEDLAC	National Economic, Development and Labour Council (South Africa)
NEPAD	The New Partnership for Africa's Development
NGIN	The Norfolk Genetic Information Network (UK)
NGO	Non-governmental organization
NISIR	The National Institute for Scientific and Industrial Research (Zambia)
NRF	The National Research Foundation (South Africa)
NSTC	The National Science and Technological Council (Zambia)
OAU	The Organization for African Unity
ODI	Overseas Development Institute (UK)
OECD	The Organization for Economic Cooperation and Development
PAC	Public Affairs Committee (Malawi)
PANA	Pan-African News Agency
PRO	Public Relations Officer
PUIL	The Constitution of Public Intellectual Life Research Project (Wits, PhD Research, January 2004-)

Roundup Ready	Monsanto brand of both GM seed and herbicides
SA GMO Act	South Africa's genetically-modified organisms act (1997; amended 1999)
SAASTA	The South African Agency for Science and Technology Advancement
SABC	The South African Broadcasting Corporation
SACP	South African Communist Party
SADC	The Southern African Development Community
SAFEAGE	The South African Freeze Alliance on Genetic Engineering
SAIIR	The South African Institute of International Relations
SANEF	The South African National Editors Forum
SAPA	The South African Press Agency
SAPs	The Structural Adjustment Programs
SARS	South African Revenue Services
SARBN	The Southern African Regional Biotechnology Network (USAID)
SARPN	The Southern African Regional Poverty Network
SASCON	The Southern African Science Communication Network (SAASTA)
SciDev	Science Development (UK)
Sindie	The Independent on Sunday
SFC	Safe Food Coalition (South Africa)
SPGRC	The SADC Plant Genetic Resource Centre
The DRC	The Democratic Republic of Congo
UCT	The University of Cape Town
UDF	The United Democratic Front (Malawi)
UK	The United Kingdom
UN FAO	The United Nations Food and Agricultural Organization
UN WFP	The United Nations World Food Program
UNDP	The United Nations Development Program
UNICEF	The United Nations Children's Education Fund
UNIDO	The United Nations Industrial Development Organization

UNIMA	The University of Malawi
UNIP	United National Independence Party (Zambia)
UNZA	The University of Zambia
UNZALARU	The University of Zambia Lectures and Researchers Union
UPND	United Party for National Development (Zambia)
US	The United States (America)
USA	The United States of Africa
USAID	The United States Agency for International Development
UWC	University of Western Cape
Wits	Witwatersrand
WSSD	The World Summit on Sustainable Development
WSU	Walter Sisulu University
YEAST	Year of Science and Technology (1998, South Africa)
ZAMNET	The Zambian Net (UNZA)
ZANA	The Zambian News Agency
ZANIS	The Zambian News and Information Services
ZANU-PF	The Zimbabwean African National Union-Patriotic Front
ZFU	The Zambian Farmers Union
ZFU	The Zimbabwean Farmers Union
Zimmirror	The Zimbabwean Mirror Newspaper Group
ZIS	The Zambian Information Service
ZMMT	The Zimbabwe Mass Media Trust
ZNBC	The Zambian National Broadcasting Corporation
ZNFU	The Zambian National Farmers Union

List of tables of selected texts

Table 1 distribution of texts in/on/about the Zambian debate

Table 2 distribution of texts in/on/about the Malawian debate

Table 3 distribution of texts in/on/about the Zimbabwean debate

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Table 5 distribution of texts in the Southern African regional debate

Preface to Thesis

I ask a two-pronged question; if philosophy in its broadest sense today were to become *public*, what might it look like? What could it do to/in/for/about human consciousness in concrete existence? Can there be such an inquiry as *Public Philosophy* in Southern Africa in the New Millennium? If there can be such, what might its provenance, form and purpose be? Public communication practices as forms and modes of address and interaction furnish a springboard for my envisaged public philosophy in this particular part of Africa.

After miraculously surviving a fatal car accident on December 17, 2008, with a full initial draft doctoral thesis in hand, I began to ponder this two-pronged question. The question is essentially personal for it goes something like this: What do you, Pascal Mwale, think you have tried to contribute to knowledge and research at the University of the Witwatersrand, Johannesburg, South Africa? Posterity will judge whether I have posited a quintessential question for knowledge and research. At present, I feel the question is worth considering in the 21st century, especially, in relation to what appears strongly to PUIL colleagues, and me, as an increasing demand upon the academic worker to engage critically, stepping beyond scientific orthodoxy and ivory tower pedantry, breaking the boundaries of disciplines. Time has come for philosophy to return to the *agora* from the academy and the lyceum. This is in spite of the dangers immanent in the agora, the original version of the idea of the 'public sphere'; the tragic fate of Socrates on the agora needs no reminders. Following the execution of Socrates on two charges, corrupting the youth and impugning the city-state's gods, the agora degenerated into a market – an arena of passive or uncritical consumption and sheer accumulation of wealth. To date, the agora is yet to be recovered from consumerism. Ancient Greek Philosophy, and indeed Athenian Philosophy, began and was designed as an essentially public philosophy and hence an open, accessible and free academic pursuit. The peripatetic Socrates philosophised with students like Plato in public. All potentially inquisitive, curious, and wondering minds, the old and the young, natives and foreigners, could engage in the business of philosophising at the agora where Socrates was a towering public intellectual..

Yet, the idea of a public philosophy is conceivable in the New Millennium and our precedents are traceable not too deeply into the past. In the 19th century, American Philosopher William James of Harvard University, a medical scientist turned philosopher, has attempted to render the scientific and epistemological method of 'pragmatism' graspable by and accessible to ordinary minds – anticipating public philosophy in Barack Obama's land of great promise. Midway through the first decade of the 21st century, when our own Thandika Mkandawire, in his *African Intellectuals* (2005, Codesria), tells us about African Intellectuals, who they are, what their interventions might be in wider society - both in Africa and in the Diaspora - he is being Socratic. In a similar vein, my doctoral thesis is a call for the return of philosophy to wider society – a revival of public philosophy. When I say that debate babelises in the media because journalists have an apparent handicap, I am strongly suggesting an intellectual intervention by media professionals to reconfigure themselves as Socratics and engage in *elenchus* [philosophical dialogue that goes down to the 'root causes' of issues]. I am asking media professionals to stage and conduct, or induce and manage, debate in a Socratic manner, to eschew the theatrical performance of miscommunication in debate in the media in a democracy. *Elenchus* as public argument was at the heart of Athenian democracy; likewise, public deliberation and debate on issues at stake in society today ought to be at the heart of democracy.

Science communication is the emergent and burgeoning area of public philosophical inquiry where in part I locate the thesis. Theoretically and conceptually, for a good part, science communication draws on and is motivated by public sphere theory of the Habermasian orientation because it speaks directly to the need for robust public debate, especially in post-repressive, democratic regimes. As regards policy moves and direction as well as practice, science communication is much more evident in South Africa than in any other African country. I also envisage science communication as an important alternative area of inquiry within Philosophy of Science –alternative to and growing away from the two traditional topics, viz. 'history of philosophy of science' and 'research paradigms and traditions'. At the risk of being reductionist, science communication can

be rendered as a Socratic attempt at bringing science, its bench workers and stakeholders, and its interpreters (humanities and social science academics) into wider society. The express purpose of this is to constitute what I elsewhere characterize as the "democratization of science" in the New Millennium, heeding a mid-1990 Mandela call for public communication on science in post-repressive, democratic South and Southern Africa. (Mwale, 2005)

For the envisioned public communication, especially on the science of GM technology in agriculture (agricultural biotechnology), to be efficacious, a triptych nexus of science-history-politics needs to be probed beneath its surface, more so because of the manifestation of colonial and apartheid legacy anxieties in the region's GM debate. It is an undeniable fact that science is potentially a major propeller of development in the region; the African leaders' interest in developing the region scientifically and technologically rests on this undeniable fact: GM technology in agriculture can help to eliminate hunger and reduce poverty in Southern Africa. Yet, the region has colonial and apartheid legacy anxieties about science *per se* due to its western origins and that it is driven and led by the West. I focus my critical attention on the forms and modes of address and interaction in order to understand better how participants communicate with each other on science in the public sphere that is constituted by print news media, that is, the press. In democratic politics, it is believed that the media are an important organ of the public sphere, if not the public sphere itself. In practice, in this study I adopt an approach that transcends studies that merely look at presentation and re-presentation of issues or events for debate on science; rather, I study the dynamics of the debate on science itself. I believe that in the thesis before you, I am inviting you to begin to examine critically this nexus, without which Southern Africa remains in the doldrums and perilously continues not only to be an uncritical consumer of products of overseas industries but also a copycat of models, paradigms and research traditions of the western scientific orthodoxy.

Thesis abstract

The thesis investigates a particular public communication practice in a particular region and time. It addresses the question of the shape of public debate as a genre of public deliberation, in particular what public debate on science looks like in the media in Southern Africa. It uses texts: print news media texts that deal with debate centred on GM maize, in four Southern African countries, Zambia, Malawi, Zimbabwe and South Africa, from 1997 to 2007. The Southern African debate is region-specific and has three key drivers, the region's underdevelopment, the centrality of maize to the region's economies, and the inhospitability of science to the political in the region's democratic public spheres. Coverage manifests massive slippage in the communication exchanges; it also manifests moments of engagement as in argumentative debate and the energy and vitality of the political, whose combined effect is the obscuring of the slippage. It is not a classical debate. The regional debate displays what the thesis terms 'babelisation,' implying at least three things: rhetorical moves –reframing, sidestepping, telescoping, and silencing; the resulting slippage; and moments of engagement as well as the energy and vitality of the political. The rhetorical moves and the slippage constitute the core of the babelisation inasmuch as moments of engagement and the energy and vitality of the political render the Babel florid and complex. The thesis argues that babelisation is a particular rhetorical feature of the regional debate.

The thesis then proceeds to explore conditions of babelisation and it identifies at least three of such. First, the media have an apparent handicap in how they handle debate. In the classical public sphere, the media have a double imperative of playing agent of public opinion, highlighting and playing conflict fairly and in a balanced manner. Fairness and balance in representation entail factual and impartial journalism, eschewing bias, framing, sensationalism and hype, all of which raise the spectre of the double bind. This entails that the media's provision of space for conflict in debate to play out is considered inadequate in journalistic practice. Anything less than active mediation implies relay mediation, leading to babelisation. Yet, at the heart of journalistic practice, there is a contradiction about such a role. The contradiction is this: journalists are expected to

check on active mediation; active mediation must not be seen to be 'overactive'. Importantly, due to resource-poverty in the region's media institutions, journalists resort to relay-mediating issues in debate arising from science, leading to babelisation. In this study, the double imperative turns into a double bind for the media. Second, the inhospitability of science to the political makes it difficult to bring the political into an area where the issues seem to be scientific and as a result of it, the protagonists and antagonists in the coverage make communication manoeuvres. It appears that this particular play out of coverage has a specific purchase in this region in particular because it enables the entry of political concerns into the same field as science, where science tends to try to seal off the political as interfering in its business, portraying politics as an extra-field activity. Babelisation enables the political to force its way into and fire up an apparent scientific controversy. Third, the Johannesburg Earth Summit provides a global deliberative forum for the interplay and interpenetration of discourses, precipitating the regional debate, resulting from the upsurge of the political. It transpires in this study that, babelisation allows the political to enter into an area of deliberation where, otherwise, science is ring-fenced. Babelisation allows for colonial and apartheid legacy anxieties and related issues to find media space, gaining sustained visibility and audibility. Finally and yet importantly, babelisation allows for a wider deliberative space, thereby constituting a potentially all-inclusive democracy. Hitherto, theorists of journalism and media studies, the public sphere, and deliberative democracy have not imagined this communication phenomenon. Therefore, the concept of babelisation speaks distinctively to the particular concerns of our particular time in this particular region of Africa.

Part 1 General introduction and research Method

The Southern African debate[2] , reaching its intensity in 2002, on the US-produced genetically modified (GM) wholegrain maize that the UN WFP offered to at least six chronically-hungry Southern African countries, inclusive of Zambia, Malawi and Zimbabwe, occurred in a specific context, markedly different from the contexts of the GM debates that took place outside Africa, for example, in the Euro-American and Mesoamerican regions. The context of the regional debate is historically informed. The region is characterised by, in variable degrees, unviable economies, low and slow agronomic-agricultural production, poor local market production and limited access to overseas markets, weak science and maths education systems, paucity of scientific research capacity and infrastructure, resource-poor media and poor journalism training, and youthful and infant - and hence often fragile and wobbly -democracies. Thus, Southern Africa - together with much of the rest of Africa - enters the global economy and politics both weak and vulnerable. In such a region, public debate on a science, which has a western origin, is led and driven by the West, and has at the same time - at least initially - a global scope, takes a very particular angle and has a special and exceptional shape. The question of the shape, lineaments and operations of the regional debate is the object of this study.

[2] NB. In Southern Africa, deliberations on issues around GMOs are being called 'debate' and are going on as 'debate' in the media particularly in 2002 and afterwards

Chapter 1: General introduction

1.0 Background to the study

Southern Africa experienced hunger in 2001. The hunger became massive and acute, and in 2002, it turned into famine. During this period, about 14.4 million people were reportedly on the verge of death by starvation in the region. (*Grain SA Publications*, October 2002) Zambia, Malawi and Zimbabwe were some of the famine-stricken countries. Unlike them, South Africa had enough food at the time. For the three famine-stricken countries, the UN country-specific estimates on the number of people affected severely by the famine and the corresponding amounts of maize food aid required during the famine were as follows: Zambia: 2.9 million; 400 000 metric tons; Malawi: 3 million; 300 000 metric tons; Zimbabwe: 6.7 million; 500 000 metric tons, respectively.[3] Based on these UN estimates, Zimbabwe was hit the hardest; about half of its population[4] faced severe food shortages.

In 2002, in response to the famine, the UN WFP offered the affected countries US-produced GM maize wholegrain. Zambia rejected the offer unambiguously. Malawi and Zimbabwe were reluctant to accept the offer; initially, they rejected it but later in the same year, they accepted it on condition that the controversial wholegrain maize was milled into finely-ground flour (mealie meal). Zambia's rejection of the offer triggered a regional debate on GM technology in agriculture[5] in general and GM maize in particular. Malawi and Zimbabwe's reluctance to accept the offer fired up the regional debate further. All the three countries resisted the offer manifestly. In spite of being food-secure,[6] South Africa was drawn into the debate, for reasons discussed later in the chapter.

[3] See http://one.wfp.org/Newsroom/in_depth/Africa/southern_africa020705.asp?section=2&sub_section=2. Retrieved in June 2004
[4] In 2002, the population estimates of the four countries in this study were as follows; Malawi: 11 million; Zambia: 11 million; Zimbabwe: 12 million; South Africa: 46 million
[5] This covers a wide range of scientific and technological innovations involving conventional breeding, molecular breeding, and genetic engineering. Some forms and processes of genetic engineering involve modification of genes, that is, genetic modification (GM). At present, GM technology in agriculture involves these innovations largely in agronomy, livestock, and horticulture
[6] Minimally, and in its crudest form, to be "food-secure," whether at national or household level, implies having adequate staple food, in this case, maize, in store and a steady supply of it to last a calendar year, or having enough money to buy, or fluid assets to be able to exchange with, the staple food throughout the year. (See Mung'ong'o, 2002)

Globally, GMOs and GM technology, which some perceive as 'genetic manipulations' of "nature"[7] have become a matter of 'public interest,' more so after the completion of the Human Genome Project (1990-2003), groundbreaking international collaborative research in gene mapping, heralding unprecedented genetic modifications innovations such as genetic manipulation, gene-splicing, gene transfer, recombinant DNA (rDNA), and animal cloning. This is partly because of the perceived potential benefits of genetic modifications and partly because of potential risks or losses, which raise complex historical-political, socio-political, practical and economic, epistemic-political, ethical-political questions, especially in Africa and other non-western regions of the world. In this study, the 'epistemic' refers primarily to science as a specialised body of expert knowledge.

Potentially, GM technology in agriculture offers economically-viable alternatives for the much-needed diversification[8] into non-traditional food and cash cropping just as it raises possibilities of opening up new export markets for Africa. The science and technology is growing rapidly.[9] In spite of this, there are anxieties around it. Apart from safety[10] concerns, its potential practical and economic risks include the fact that it is dominated by a few countries globally, [11] potentially deepening the global inequality between regions. It is usually tied to a narrow range of products, and in this case, cash crops. At present, it is unclear whether poor farmers of the non-western regions of the world stand

[7] For example, see Hansen (2006) on the predominance of the theme of "nature/the natural" in Anglo-American public debates on biotechnology and the new genetics in the media, especially from the 1990s

[8] For example, in Zambia, mainly due to the unpredictability of rains, especially in Southern Zambia, maize production is an unreliable source of food. Cassava and to some extent sorghum are being suggested as alternative food crops. For Sitko (2008), "Periods of extended drought or of excessive rains damage maize more than many other crops, leading to severe maize shortages." (Sitko, 2008, p.4)

[9] Gillis says, "Since genetically modified crops were first planted a decade ago, the acreage devoted to them worldwide has been growing at double-digit rates, and it did so again last year[2005], jumping 11 percent to 222 million acres, according to a new report." (*The Washington Post*, January 12, 2006)

[10] For example, there are fears surrounding the technology used to breed GM maize worldwide. The maize contains three foreign ('unnatural') genes, the first for herbicide-resistance, the second from toxin-producing bacterium functioning as an insecticide, and the third gene produces an enzyme that destroys the antibiotic ampicillin. Some scientists are worried about the third gene - the ampicillin-destroying gene. The new maize is capable of producing not one but about six hundred copies of the ampicillin-destroying genes. The danger in this is that such fast multiplying 'mutant' genes could 'leak' from maize plants to bacteria in animals' intestines and from there transfer to other living things in the environment. Genes cannot be recalled back to laboratories after their accidental release into the ecological environment. There are unforeseen harmful effects arising from mutant genes, for example, monster organisms, new killer-weeds, and new viruses from virus-resistant plants. (Ashton and Laura, 1998)

[11] According to UN statistics, in the period 1996-2006, only nineteen countries, majority of them in the developed world, grew GM crops at a commercial scale. They are the US, Argentina, Canada, Australia, Mexico, South Africa, China, Spain, Brazil, Uruguay, Paraguay, Romania, Portugal, India, Philippines, Honduras, Columbia, Iran, and Germany. See <http://www.gmo-compass.org/eng_agribiotec hnlogy/gmo_planting/142.countries_growing_gmos.html>. Retrieved in February 2008

to benefit at all from GM cropping. Most non-western countries have limited opportunities of access to the world markets. Moreover, there are deep-seated anxieties about using vulnerable groups of people as subjects in GM trials. The anxieties are historical since there are precedents of abuse of people in genetic experimentation, for example, prisoners of war in Nazi Germany during the Second World War. (Mwale, 2004) There are difficult questions of scientific knowledge and power, for example, about the unequal generation-capacity and uneven flow of scientific and technological knowledge and information globally, leading to serious socio-economic inequalities and worrisome practical and economic as well as epistemic-political power imbalances, between Africa and the West. Generally, GM technology also raises difficult ethical, sometimes ethical-political, issues, for example, about the nature and quality of human, animal and plant life as well as about the ideal[12] of freedom, for example, the informed consent of consumers of GM foods and of human beings involved as subjects in trans-national biotechnological research in non-western countries. (Mwale, 2004)

For Southern Africa, in particular, the perceived potential benefits of GM cropping include more staple food crops, produced more cheaply and more efficaciously, on less land, leading to "food sovereignty" in a region that continues to experience famine and has become increasingly dependent on food imports from overseas. The science and technology has potential for much higher export volumes of farm produce, generating significantly-high profits for small-scale farmers. The perceived potential risks include ill effects on human health from the consumption of GM foods. There are also perceived potential risks of damage to the ecological environment; loss of biological diversity (biodiversity) arising from GM cropping; the loss of overseas export markets[13] in non-GM farm produce and products; and the destruction of the informal seed sub-sector for subsistence and small-scale farmers due to their dependency on GM seed of the biotech multinationals, agro-chemicals and other resources. Specifically on the possible loss of the informal seed sub-sector, farmers' dependency on the biotech multinationals for GM

[12] To be precise, for Kant (1781/1787), the *transcendental* ideal of freedom. Kant has two other transcendental ideals, God and the soul. See his *Critique of Pure Reason*(1781/1787)

[13] This would be the case especially of the markets in Europe, where the EU banned the commercialisation of GM crops in 1999. Europe is the zone of Southern Africa's established export markets in farm produce and products. The EU lifted the ban in 2003. However, some EU member states have continued to resist GM foods and crops, for example, economically-ailing Greece

seed would lead to increasing food insecurity in the region, because most farmers would not afford to buy new seed every farming season, thereby getting squeezed out of staple food cropping. GM seed is not only expensive but is also non-recyclable from one season to the next and hence the need for farmers to buy new seed all the time. Traditionally, small-scale farmers keep seed for the future. Oftentimes operating outside the money economy, they barter seed with relevant agronomic resources among themselves. Whenever they choose to operate within the money economy, they trade seed among themselves, and they do not charge each other exorbitant prices. Unlike GM seed, non-GM seed is accessible locally between farming seasons.

Since the western donor community and global financiers' stranglehold on the regional economies through the neo-liberal agenda's Structural Adjustment Programs (SAPs)[14] beginning from the 1980s, Southern African postcolonies have strongly been, and still are, discouraged by the western donor community from subsidizing the inputs of subsistence and small-scale farming. The economic stranglehold, as a process augmented with intense external pressures, was felt initially in the region with the advent of economic and political liberalization in the early 1990s. In the African postcolony in general, before the advent of the SAPs there was the 'social welfare' nation-state but it quickly withered away, giving way to the neo-liberal nation-state. Critics of SAPs regard the latter form of the state as a truly obedient servant of global capital and big business – dominated by a handful of multinational corporations of western origins- as evidenced in the nation-state's full embrace of economic liberalisation. In the Southern African governments, the SAPs translated into the downsizing of public service delivery (public provisioning) which meant severe cuts in public expenditure on social services, the privatisation of state-owned and -managed enterprises (statutory corporations) , the de-regulation of the local markets, and, crucially, the removal of farm input subsidies. As a

[14] Within the neo-liberal agenda, SAPs are a package of conditions on foreign aid that are imposed on the developing world by the developed world. To qualify for aid from the developed world, developing world debtor states have to satisfy this package of conditions, three of which are: the privatisation of states' "commanding heights" of the economy; severe cuts in basic public/social services; and the forced removal of farm input subsidies. Privatisation and the forced removal of farm input subsidies are an integral component of the economic liberalization package of conditions on foreign aid to Africa, as stipulated in the controversial SAPs of the World Bank and the IMF. Specifically, it would appear that a good number of western states, for example, the US, practise double standards on the issue of farm input subsidies. They have been giving their commercial farmers hefty farm input subsidies. However, at the same time, in the package of conditions on foreign aid to Southern Africa, the western states are discouraging Southern African states from doing the same for their subsistence and small-scale staple food crop farmers

recipe for chronic hunger in the subsequent decades, Southern Africa - chronically dependent on foreign aid and foreign debt-ridden as it eventually became in the 1980s - saw its agronomic agriculture decline rapidly from the 1980s, graduating as a net food importer through the 1990s to the 2000s.

Africa and the Global Debates on GMOs and GM technology in agriculture

Africa is increasingly becoming an important critical voice in GM debates around the latest advances in science,[15] including GMOs in general and GM foods and crops in particular. For example, Masood (2003) recognises the presence of Africa in the global debates on GMOs, saying, "Africa is emerging as one of the front lines in the battle for acceptance of GM foods." (*Nature*, November 20, 2003) Africa's future is being understood, and reinterpreted, in the light of possibilities, which GM crops raise in the global debates. Some argue that the science and technology offers Africa the possibility of overcoming the legacy of its underdevelopment in a kind of leapfrog movement. (See *Genomics and Society,* 2004) Debate on GM crops in Africa demonstrates a character particular to the continent and shaped by the continent's relationship to the rest of the world in the past and the present.

Africa enters the global debate and participates in it as potentially weak and vulnerable. In this part of Africa, the presence of foreign players of global capital and big business, such as the biotech multinationals, brings into the regional debate many difficult questions, for example, the question of patents and intellectual property rights (IPR)-protection of GM crops. For some thinkers, the IPR-protection question "has caused a storm in SADC society."(Olembo in Omamo and Grebmer, 2005, p.179)[16] The eye of the storm is that the biotech multinationals' patents and IPR are a potential threat to the informal market for seed and hence to food security in the region. Due to the

[15] See the prominence of Africa's food security issue in *The GM Nation? Debate* in Great Britain in 2003, the *Citizen Consensus Conference* on GM technology in Denmark in 1999, *Conférence de citoyens* on GM foods in France in 1998, *PubliForum* on biotechnology in Switzerland in 1998, and *Consensus Conferences* on GM animals and plants in the Netherlands from 1993. For example, "South Africa," argues Van der Walt, "has suddenly been plunged into this heated debate and has become the primary biotechnological battleground in Africa." (Van der Walt, 2000, p.35; see also Rabinowitz, 2004) GMOs continue to be contested in South African social and political domains. According to SABC 2 television, Grain South Africa (GSA) has of late rejected a donation of Euro-GM maize seed, fearing its negative impact on economic, environmental, and ecological dimensions of South African maize farming. The same source observes that GM maize remains a "bitter bone of contention" in contemporary South Africa. (SABC 2 Television, 180^0, 8:00 am News, July 7, 2004)

[16] On this IPR-protection question, for Malawi, see Nyirenda and Ng'ambi (2004). See http://www.sarpn.org.za/documents/d0001719/index.php. Retrieved in June 2005

monopolistic position of the western oligopolies, the much-needed agronomic resources, such as seed, would be placed beyond the reach of subsistence and small-scale farmers, the majority of staple food producers.

The Specificity of the Southern African Region

Globally, agriculture is not a priority area for trade and commercial investment. The macro region of sub-Saharan Africa reflects this global trend, and it has some of the lowest and slowest growth rates in agricultural production. Sub-Saharan Africa does not produce enough food for its people, that is, in spite of isolated cases and spells of food self-sufficiency in some of the countries of the macro region. For example, in 2007, of the more than 850 million people who were chronically undernourished in the world, about 206 million of these were found in sub-Saharan Africa, the second largest number of the chronically-undernourished people in the world at the time.[17] More than 50% of the macro region's populations have chronic, or seasonal, food shortages. According to South African biotechnologist Jennifer Thomson (2002), it is scientifically projected that Sub-Saharan Africa will experience a grain shortfall of 88.7 million tons in 2025. (Thomson, 2002, p.154) By comparison, the Middle East's shortfall will be 132.7 million tons by 2025 – to my view, a much bigger grain shortfall than that of Sub-Saharan Africa. Yet, Thomson argues, "The huge difference between the two regions is that the Middle East can afford to buy in food supplies, while sub-Saharan Africa cannot." (Thomson, 2002, p.154)

Major factors leading to food insecurity include adverse agro-climatic conditions due to climate change, low agricultural productivity, and limited economic activities in largely subsistence agricultural bases, low-scale agro-economies that are dominated by the subsistence and small-scale farming sector. In sub-Saharan Africa, human health concerns are significantly food-related, including under-nutrition and micronutrient malnutrition in the young and aged segments of the populations. Thomson (2002) proposes GM cereals such as maize and wheat as an anti-dote to the growing grain shortfall in cash-strapped Sub-Saharan Africa - or, according to her, what Gordon

[17] The first largest was South Asia, at 299 million. (FAO, 2007)

Conway, President of The Rockefeller Foundation, calls the "doubly green revolution"(Thomson, 2002, p.154), which, for her, must not bypass Africa; after all, for Thomson, the Green Revolution nearly bypassed Africa. According to Thomson, Conway is of the view, "The Green Revolution has done much to improve agricultural productivity, but for the poor [Africans] to take advantage of this they need access not only to seed but also to fertilizers and irrigation."(Thomson, 2002, p.159)

Agricultural production is both low and slow in all the four countries of the study, reflecting closely the global and macro-regional trends in agriculture. In 2007, Malawi and South Africa showed positive agricultural growths, whereas Zambia and Zimbabwe showed negative ones. [18] In line with the ominously all-pervasive neo-liberal agenda, agriculture is oriented towards large-scale, commercial farming in the region.[19] Generally, the region's agriculture is not pro-poor, in that generally the public sector does not support subsistence and small-scale farming in terms of provision of farm input subsidies.[20] The neo-liberal agenda has been exerting enormous, unrelenting pressure on the declining economies of Malawi, Zambia and Zimbabwe. The introduction of SAPs in the 1980s in Malawi and Zambia and between 1991 and 1995 in Zimbabwe did not help avert the regional economic decline. As a result, all three became chronically food-insecure.[21] Their agronomic-agricultural sectors plummeted, rendering them habitual food importers, more strikingly from the early 1990s to early 2000s, when the region experienced erratic rains leading to severe drought and floods.[22] Erratic rains threaten their largely rain-fed agriculture. They are all characterised by ill-conceived agricultural

[18] In the 1990-2004 period, their per-capita agricultural production growth rates in the four countries of the study were as follows; Malawi: 2%; South Africa: 0.5%; Zambia and Zimbabwe: -0.7%. (FAO, 2007)

[19] For Grande (2006), "The South Africa government has chosen a macroeconomic path that holds the view that deregulation is critical for investment and that investment is critical for stable economic growth [that is, an] orientation towards world market." (Grande, 2006, p.5)

[20] The occasional farm input subsidies offered to small-scale and subsistence farmers by the nation-states do not have any significant impact on an agricultural sub-sector that has suffered chronically from total neglect for several decades in this region

[21] They have equally become increasingly more foreign aid-dependent and more foreign debt-ridden, subjected by the western donor community to the indignation whose designation is Highly-Indebted, Poor Countries(HIPCs)

[22] However, at times, Malawi and Zambia have been an exception to this pathetic scenario. For example, in Malawi, international trade in food moved from surplus in the late 1980s to deficit in the 1990s. Consequently, maize imports increased in the early 1990s. However, apart from the disastrous harvest of 2002, maize imports have been dropping since 1995. In the 2005/2006 season, Malawi registered net surplus maize of about 250,000 metric tons. This is attributed to the state's partial fertiliser and seed subsidies. (See Gondwe, 2006, pp. 8, 10-11) Zambia had good maize harvests in 2002/2003 and 2003/2004, that is, in 2 successive seasons following the prolonged drought of 2001/2002 that led to famine in 2002. See < http://www.fews.net/docs/Publications/1000538.pdf>. Retrieved in June 2005

policies, outdated agricultural practices, inadequate and limited market access, and serious shortages of requisite technical skills and labour on farms.

Since the early 1990s, beholden as the three countries are to the neo-liberal agenda, their food situation has been worsening due to the privatisation of maize cropping, which has meant little or no public sector support for subsistence and small-scale farmers for farm input subsidies. This has rendered the emergent farmers vulnerable to the vicissitudes and ruthlessness of the rapidly de-regulating and globalising market sector.[23] In all of them, staple food cropping remains uncompetitive because it is limited to subsistence farming. For all three, maize is a major crop only in terms of the nation-states' agricultural policy agendas, and hence its continued relegation to subsistence farming. Large-scale farming is oriented towards cash cropping.[24] Moreover, the lack of scientific research capacity and infrastructure as well as low manufacturing or industrial bases has led to the scarcity and exorbitance of essential farm inputs such as seed, chemical[25] fertiliser and agro-chemicals. All these factors have rendered Malawi, Zambia and Zimbabwe chronically food insecure.

South Africa is equally vulnerable to the neo-liberal agenda. For example, due to the slow and low transformation in the agricultural sector, highly-capitalised, mechanised agriculture is still the Afrikaner farmers' prerogative - as evidenced in the high and ever-increasing costs of farm inputs, beyond the reach of most emergent indigenous South African subsistence and small-scale farmers who are being "squeezed out of agriculture."(Grande, 2006, p.5) Yet, in stark contrast to the agricultural systems of Zambia, Malawi, and Zimbabwe, South Africa's agricultural system is the most economically viable.

The Status of GM technology in agriculture in the Region

[23] Like in the other three countries, these neo-liberal agenda-based factors contributed to chronic food insecurity in Zambia. (Mphuka, 2005, p.28)

[24] Although it is grown generally as a food crop, in most cases, maize doubles as a food and cash crop. The traditional cash crops are as follows; Malawi: tobacco, tea, sugar, coffee, cotton, Tung oil, and macadamia. Zambia: sugar, wheat, tea and coffee; Zimbabwe: tobacco, cotton, sugarcane, and coffee

[25] The region still perilously shies away from conservation farming methods whereby manure would replace, or at least supplement, chemical fertilizer

There are specific conditions for the science and technology of GM technology in agriculture in Southern Africa. Historically, most of the region, just like most of the continent, is underdeveloped. It has low science and technology infrastructure and poor scientific research capacity. Its science education is poor. [26] It relies on subsistence farming, out-of-date agricultural systems that are dismally incapable of producing enough staple food for the steadily-growing and rapidly-urbanizing populations. It has low capacity for intensive farming, on a highly-capitalized and mechanized agricultural basis. Its export volumes for farm produce are low and hence globally uncompetitive. These conditions constitute the specific context for understanding the historical-political, socio-political, practical and economic as well as epistemic-political aspects of GM technology in agriculture, a condition that flows from Africa's weak and vulnerable position in the global economy, politics and science.

This is critically potent in relation to the politics of food and hunger, Africa's particular climate[27] challenges as well as significantly-worrisome incidences of political instability, as evidenced in political repression, widespread corruption, fraud, abuse and waste of resources, bad governance, poor human rights protection, socio-cultural and political conflict and internecine wars in some parts of the continent. Therefore, the question of biotechnology transfers from the West to Africa, especially the proposition of the use of GM crops as panacea for food insecurity in Southern Africa, should be read in cognizance of this particular historical context. For Thomson (2002), the region in particular and the continent in general stand to gain from GM technology in agriculture; she cites two key gains for African farmers and consumers , edible vitamins (vaccines in the form of edible fruit or vegetable) (Thomson, 2002, p.163) and sustained and sustainable food security. On the latter, Thomson says,

[26] This includes post-apartheid South Africa. For example, for Rollnick (1998), "South Africa is a country with a history of unequal provision of formal education and it is well known that there are high levels of illiteracy in the most disadvantaged sections of the population." The legacy of the "historical exclusion" of black South Africans lingers and it manifests itself in "low matriculation passes in maths and science" among Black South African matriculants and in "minimal and token science, and engineering and technology education in 'black' universities." (Rollnick cited in Ogunniyi, 1998, pp.108, 110, 123) However, to complicate the picture, poverty and destitution are growing among white communities reportedly disadvantaged by post-apartheid South Africa's "affirmative action policies," leading, for instance, to an unprecedented increased in "squatter camps" for a "booming indigent white population." (Boyd Webb, "SA's poor whites left behind, but not all is lost." *The Saturday Star*, April 19, 2008)

[27] *Science in Africa* (2008) cites a new study by Stanford University researchers, saying, "As global warming pushes temperatures up and droughts become more intense, the production of maize, Southern Africa's staple food, could drop by as much as 30 percent in another two decades." (*Science in Africa* at <www. scienceinafrica.co.za/2008/February/maize.htm>. Retrieved in February 2008

> Firstly, we do not have enough food to feed our populations and agricultural productivity is far less than in the northern hemisphere. Secondly, Africa is a continent particularly dependent on agriculture and the distinction between consumers and farmers is often blurred. Let us remember that a person with enough food has many problems; a person without enough food has only one. (Thomson, 2002, p.166)

In this quotation, Thomson is alluding to the fact that Africa is critically food insecure and so it needs to consider adopting GM crops, unlike the West, which is food secure and hence it can afford to reject GM crops and GM technology in agriculture altogether.

There is a range of similarities relevant to the status of GM technology in agriculture between the four countries in this study. All of them were under one coloniser, the United Kingdom. South Africa underwent two successive colonial formations, firstly, as the Union of South Africa (1910-1934), under the United Kingdom, and, secondly, as Apartheid[28] South Africa under the all-Afrikaner, white-settler minority regime, led by the National Party (1948-1994). South Africa became a democratic government in 1994, a new Southern African nation-state led by the African National Congress party (1912 to date). To date, in spite of the land restitution program, advanced agriculture, including GM cropping, is mostly in the hands of Afrikaner commercial farmers. Malawi and Zambia were also colonised by the British and they obtained their political independence in 1964. Zimbabwe waited for its political independence until 1980. Malawi, Zambia and Zimbabwe were under a colonial federation that lasted ten years.[29] The federation was a

[28] An ideology based on racism and aimed at achieving race-based separatist and hence grossly-unequal cultural, social, political, and economic regimes of development within a state

[29] As dominions of the British Crown of the United Kingdom, the three countries belonged to the Central African Federation (1953-1963), a semi-independent state in Southern Africa, comprising the self-governing colony of Southern Rhodesia and the British protectorates of Northern Rhodesia and Nyasaland. In the case of Southern Rhodesia, having been colonised in 1923, in 1965, Ian Smith led a rebellion against the British Crown to form a dominion independent of the British Crown, the Unilateral Declaration of Independence (UDI). For a brief period in 1979 and 1980, just before political independence, Southern Rhodesia reverted to the control of the British Crown. Within the federation, Southern Rhodesia was designed to be the dominant colonial territory economically, politically and militarily. It showed a steady growth in European settler population as evidenced in the influx of British migrants in the 1950s. Southern Rhodesia gained political independence, as Zimbabwe, from the UDI in 1980. Much of the period between the dissolution of the federation and the political independence of Zimbabwe was marked by civil war between the Africans and the white minority, Ian Smith-led regime. The central economic motive behind the federation was the abundant copper deposits of Northern Rhodesia, which gained political independence, as Zambia, in 1964. Apart from tea and coffee plantations and minimal tobacco farming, Nyasaland was allegedly not economically-viable for the colonizer. Historian Robert Blake said that Nyasaland was "economically the poorest, politically the most advanced, and numerically the least Europeanised of the three Territories." (Blake, 1977) It had no sizable mineral deposits and had a tiny community of Europeans relatively sympathetic to nationalistic aspirations.

great beneficiary of colonial aid, including considerably-generous loans from the World Bank.[30] Colonial aid defined the shape and direction of international trade as well as foreign investment in the region. The region was fundamentally a producer of primary products – raw materials - for the manufacturing industries of the métropole. Large-scale farming, oriented towards cash cropping, was the privilege of a few commercial conglomerates, belonging to and/or with strong links to the métropole. In return, the region received financial aid for development. During the federation, the conditions of colonial aid and the terms and conditions of international trade and foreign investment were skewed in huge disfavour of the federated colonies. Colonisers gained greater control over the colonies in development, trade, and investment policies.[31] Today, in the post-colonial dispensation, Zambia, Malawi and Zimbabwe remain underdeveloped and have "peripheral" and "underdeveloped economies with colonial patterns of production."(Adedeji in Crowder, 1984, p.196)[32] They depend quite heavily on foreign aid for scientific and technological investments. This is part of the enduring legacy of colonial economies. (Adedeji in Crowder, 1984, p.203) In other words, little has changed in the three previously-federated dominions of the British Crown. As was the case at independence, development in them and in the rest of the African postcolonies is attuned to the past, oriented towards supplying raw materials and farm produce to the former colonisers. For Adedeji, the regional economies "simply echo (*sic*) developments in the industrialized market economies, particularly those of the colonial powers." (Adedeji in Crowder, 1984, pp.197-8) South Africa's historically-rooted gross socio-economic inequalities mean that access to GM technology in agriculture is skewed in favour of a few wealthy farmers and giant agricultural corporations.[33]

Nyasaland nationalism was the major destabilizing impetus of the federation, leading to its dissolution in 1963. Nyasaland became politically independent, as Malawi, in 1964

[30] The World Bank was established on December 27, 1945, as the International Bank for Reconstruction and Development, following the ratification of the Bretton Woods Agreement. Its original focus was the reconstruction and development of war-torn Europe. France was the first beneficiary of the World Bank's loans, at US$250 million "for post-war reconstruction" in 1946. Later, after the economic revival of Europe, the World Bank's activities were extended to non-western countries. The architects and managers of the global financier believe that by financing infrastructure projects, global poverty will be reduced. Today its focus is on the achievement of the Millennium Development Goals (MDGs), goals calling for the elimination of poverty and the implementation of sustainable development globally.

[31]For Adedeji, "These colonial aid programs provided ready markets for metropolitan goods as well as finance for development in the colonies. More importantly, they enabled the colonial powers to achieve a greater measure of control over, and ability to coordinate and influence the investment policies of the colonies." (Adedeji in Crowder, 1984, p.201)

[32] For Adedeji, the three former colonial confederates are today still "concentrating on primary products for export and import." (Adedeji in Crowder, 1984, p.196)

[33] The Black Economic Empowerment (BBE) deal has concentrated wealth in the hands of a few, emergent wealthy black businesspersons. BEE has hitherto not had any positive (trickledown) effects in the agricultural sector of post-apartheid South Africa.

The region has mixed feelings about GM crops, and hence the regional debate. Apart from South Africa, the use of the science and technology in the region is minimal and on a trial basis. For Mnyulwa and Mugwagwa (2005), in South Africa, "most major universities and research institutions … have major projects employing GM techniques." (Mnyulwa and Mugwagwa in Omamo and von Grebmer, 2005, p.18) GM Maize, GM cotton, and GM soybean are grown commercially. In Malawi, Zambia and Zimbabwe, GM cropping is at the research level only. Specifically, in Malawi and Zambia, research in the science and technology is limited to the improvement of the virus-resistant and drought-enduring cassava, arguably the most feasible alternative or supplement to maize. (See Sitko, 2008) By 2005, in both countries, GM trials had been conducted on cotton, but not on maize. (Mnyulwa and Mugwagwa in Omamo and von Grebmer, 2005, pp.17, 19) In Zimbabwe, agricultural biotechnological research is limited to the improvement (hybridisation) of four crops, maize, tobacco, cowpeas and sorghum. (Mnyulwa and Mugwagwa in Omamo and von Grebmer, 2005, p.19) Thus, unlike those in Malawi and Zambia, the GM trials in Zimbabwe include maize.

The issue of GM trials, as an attempt at introducing GM cropping in the region, is for a good part a story about the biotech multinationals. The penetration of the biotech multinationals into the region has entrenched the economic dependency of the three Southern African postcolonies on the métropole, especially for the biotech multinationals' GM seed and the matching agro-chemicals (herbicides and pesticides). None of the three countries has an agricultural economy that is oriented towards sustainable staple food production. They lack up-to-date technologies for the production, storage and distribution of staple food such as maize. Maize itself is not, and has never been, a priority crop for large-scale, commercial farming in the region. For example, in the 1960s, when "tea production doubled in Southern Africa" (Adedeji in Crowder, 1984, pp.197-198), maize was consigned and confined to subsistence farming. The situation is the same today in the 2000s.

Padlocked as post-apartheid South Africa is in the logic of capitalism, it remains to be seen whether the reconfiguration Broad-Based Black Economic Empowerment (BBBEE) deal will ameliorate its predecessor deal

Monsanto (US) is a central player in the introduction and spread of GM cropping in South Africa and the region. (*The Sunday Times*, August 24, 1999) Monsanto, based in St Louis, Missouri (USA), is a multinational biotech corporation. It is the world's largest producer of the herbicide glyphosate, marketed as Roundup Ready. Monsanto is also by far the leading producer of GM seed, holding 70% to 100% world market share for various GM crops. In the specific instance of GM seed, the regional anxiety is about the monopolistic control by the biotech multinationals such as Monsanto over the region's seed market. The anxiety has a basis; by 2002, Monsanto had bought off a number of major seed companies in the region, such as The National Seed Company of Malawi, the only supplier of seed in that country at the time. Zambia and Zimbabwe had resisted Monsanto's encroachment into their national seed markets.[34]

South Africa did not block Monsanto; it has a free market and so biotech multinationals are free to invest in the country. Indeed, by 2002, Monsanto had obtained trading licenses with the three South Africa-based major seed companies, Pannar Seed, Pioneer Hi-bred, and Delta and Pine Land. Other biotech industry giants that have penetrated the region's seed markets, through South Africa, are Syngenta SeedCo and Aventis. Between the three of them, they have the capacity to monopolise the entire region's GM seed market. Such western oligopolies could render the Southern African farmers dependent perpetually on GM seed. Moreover, the adoption of GM cropping could lead to the loss of the European markets. For Pelletier (2005), it is not an understatement that in the region "the major drivers of agricultural biotechnology [are] bilateral and international agencies, the trans-national industry, national scientists and specialists." (Pelletier in Omamo and von Grebmer, 2005, p.117) In this region, as a scientific and technological development initiative, GM technology in agriculture is led and driven by the West.

News Media

In Southern Africa, the debate on GM maize is a public one, conducted through the media, both print and broadcast news media. The media operate under specific conditions

[34] See, for example, <http://www.gmwatch.org/archive2.asp?ArcId=1006>. Retrieved in December 2007

in the region. As regards ownership of news media in the region, local entrepreneurs, regional corporations and global commercial conglomerates own almost all the print news media. State-ownership of print news media is varied, maximal in some and minimal in other countries of the region. For example, in Zambia, the state owns most of the print news media. Zambia also has a strong private-ownership base of print news media. Historically, Zambia's print news media are much more established than those of its closest neighbours, Malawi and Zimbabwe. Malawi's print news media are largely privately owned and hence entrepreneurial, and they have strong links to powerful and influential political figures. State-ownership of print news media is minimal. In Zimbabwe, the state owns most of the print news media. A few local entrepreneurs, some with strong links to the top brass of the Zimbabwe African National Union-Patriotic Front (ZANU-PF) regime, regional corporations and global commercial conglomerates own some print news media. (*Africa Media Barometer Zimbabwe*, 2006) In South Africa, a handful of regional corporations and global commercial conglomerates own the print news media. Apart from the state-owned news agency, *The Bua News*, South Africa's print news media are in the hands of the private sector. (*Africa Media Barometer South Africa*, 2006)

In both Zambia and Zimbabwe, state-owned print news media have the widest circulation. However, they do not necessarily enjoy the highest readership. Overall, the region's economic climate is too harsh for entrepreneurial print news media. For example, most of the newspapers that came with the advent of economic and political liberalisation in the early 1990s have since folded - Malawi and Zambia's entrepreneurial media being the worst casualties, especially from the late 1990s to early 2000s. The remaining few privately-owned print news media that emerged from early to mid 2000s scarcely circulate beyond the urban centres of Zambia, Malawi and Zimbabwe and hence their rather exclusively 'elite-official' readership almost invariably in the English medium.

Overall, in the region, circulation and readership of print news media are limited to the urban and peri-urban centres, provincial municipalities and, to a small extent, large rural

towns. This limitation necessarily renders public debate on issues at stake in society a largely urban affair. For example, in Zambia, the targeted newspaper readers are in the cities of Lusaka, Kitwe, Ndola, Chingola, Kabwe, Mufulira and Luanshya and in provincial municipalities such as Livingstone, Kasama, Chipata, Chililabombwe, and Solwezi. (*African Media Barometer Zambia*, 2006) In Malawi, print news media's targeted readers are in the cities of Blantyre, Lilongwe, Mzuzu and Zomba. The media institutions compete fiercely for the few[35] urban-based newsreaders who can afford to buy the otherwise expensive copy of a daily and/or a weekly. (*African Media Barometer Malawi*, 2006, p.9) In Zimbabwe, the targeted readers are in the cities of Harare, Bulawayo and Chitungwiza, and in provincial municipalities such as Mutare, Gweru, Kwekwe, Kadoma, Masvingo, Chinhoyi and Marondera. (*African Media Barometer Zimbabwe*, 2006)

In South Africa, the targeted readers are in the cities of Cape Town, Durban, Johannesburg, Tshwane, East London and Port Elizabeth and in provincial municipalities such as Bloemfontein, Erkhululeni, Nelspruit, and Polokwane. (*All Media Products Survey* (AMPS),[36] 2005, cited in *African Media Barometer South Africa*, 2006, p.9) Print news media are not only inaccessible in rural areas but also unaffordable for most people there. Since rural areas have larger populations than the urban and peri-urban, the majority of the people in these four countries are not readers of print news media. Most rural areas have no information and communication technologies (ICTs); they have poor road, railway, marine and air travel infrastructure, and severely lack basic transport facilities.

[35] Like in all Southern African countries, Malawi's rural population is much higher than its urban population. The latter population is not only the more affluent but also the more literate than the former. The question of affluence is important because it speaks to issues of access to, affordability and ultimately readership of print news media. The issue of literacy is crucial because most of the print news media are in English, a medium of communication that excludes the bigger segment of the national population, which uses local languages such as Chichewa (in all of Malawi) and Tumbuka (in Central-north and a good part of North Malawi)

[36] The AMPS is a survey that measures consumer perception and media usage. It uses the South African Advertising Research Foundation (SAARF)'s Living Standards Measure (LSM) as a metric, which has become the most widely used marketing research tool in Southern Africa. It divides the population into eight LSM groups, 8 (highest) to 1 (lowest). LSM-7 and LSM-8 are divided into Low and High respectively. The SAARF LSM is a unique means of segmenting the South African market. It cuts across race and other outmoded techniques of categorizing people, and instead groups people according to their living standards using criteria such as degree of urbanization and ownership of cars and major appliances. See <http://www.capeargus.co.za/index.php?fSEctionId=378>. Retrieved in March 2007

As regards journalistic practice in the region, poor journalism training and inadequate leadership by newsroom managers compromise the media generally. (Berger, 2005) Few journalists, including editors, have a science education background, let alone journalism training in the basics of science communication. (Rollnick, 1998) Media institutions lack commitment to science and technology as a field of critical inquiry of significant public interest and public value, as evidenced by the virtual absence of science desks in most media institutions in the region. (Mwale, 2005) This problematic situation in journalistic practice is compounded by weak science and maths education systems in all of Southern Africa, [37] and, in general, by serious "skills lacunae" in the region's post-primary education graduates. (Berger, 2005) This results in the media's poor coverage of issues arising from science, especially the latest advances, which require good and firm grasp of basic scientific knowledge and information on the part of journalists as science news storywriters.

Concerning the media's freedoms and rights in the region, print news media operate in countries that can be considered as formally politically free. The region's democracies have constitutionally-guaranteed rights to the freedom of expression. However, in practice, freedom of the media is not fully guaranteed in any Southern African democracy. There are laws and statutes that the nation-states evoke to constrain the media in the region. (Banda, 2006) The traditional antagonism between the media and the state is evident in the region. In politically-repressive Zimbabwe, entrepreneurial media are the most constrained. (*Africa Media Barometer Zimbabwe*, 2006)

1.1 Research Orientation

This thesis is based on research undertaken as part of a major project housed at the University of the Witwatersrand entitled the Constitution of Public Intellectual Life. As this title suggests, a range of topics, approached from multiple perspectives and located in a number of disciplines, could have been, and were, done under this broad umbrella. Much of this research was concerned in some form or another with questions of debate -

[37] In the specific case of post-apartheid South Africa, development experts view the situation in its science and maths education as a "national crisis." Moreover, for the development experts, South Africa is battling with its historical past, as reflected in black South Africans' extremely poor performance in higher-grade science and maths in the first decade of democracy (1994-2004). (The Centre for Development and Enterprise , Research Report No. 13, November 2004)

a practice obviously central to any understanding of intellectual life especially as the concept of a democratic public sphere itself assumes debate as the vehicle for the contestation and articulation of ideas.

In the case of this research, a concern with debate was central and this explicit concern with debate suggests at once that the thesis draws albeit -although indirectly- on the very ancient tradition of rhetorical studies attributed to philosopher Aristotle. (See his *Rhetoric,* 2007) What is more Aristotle himself distinguished logical argument from rhetoric and demonstrated the dominance of the former in philosophical debate and the dominance of the latter in political communication. Bearing these two forms of debate in mind was useful here, because they highlight the fact that any project concerned with debate around science conducted in the public sphere must take both forms, and their relationship, into account.

While research in the classical rhetorical tradition was, in its early forms at least, concerned with identifying and evaluating the techniques used in dialogical, spoken face-to-face, political or philosophical debate, much contemporary research is crucially concerned with `media-mediated' debate. This research therefore draws on public sphere theory where the media are considered as the organ of the public sphere of democracy, if not the public sphere itself. (Habermas, 1989, 2006; Berger, 2005)

Because in modernity, and especially in post modernity, 'debate in public' occurs most often in mediated forms, research concerning debate in the political or scientific arenas can often be located in the established, but very broad, field of Media Studies. For example, in Southern Africa, debate in the media concerned with biotechnology provides a site for democratic public communication relating to science while addressing at the same time political and historical factors as they impact upon issues of development in a region that remains largely underdeveloped.

In addition to its obvious connections with rhetorical and media studies, research concerned with public debate has come to the fore in conjunction with a growing sense of

the importance of discourse - of what is sometimes called the `discursive turn'. This approach, based on the view that discourse in its many guises reproduces and often generates both power and knowledge in modernity, has had an important part to play in establishing the general orientation of the research undertaken here. However, research in this tradition is itself very wide ranging, encompassing two important trajectories - those associated with the name of Michel Foucault but also, as part of Media Studies, with Critical Discourse Analysis (CDA). This research, while it implicitly shares some of Foucault's understandings of the nature and function of discourse (*The orders of discourse, 1971)* has (as indicated at the end of Chapter 2) drawn on a number of ways of analyzing media texts closely associated with the discourse analytic tradition. As a result, the research focus here is on the discourse of debate itself – on what is actually said and how it is said – and overlaps in some respects with what is done in CDA.

However, in emphasizing the discourse analytic approach and its importance to this research, it is equally important to point out that the Media Studies research tradition also encompasses research which has much in common with classical social science or historical inquiry, that is, research concerned with the role of the media in society, the changing relationships between the media and the state, the structure and functioning of media institutions in particular contexts, the economic and professional factors influencing media functioning, and so on.

The extent to which the two traditions in Media Studies (namely, that which focuses on the *discourses* of the media and that which is concerned with the media as institutions in society) can be separated, is a matter for debate. In simple terms, the two traditions must be seen connected insofar as research into media texts can only be meaningfully conducted in light of an understanding of the contexts in which the texts themselves are embedded.

As has been indicated by the material presented in the chapter so far, the research undertaken here is based on a view, associated with some of the founding theorists in Critical Discourse Analysis such as Gunter Kress (1979) and Norman Fairclough(1995)

which holds that discourse must be understood in relation to various extra discursive formations. Fairclough, in particular, argues that text analysis cannot be separated from an understanding of the conditions of their production, an understanding which, in turn, requires social analysis.

As appropriate to this topic, the thesis pays particular attention to the question of the role of the media in the mediation of texts in a specific context of the Southern African postcolony, and distinguishes between various modes of that mediation, pointing, for example, to the relay-mode reporting (relay-mediation) as well as to 'active mediation'. In addition, the headings used in this chapter to this point, map the appropriate extra-discursive factors guiding the discourse analysis. There are headings such 'Africa and the global debates on GMOs and GM technology in agriculture, as well as those that indicate a concern with the `specificity of the Southern African region'.

The extent to which contextual research is undertaken in a particular research project relates to the nature of the debate itself and the texts that embody it, and the different roles the various media play in each case. Using texts produced in a particular context, the thesis looks closely at the operations of debate as a public communication practice in a particular postcolonial setting, a setting which generates a particular `research site' for identifying and studying a particular communication phenomenon that takes shape as the debate unfolds in the selected four countries of Southern Africa. The study identifies in the selected press texts, the communication phenomenon among other region-specific coverage features, looking at what it does or does not do to debate in its classical sense –. Importantly, the thesis reveals that the debate is actively convened by the press and research into the particular conditions in Southern Africa, allowed me to identify the conditions under which the media convened this particular debate and to reveal the effects of these conditions in the chosen texts.

This research, unlike that undertaken under the explicit rubric of CDA, is not directly concerned with uncovering of ideologies. It cannot distance itself from questions of ideology altogether because there are obviously ideological positions that play a part in

determining some of the important features of the GM maize debate. Some of the most distinctive features of the regional debate are historical and ideological, for example, the Zambian state's rejection of the offered GM maize amidst the famine was based on the state's suspicion of Western science. The western donors' insistence that the loans given to hunger-stricken countries were to be used by the UN WFP and FAO to procure (GM) maize only from the USA was based on their perception of 'corrupt' Southern African governments. In turn, the reluctance of Malawi and Zimbabwe to accept the offer of GM maize was based on mistrust of Western capital associated with the colonial period.

Overall, my exploration of the extra-discursive factors that played a part in producing the particular forms and features of the debates in each country, are important but are not themselves used to mount the argument – they are there to guide the analysis and that the claims made for the thesis are based primarily on the textual evidence presented in the chosen Case Studies. The Case Studies themselves include, of course, a number of contextual features, such as the legal, political or historical conditions under which the press functions in the particular countries. The cases also obviously refer to the extent and nature of the hunger in each case. The Case Studies require contextual information that is, research over and above the analysis of the mediated discourse in each instance, but this contextual material is presented in the interests of the selection and, subsequently, the analysis of the relevant press coverage. Crucially, however, it is the media texts themselves that support the main finding or argument of the thesis, and, in this, the research reveals its connection with the discourse analytic tradition in Media Studies. It follows from this orientation that the thesis is a focussed, highly detailed analysis of a select group of texts.

While the Case Studies require contextualisation, what this thesis does not set out to do is provide a political economy analysis of either the dynamics of the debate in the media and beyond, or the struggle in society over the use of GM technology in agriculture. The object of study is limited to an analysis of the shape, lineaments and operations of the regional debate.

1.2 Research question

This thesis is interested in the question of how debate centred on GM foods is conducted in a specific context, the Southern African postcolonies. Secondly, the thesis is interested within that specificity, not simply to delimit the specificity, but also to contribute to an understanding of public debate on biotechnology more generally, especially, how science as expert knowledge, politics, and history engage with each other. Thirdly, the thesis is specifically interested in the role of the media in all of this - how debate is handled in and by the media and how public critical engagement on science works in practice, bearing in mind the science-politics-history nexus in the regional debate. Therefore, this thesis examines the dynamics of debate around GM foods in one particular region of Africa, in order to explore the significance for public debate, and more specifically debate arising from science and technology, of the specific conditions that prevail in parts of Africa for debate handled by the news media. More specifically, it explores the shape, lineaments and operations of the debate as it appears in print news media in the region. It investigates the form and formats of the debate as it appeared in the media. It also investigates the issues at stake and the voices in the regional debate. Finally, it reflects on what this inquiry into a particular public debate tells us about the nature and form of the national public spheres in Southern Africa, their interconnectedness, or otherwise, with one another, and with the rest of the world.

Consequently, at a much higher level of critical inquiry, the study is an attempt at addressing the question of forms and modes of public address and interaction, how people communicate with each other in the imagined public spheres of popular democracy of Southern Africa. Thus, a framing question of the thesis is: what does public debate look like in the Southern African region? The parameters of the question consist of *the media* and *GM foods*. The study looks at the debate that happened only in the media. It also looks at the debate only on GM foods, GM maize in particular, as an aspect of the science and technology of GM technology in agriculture. Specifically, the study examines the role of the media in how they handled the regional debate on science, how the media handled the complexity of the issues and the multiplicity of the voices raised in the debate, and, overall, what shape and direction the debate took in the media.

Therefore, the study explores, describes and analyses the debate as it appeared in the media in four Southern African countries, Zambia, Malawi, Zimbabwe and South Africa. In an attempt to understand better the shape of the regional debate, the study looks at how the debate emerged and evolved, fully cognizant of the complexity of the issues, the multiplicity of the voices, and of the region-specific science-politics-history nexus.

1.3 Rationale

Inasmuch as biotechnology has a potential to improve the quality of human life, it is controversial in public domains.[38] As a science, biotechnology is fraught with problems. The results of bad biotechnological innovations can be seriously harmful and sometimes catastrophic for human life in particular and living things in general. Biotechnology raises difficult questions worldwide, triggering public debate.

In Africa, it is not clear how debate on biotechnology works in practice. Little, or nothing, is known about the forms and formats as well as the issues and voices in the debate on the continent. The shape of the debate on biotechnology is not known in Africa. Debate on biotechnology and its most notable products in Africa has particularities that distinguish it from similar debates in the rest of the world. By debate, I refer to argument as in the western philosophical discipline of Logic in which there are two parties. The one party – the arguer - posits a statement called a claim or conclusion. The party defends the claim with evidence or supporting statements called premises. The other party – the counter arguer or respondent - attempts to undermine the claim of the arguer by proffering premises that have the overall effect of rendering the evidence or supporting statements of the arguer questionable, or weak. The counter arguer aims at demonstrating either the validity (if the argument is *deductive*[39]) or weakness (lack of cogency) (if the argument is *non-deductive*, for example, *inductive argument* that is traditionally probabilistic) of the argument of the arguer. Debate as argumentation is meant to engage critically with the complexity of given issues; both parties being

[38] In its biennial report of 2004, the National Science Board of the United States says, "Technologies based on genetic engineering are controversial." (National Science Board report, 2004, p. 222). See also Bauer and Gaskell, 2002; Edwards, 2004, p.266

[39] See *Chapter* 2 below for a detailed discussion of *argument* and its delineations

committed to probing beneath the surface, and pursuing the issues all the way down to their logical conclusion. Rendered as such, some, not all, *controversies* could have manifestations of debate. In other words, debate can be seen as a type, or subset, of controversy. (See Horst, 2005)

The dynamics of public debate on GM maize in Southern Africa require research. In Southern Africa in particular, where chronic hunger and massive poverty abound, and where it looks as though GM cropping could be the panacea for these two interrelated socio-economic ills,[40] there is need to know more about the specific shape, lineaments and operations of debate on such science and technology. The region has youthful, and, for South Africa, infant, democracies, which presuppose forms of public deliberation, such as debate centred on GM foods, by the people on issues at stake.

Concerning method, I explore debate and not controversy *per se*; thus, the thesis focuses on and is committed to the exploration of debate. The focus on debate is motivated by the role that debate is imagined to play in the operation of democracy. Debate and public deliberation are considered vital to the functioning of a democracy.[41] This then is a study of the dynamics of debate on GM foods, as an example of controversy on biotechnology. It is a study of the public communication practice of debate in the media, as a genre of public deliberation in the imagined democratic public spheres, in this particular part of Africa. Moreover, within the profession of news journalism, there is a "public interest" stake in "debate" handled in and by the media. The idea of public interest is invoked in the legitimisation of journalistic practice in which journalists imagine not only 'publics' being constituted around issues at stake in society but also imagine themselves as 'special citizens,' for example, bearing particular public communication responsibilities as well as rights and freedoms, especially in public spheres of youthful and infant democracies. Within the Habermasian *oeuvre* of public sphere theories, a public communication practice is a publicly-mediated address and interaction, which has particular forms and modes. While democracy means different things to different people, and its renderings

[40] For Thomson, "Access to this technology will be the salvation of the poor ... GM crops could reduce dependence on both these requirements, so that farmers would need to purchase seeds only." (Thomson, 2002, p.159)
[41] For example, Athenian democracy, which is historically the earliest form of democratic politics, was invested significantly in public debate in the city-state's general assembly

vary from place to place, from time to time, the western "modern" idea of democracy evolved out of the European Enlightenment conviction that the people are capable of deliberating, deciding and choosing their courses of action based on knowledge through full access to information. The principle of public deliberation was established in 18th century Europe and Great Britain; that society-wide political and economic arrangements, policies, laws, activities, and programs – in short, social changes - were to be the outcome of the ratiocination and surveillance of the autonomous critical thought of the people engaged in public reasoning. (See Nupen, 1988, p.41)

One form of public reasoning is public opinion. Science and technology should be open to the scrutiny of public opinion because it has public value and a public interest stake in it, and more importantly because it has the potential to contribute to human, social and community progress. The public value of science lies in its promise to contribute to progress. However, if not properly handled, science and technology can do serious harm to human life and other life forms. There is a public interest stake in science and technology because most science projects in the region are funded by the public sector, and hence the political imperative to subject science and technology to the scrutiny and judgement of public opinion. In other words, society holds hopes, fears, anxieties and suspicions about the results of scientific and technological advancement. Of the many issues, which science and technology raises, and which enter into public deliberation, those of biotechnology - its nature, significance and consequences - are among the most controversial. Thus, science and technology should be amenable to public scrutiny and judgement through debate. However, the conditions for public debate on GM technology are fragile in these Southern African countries. The conditions include resource-poor media, poor education, low literacy levels, poor scientific research capacity and infrastructure, low scientific and technological bases, poor ICTs, and youthful, infant and oft-fragile democracies.

Broadly, as a study of public communication practice, using news media texts on GM maize, this study opens up a way for our understanding better what the dynamics of public debate on biotechnology are. Specifically, as a study of the shape of debate in the

media, it enables us to develop an improved understanding on how people communicate with each other about science and technology in the public spheres of democracy. The shape of the regional debate and the issues driving its dynamics are potentially interesting.

This study is based on texts: print news media texts. All the print news media texts used in this study are also web-based and so they are online versions of news stories that originally appeared in print. Print news media occupy a central place, and play a crucial role, in democracy especially where there is relatively low access to exclusively web-based media. Together, print news and other media can be seen as the public sphere, or an important organ of the public sphere. (Habermas, 1989[1962]) The media are an integral component of a democracy that is considered as ideally healthy. Importantly, the media report and represent issues at stake in society. More importantly, the media educate the people about complex issues.[42] Most importantly, within journalistic practice, the media are expected to be facilitators of public deliberation in general as well as provocateurs of public debate in particular. (See Berger, 2005) In other words, professionally, journalists are expected to probe issues beneath the surface. Democracy requires vibrant media. In this study, the other media (for example, science magazines and exclusively web-based science news media) are important specifically because they present a variety of perspectives on the regional debate on GM maize. Overall, in this study, the media are important because they both capture the debate, and indeed, constitute it in a particular form.

The four cases[43]

Zambia, Malawi and Zimbabwe, all of them having formal arrangements that presuppose fully democratic public spheres, and Anglophone, were some of the six Southern African countries that experienced serious food shortages in 2002. The others were Angola,

[42] For example, for DeSilva *et al* (2004), "The print media are important vehicles for communicating information about health risks because people formulate their impressions of risks based on media reports and because the media are the most economical vehicle for risk education."(DeSilva *et al*, 2004, p.32)

[43] In terms of order of discussion under the Rationale of the study, the discussion begins with Zambia, moves on to Malawi and Zimbabwe, ending with South Africa. The order of discussion of the countries takes into cognizance the fact that debate was triggered by Zambia's unambiguous rejection of the UN WFP's offer of the US-produced GM maize. Malawi and Zimbabwe followed suit to reject the offer, but eventually accepted the GM maize on condition it was milled before distributing it to their people. South Africa was drawn into the regional debate from the beginning. The entire study follows this order, in terms of countries

Mozambique, and Swaziland. Angola and Mozambique, youthful democracies recovering from protracted civil wars, both of them Lusophone, resisted the UN WFP's offer of GM maize, but they are not part of this study. Language imposed a methodological limitation on the study in that the researcher is Anglophone.

Swaziland, an Anglophone country, accepted the offer unconditionally. Swaziland did not participate in the regional debate. The same holds for Lesotho, [44] an Anglophone country too. Crucially, though Anglophone and hunger-threatened in 2001/2002, Swaziland and Lesotho have been excluded from the study because they are monarchies and do not have fully democratic public sphere arrangements. South Africa, a democracy, also significantly Anglophone, but not hunger-threatened during that season, has been included in the study because it has fully democratic public sphere arrangements and it was the "epicentre"[45] of the regional debate. Since the late 1990s, the status and role of biotechnology for smallholder agriculture has been "the subject of much debate in South Africa and the SADC region as a whole." (Keetch *et al*, 2005) The media in these countries are in English, apart from a few vernacular community media whose circulation and readership are limited to rural areas. This study is based on media texts in English. Thus, methodologically, apart from 'debate' and 'hunger' being the definitive markers of the cases, language plays a crucial (limiting) role.

There is a range of differences between the four countries in this study. Zambia has vast resources of highly fertile land and large water reserves, and so it has great potential for robust agricultural production, especially staple food cropping. Yet, Zambia's economy

[44] To a degree, Lesotho, an Anglophone country, was hunger-threatened and it needed relief maize too. However, like in Swaziland, there was no debate on GM maize in Lesotho. Both Swaziland and Lesotho had "no formal stand on GM" and so GM maize was "freely distributed" in the two Southern African kingdoms. (*The Guardian (UK)*, October 17, 2002)

[45] South Africa was the first Southern African country to conduct experiments on GM cropping in 1997. GM crops, such as GM cotton, have been grown commercially in South Africa since 1997. The South African state gave its approval for commercial activities on GM maize cropping in 1998. A year later, in 1999 South African parliament passed the GMO Act. The South African National Biosafety Move was published in 2001. Futhi, a much-improved South African dairy cow, was the first higher mammal to be cloned on the African continent in 2003. South Africa is currently engaged in innovative research on human migration patterns based on tracking of mitochondrial deoxyribonucleic acid (mDNA). Impressive as these policy and practical strides the country has taken into the new biotechnology might look, the issues which biotechnology raises are knotty and sticky, and have led to profound and persistent disagreements in South Africa's public domains since the commercialisation of GM crops in 1998. Since then, South Africa has found itself at the centre of intense and deep controversies surrounding GM cropping; stem cell research; cloning; antiretroviral (arv) drugs, among others--providing a regional platform for public debates on conflictual scientific issues that originated outside Africa. South Africa is, inescapably, the epicentre of public debate on GM technology. For Van der Walt, because of its leading position in science and technology in Southern Africa, South Africa "has become the primary biotechnological battleground in Africa." (Van der Walt, 2000, p.35)

is not agriculture-oriented. Zambia is reliant on copper. The volatility and instability of the price of copper on the world markets has placed Zambia in a precarious economic position since gaining political independence in 1964. Beginning from the early 1970s, when the price of copper fell to an all-time low on the world markets, Zambia has not experienced any sustained economic growth. Its economy fluctuates dangerously. Hence, Zambia experiences economic booms and busts, whose overall effect is poor economic growth.

At present, copper production is on the increase, due to a renewed interest in copper on the world markets. Nevertheless, given the protracted period of poor economic growth, a situation exacerbated by the economic slowdown due to the stranglehold of the neo-liberal agenda's SAPs, especially from the 1980s to the early 1990s, the apparent recovery of the copper mining industry cannot be taken as a sign of the full recovery of the ailing economy. The economic and political liberalisation of the early 1990s, which saw Zambia shift from the single-party to a multi-party political system, has done little to rehabilitate the Zambian economy. That is, economic liberalisation has not led to the diversification of the economy from copper mining to other similarly competitive but less precarious economic activities.

Practical and economically, copper and maize have been linked inextricably to the idea of the economic progress of Zambia since the colonial era. Copper mining has served as the ideal propeller of economic growth and the sole source of industrial wage labour. Complementarily, for its part, maize has served as the staple food to feed the ever-growing urban population of copper mine labourers. Hitherto, as an auxiliary to copper, maize has received little attention from the Zambian agricultural experts, policy-makers and state leaders. Only in moments of famine has maize received some attention from the Zambian elite-officials, mere knee-jerk reactions triggered by serious shortages of maize in the country. Yet, maize remains the staple food for Zambians - rich and poor, rural- and urban-based. At present, it appears maize is the only solution to hunger in Zambia. Some say that Zambian elite-officials' efforts at diversifying from maize to other food crops such as cassava, as an alternative or supplement to maize, have hitherto proved

futile. (Sitko, 2008, pp.3-4) This is in spite of the fact that maize is a highly drought-prone cereal. Others are optimistic that even if it were 'genetically 'manipulated,' GM maize would bail Zambia out of chronic hunger. (Mumba, 2002) For them, Zambia cannot afford to ignore GM cropping. Thus, Zambia must grapple with the controversial science and technology.

Like that of Zambia, Malawi's economy still echoes its colonial economy. It is agriculture-oriented and geared towards supplying unprocessed farm products - farm produce and related raw materials - to the métropole. For Adedeji (1984), in the clauses of the Federation of Rhodesia and Nyasaland (1953-1963), the federated colony of Nyasaland was for its part designed, and hence ill fated, to be a reserve labour camp for the colonial federation's cheap labour at a minimal cost to the colonisers and readily deployable to the various sites of the colonial federation's industrial-economic hubs. The hubs of federated-colonial capitalism were primarily the white-settler minority's farms and mines in Southern Rhodesia (Zimbabwe) and the colonisers' copper mines in Northern Rhodesia (Zambia). Nyasaland's other fate was that all its arable land was going to be turned into white-settler minority's estates and plantations for cash crops, mainly tobacco, tea, sugarcane, coffee, cotton, macadamia nuts, and Tung oil.

Political independence remedied only the former fate but only in principle. In practice, after 1964, Malawians continued to emigrate to Zambia and Zimbabwe to sell their labour in the mines, farms and manufacturing and industrial sectors of colonial capital. As for the latter fate, after 1964, a vast amount of Malawi's arable land remained in the hands of the former colonisers, as estate and plantation owners. (Adedeji in Crowder, 1984) In the post-independence period, the colonial estate and plantation owners metamorphosed into foreign investors, re-appearing in new guises as benevolent business collaborators of the African native leaders, the new political elite. Thus, in form, structure and function, the nationalist state was nothing but its colonial predecessor. The structures of the state apparatus and government bureaucracy remained British in important respects.

The African native leadership turned out to be just as abusive and exploitative of resources and as repressive of the people as the colonisers had been. The repressed native population became silent, timid and submissive subjects of the emergent totalitarian regime. The nationalist regime was not democratic and therefore did not allow for the emergence of fully democratic public sphere arrangements. The 'talking citizen' was non-existent in the aftermath of the nationalist anti-colonial struggle. The struggle gave birth to the 'voter-citizen,' who was nothing but the conformist to and endorser of the *status quo*, the Malawi Congress Party (MCP) regime led by Dr. Hastings Kamuzu Banda.[46] In other words, the 'subject' of colonial Nyasaland did not make any transformative transition to 'democratic citizen' in politically-independent Malawi in the Banda era (1963-1994). Thus, fully denied and hence innocent of substantive practical and economic transformation, politically-independent Malawi severely lacked favourable conditions for fully democratic public sphere arrangements, especially for the formation of public opinion through debate in open and free deliberative forums, let alone the news media.

Moreover, since political freedoms are correlative with socio-economic freedoms –and both of these are illusory-, it is not surprising that Malawi's economic production is uncompetitive because it remains substantially untransformed to date. Largely dependent on loans from International Financing Institutions (IFIs) such as the African Development Bank and from global financiers such as the World Bank and the IMF, Malawi's economy remains weak and fragile. Even if agriculture is the mainstay of the economy, its agricultural production is largely subsistence and hence limited to food security-averting hunger. Agriculture, as an economic sector, is and has always been unstable in Malawi. For example, in the late 1970s, Malawi registered positive agricultural growth in both food and cash cropping but in the 1980s, its agriculture began to decline with the advent of the SAPs. However, perhaps due to the global winds of economic and political liberalization in the early 1990s, Malawi began to register positive growth in agriculture,[47] so far the highest agricultural growth rate among the four

[46] It is doubtful that the talking citizen can be sighted in multiparty Malawi, in either Eleson Bakili Muluzi-led United Democratic Front (UDF) regime (1994-2004) or in Dr. Bingu wa Mutharika-led Democratic Progressive Party (DPP) regime (2004-2014)
[47] This trend was disturbed for a short while during the famine of 2002

countries in this study. Tobacco is the country's major cash crop for export[48] but the price of the tobacco leaf fluctuates dangerously every year at the tobacco auction floors, putting the small-scale tobacco farmer in a precarious economic position.

The cash crop-oriented, agronomic agriculture, mainly due to its narrow focus on tobacco, continues to put Malawi at great risk of chronic hunger, due to the persistent shortage of maize, the staple food. Maize has not begun to make a transition from agrarian, subsistence farming to capital-intensive, mechanised and highly productive farming. Cash crops such as tobacco, tea, coffee and cotton are the only ones that have begun to make the transition. Even then, these cash crops mirror colonial agriculture because they are grown at the service of the markets overseas. Beholden as they are to foreign economies, Malawi's tobacco estates and tea and coffee plantations deepen the hunger and poverty of the labourers, the petty wage earners. Thus, the debate on GM maize emerged in a Malawian context that necessarily had to grapple with the science and technology, putting under scrutiny its potential benefits and risks.

Zimbabwe experienced relative economic growth soon after gaining political independence. Its economy was healthy and relatively stable and its agricultural sector showed steady growth. In the first decade of political independence (1980-1990), Zimbabwe's agricultural production registered positive growth. During that period, Zimbabwe was reportedly a more than just food-secure[49] country; it had a good reputation of being Southern Africa's "breadbasket." (See *The Moscow Times,* July 2, 2002) Thus, Zimbabwe was able to export its food surpluses to the region and to places as far away as Ethiopia in North Africa. In spite of this, by the end of the first two decades of its political independence (1980-2000), the agricultural economy of Zimbabwe was still reflecting closely the racial divide in the country.

[48] Tobacco accounts for about 63% of Malawi's total export earnings. (*Africa Economic Outlook*, 2007, p.332)
[49] For example, Mudimu *et al* (2002) argue, "The ministry of agriculture had adequate organisational capacity to develop and implement moves in food security." (Mudimu *et al*, 2002, p.6)

Until 2000, there was, on the one hand, large-scale commercial farming, largely by the white-settler minority, oriented towards export markets overseas,[50] and, on the other hand, subsistence and small-scale farming, largely by poor, indigenous Zimbabweans, which was predominantly subsistent. Around 1999, it seemed time had come for the ZANU-PF regime to rectify this colonial legacy, a gross practical and economic injustice. Land redistribution was the next necessary step for the ZANU-PF, led by State President Robert Mugabe. Zimbabwe's April 2000 legislation, an amendment of the Land Acquisition Act (1992), which in 1998 translated, in practice, into the Land Reform and Resettlement Program,[51] led to the redistribution of the farmland of many white-settler farmers. This rather radical move provoked harsh criticism from the West, especially from Great Britain and the US who condemned the program as "the land seizures," echoing the cry of the disaffected white-settler minority and its sympathetic audiences across the region. Consequently, many western states imposed political and economic sanctions and trade embargoes on Zimbabwe and some even cut off diplomatic ties. The infuriated ZANU-PF regime became more defensive against, and more arrogant to, external criticism. It turned its wrath on its own people and began to repress viciously any internal voices of protest and dissent. The Movement for Democratic Change (MDC),[52] the main political opposition, became the chief target for the wrath of the ZANU-PF regime.

Entrepreneurial media were not spared the wrath of the repressive regime. Inevitably, some entrepreneurial newspapers had to close shop. Ultimately, the economy virtually

[50] Namely, tobacco, fruit, beef, wheat, sunflower, and cotton. (See Mudimu *et al*, 2002)

[51] This program was begun in 1992, on a "willing seller willing buyer" basis, which never materialised, partly because Zimbabwe's former coloniser, Great Britain, which had pledged to help fund the land reform process at the Lancaster House Agreement in 1979, did not honour its pledge and partly because there were few or no willing sellers among the 4500 white-settler farmers, for example, by 2000. In 1998, the Land Reform and Resettlement Program, as a policy framework, envisaged compulsory purchase over five years of 50,000 km² from the 112,000 km² owned by commercial farmers (both black and white), state corporations, religious organizations, nongovernmental organizations and multinational companies

[52] The Movement for Democratic Change was founded in 1999 as an opposition party to the ZANU-PF party. The MDC was formed from a coalition of the Zimbabwe Congress of Trade Unions , broad coalition of civic society groups and individuals that campaigned for a "No" vote in the 2000 constitutional referendum. The MDC split into two factions soon after the 2005 Senate election. Morgan Tsvangirai heads the one faction, and Arthur Mutambara heads the other. For the sake of the March 2008 election, the two factions united and allegedly won a combined majority in the March 2008 parliamentary election and announced that they were reuniting in April 2008. As for the presidential candidacy, Tsvangirai allegedly beat Mugabe in the March 2008 General Election, but without achieving an outright majority vote to unseat the octogenarian state leader who has held the gavel for about 30 years. The two MDC factions boycotted the June 27, 2008 rerun in which Mugabe featured as the lone presidential candidate. Following talks of a government of national unity (GNU), ZANU-PF and MDC are in a power-sharing deal reminiscent of that of Kenya (after the violence-marred December 2007 General Elections). South Africa facilitated Zimbabwe's GNU talks. Zimbabwe has a GNU whereby Tsvangirai is Prime Minister, second in command to President Mugabe

sank. Around 2000, the emigration of Zimbabweans to neighbouring countries as asylum seekers, mainly for practical and economic reasons, began. The mid 2000s have seen South Africa, and to some extent Botswana, bearing quite heavy burdens of Zimbabwean asylum seekers, fleeing from economic hardship and political repression.

Although Zimbabwe had experienced food deficits several times in the past due to famine, especially during the second decade of its political independence (1990-2000), the famine of 2002 was the most severe. This famine was a culmination of several outstanding, compounded economic problems, especially in the agricultural sector, the mainstay of the Zimbabwean economy. Prior to 2002, Zimbabwe did not have any clear agricultural policy, in spite of its claim to having a food security strategy, at least on paper.[53] State leadership had been reactionary, resorting to *ad hoc* food security measures, in times of prolonged drought.[54] In Zimbabwe, the media debate centred on GM maize emerged in a politically- volcanic terrain. The terrain of the debate was marked by massive hunger, fast-deteriorating agronomic agriculture, rising tension and conflict between the two inimical political parties as evidenced by the gladiatorial domestic politics and mounting international criticism of the ZANU-PF regime and State President Mugabe. It transpires that Zimbabwe has the weakest formal arrangements for the possibility of a fully democratic public sphere in the region.

South Africa is the largest economy in Africa and it has three main economic activities, manufacturing, mining and agriculture, in that order. Its agricultural output has more or less kept pace with its population growth. In normal seasons, the country is a net exporter of staple foods including maize. However, in years of drought the country imports grain – maize, rice and wheat. The agricultural sector is highly diversified and the main crops are maize, sugar, cotton, fruit, sorghum, wheat, groundnuts and sunflower seed. Most kinds of livestock farming are practised. In the south-western Cape, viticulture has always been predominant. In the savannah regions, game farming has grown extensively, especially from the 1980s, to become a viable industry with high

[53] At the 2002 UN FAO World Summit, the state presented the Zimbabwe Food Security and Move. (See Mudimu *et al*, 2002)
[54] In spite of policy and strategy gaps, Zimbabwe had coped well with previous droughts such as the droughts of 1982, 1987, and 1992. (Mudimu *et al*, 2002)

economic potential.[55] However, at the same time, due to its apartheid past, South Africa is one of the most socio-economically unequal countries on the continent. Like Zimbabwe, South Africa's main challenge is the historical socio-economic inequalities between the largely affluent white-settler minority and the largely impoverished indigenous South African majority. Although its agricultural production is low and slow, South Africa is in most years a net exporter of farm produce and products, wine, fruit and wool being the major exports. South Africa produces the largest amount of maize in the region. Some of the maize is for export into the region and the bulk of it is for local consumption.[56] The largest area of farmland is planted with maize, making maize the largest locally-produced staple food crop.[57]

During the regional famine, South Africa was food secure but its challenge was the ever-increasing food prices; GM foods were feared widely to exacerbate the problem. The fear was that the indigenous South Africans would be hit hard by the ever-rising food prices and GM maize cropping, being the monopoly of white-settler farmers, was not going to improve the situation for the country's socio-demographic majority. Thus, the debate on GM maize in South Africa partly raises the question of whether GM maize can help alleviate the economic pressure from the majority of South Africans. Food-secure South Africa was drawn into the debate for a number of reasons, chief of which are as follows. At the time of the regional famine, South Africa was the only Southern African country that had adopted GM cropping. It had been growing GM crops since the late 1990s. Only South Africa had biotechnology and biosafety policy in the region, the South African GMO Act (1997; amended in 1999). Moreover, Durban was the port of entry for the maize that was offered to the famine-stricken region.

South Africa plays a leading role in biotechnology. It has found itself at the centre of the controversy surrounding GM cropping, providing a regional platform for public debates that originated outside Africa. South Africa is, inescapably, the epicentre of public debate on GM technology in agriculture. For Van der Walt (2000), because of its leading

[55] See *Africa A-Z: Continental and Country Profiles*, 1998, p. 320
[56] South Africa's maize production is estimated at 9 million metric tons, of which over 80% is consumed locally. (See *UNDP Human Development Report*, 2006)
[57] See < http://www.southafrica.co.za/agriculture_29.html>. Retrieved in December 2007

position in science and technology in Southern Africa, South Africa "has become the primary biotechnological battleground in Africa." (Van der Walt, 2000, p.35) As the regional leader in biotechnological innovations, South Africa also becomes the crucible for testing new models of global agricultural economics as well as the initial market for biotech multinationals' ventures into agricultural biotechnology in Southern Africa and the rest of Africa. It was the first Southern African country to conduct experiments on GM crops, maize, cotton, and Soybeans in 1997. Commercial farmers began to grow GM yellow maize, for animal fodder, in the 1998/1999 farming season and GM white maize, grown specifically for human consumption, was introduced into the human food chain in 2002.

Maize in general and GM maize in particular

Maize is the main staple food of Southern Africans. Originally a Mesoamerican staple food crop, maize was introduced in Africa by Portuguese slave traders at the beginning of the sixteenth century. As food for slaves on Portuguese slave ships, maize was ideal food for slaves in transit, across the Atlantic, because its grain has a hard outer shell, able to withstand long storage periods without losing nutritional value or decaying. Maize also has low water content, containing more calories per kilogram than many other crops, such as cassava. Thus, it was relatively easy for the European slave traders to ship large quantities of maize in small spaces on long journeys. Maize spread gradually into the interior of Africa; it was already a well-established staple food crop in Southern Africa long before the British exploration, and colonisation of the region began in the nineteenth century. (Sitko, 2008, p.4) At present, South Africa produces the largest amount of maize, over 80% of which is consumed locally.

None of the other three countries produces enough maize for local consumption. Their food insecurity arises not only from both low production-capacity but also from ineffective storage facilities and poor distribution mechanisms of the harvested maize. The success, or failure, of maize production, in all the four countries, is crucial for food

security in the region. Further, maize production is central to the region's economies.[58] The case of GM maize raises difficult questions around the 'politics of food and hunger' in particular and the 'politics of poverty' in general. It is about the preservation of human life itself - people's physical survival and subsistence, maize being the staple food of Southern Africans. The region continues to experience serious food shortages, mainly due to poor agricultural-economic policies, a situation compromised further by climate change, leading to persistent drought in some areas and to floods and cyclones in others, especially since the early 1990s. For some thinkers, [59] GM maize promises to alleviate hunger and thus prevent diseases attributable to poor nutrition, especially among the most vulnerable members of society such as infants and young children, orphans, rural breastfeeding mothers, the terminally ill, and the aged.

Therefore, this study is about the specific conditions of public debate as a genre of public deliberation in the media in a particular region of the world, the Southern African postcolonies. It delimits the regional specificity, looking closely at the shape, lineaments and operations of debate on GM foods and crops, specifically the dynamics of debate in the media centred on GM maize. Other than delimiting the specificity, the study examines the potential of the media to constitute spaces for public deliberation, the presupposition being the full and active participation of 'the people' in deliberation in the imagined democratic public spheres of the region.

1.4 Outline of the structure of the rest of the study

In *Chapter 2*, I present the research method – the collection criteria for the research material, preliminary analysis, heuristic devices or tools, and derivation of rhetorical moves made in the communication exchanges in the regional debate. It was during the preliminary analysis that I found that the Southern African debate centred on GM maize had two periods – pre-2002 *and* 2002 and afterwards. Periodisation was a preliminary finding that determined the method of the study. The specific character, the key issues and voices of the regional debate are identified in the four national debates, the research

[58] For some economic analysts in Africa, maize production has "a major impact on the overall economic performance" of the entire region. It is certainly at the heart of Malawi's economy. (*Africa Economic Outlook*, 2007)
[59] See Professor Jennifer A. Thomson (2002) in South Africa and Dr. Luke Mumba (2002) in Zambia

material of which is presented in Part 2 of the study, *Chapter 3* to *6*. Part 2 is a description of the rhetoric of the national debates, in the media, where I identified and named the rhetorical moves made in the communication exchanges. As I was looking for the rhetorical moves in the national debates, I found in all the four cases that, due to the rhetorical moves made, there was slippage in the communication exchanges; during these instances, issues were not engaged; neither were issues probed beneath the surface nor pursued to their logical conclusion in the national debates. I also found moments of engagement as in 'real' debate or debate-like exchange as well as the energy and vitality of the political, coverage features that are not the slippage. In this study, by the energy and vitality of the political is implied a particular moment in the coverage of the debate when the political is dominating. It also implies the political forcing its way into an apparent scientific controversy, rendering the coverage of the debate lively, insofar as there is an active and overt expression of a particular legacy anxiety about the science grounded in, informed, and driven by the region's specific historical-political circumstances.

Part 3 of the study comprises two chapters. In *Chapter 7*, I designate the combined and complex effects of the moves and the slippage as well as moments of engagement and the energy and vitality of the political as 'babelisation'– a cacophony of voices in discord in which people talk past each other reminiscent of the biblical Tower of Babel. In this study, babelisation is a distinctive feature of the regional debate. Thus, *Chapter* 7 presents babelisation as the rhetoric of the debate, which ultimately gives the debate a very particular angle and a special and exceptional shape. Finally, *Chapter 8* proffers the conclusion of the study, its overarching argument.

CHAPTER 2 RESEARCH METHOD

2.0 Introduction

Chapter 2 presents the method of the study. The chapter is divided into four sections as follows: Section 2.0 introduces subsequent sections of the chapter. Section 2.1 discusses the selection criteria applied to the texts chosen for the study. It describes what determined the text selection in each of the four cases of the study. Section 2.2 proffers a preliminary analysis, which helps to establish the events that led to the regional debate and the periodisation of the two phases of the debate (pre-2002 *and* 2002 and afterwards). It establishes that three events, viz. the 2002 famine in the Southern African region, Zambia's unambiguous rejection of the UN WFP's offer of the US-produced GM maize as relief food in 2002, and the 2002 Johannesburg Earth Summit in South Africa, provide important pieces of evidence as to what triggered the regional debate. These three events, especially Zambia's rejection of the world body's offer of relief food and the Earth Summit, provided arenas for public debate around GM maize in particular and GMOs, GM foods and crops in general in the region. As an episode in the regional debate, the Earth Summit precipitated the issues raised in the four national debates explored by this research. The Earth Summit also operated as a threshold of the regional debate in the sense that by highlighting the junior status and peripheral position of African economies in the global economy, as is reflected in the sustainable human development discourse, it provided an entry into discussion of political concerns that Southern Africans have in relation to GM technology in agriculture.

Section 2.3 outlines the second level of analysis focusing on the media texts themselves. It provides a more detailed account of the form of textual analysis undertaken in order to reveal the way in which the debate unfolded. While this approach to the analysis of the texts draws on reading in both the rhetorical and discourse analytic traditions, the framework itself and the terminology used to identify its distinctive features, is original and could be describe as a research finding.

Finally, Section 2.4 identifies and describes the rhetorical moves used in the regional debate. The term 'rhetorical move' is used in an attempt to acknowledge the role applied rhetorical studies played in the research and to retain the sense that the object of investigation is debate The section also gives selected examples of the rhetorical moves at work across the four cases that constitute the main body of the research. The four rhetorical moves are characterized as 'reframing,' 'sidestepping,' 'telescoping,' and 'silencing.'

2.1 Criteria for selecting the research material

The criteria used to select the research material relate to the selection of the four cases, the criteria used to select the particular media texts, the period of coverage of the debate under study, and a description of what determined the selection of the chosen texts.

Selecting the four Southern African countries

The criterion for the selection of the four Southern African countries appears mainly in the rationale section of *Chapter* 1 above. Zambia, Malawi and Zimbabwe were some of the six Southern African countries, which experienced chronic hunger in the 2001/2002 season. The chronic hunger became a regional famine in 2002. Zambia's unambiguous rejection of the offer of GM maize triggered a regional debate centred on GM maize. In spite of being food secure then, South Africa was at the centre of the debate, having singularly begun growing GM maize in the late 1990s. South Africa also hosted the Johannesburg Earth Summit in 2002. The Earth Summit was in essence a global arena for public debate on GMOs and things biotechnological and their imagined overall impact on sustainable human development in the poorer parts of the globe, throwing into sharp relief global economic inequality and injustice in particular and global poverty in general. All the four countries are Anglophone and so the media in these countries are predominantly in the English language. English being my medium of communication and instruction I went for media texts in English.

Period of media coverage of the regional debate

In Africa, media coverage of the debate around GMOs began in the early 1990s, and it continues to date. Specifically, in Southern Africa, media coverage of debate centred on GM maize dates back to the mid 1990s when debates around GM technology and its most notable products took hold outside Africa. In the global arena, these debates continue to date, in the 2000s, albeit with much lower intensity. For this study, the period of coverage of the regional debate spans from 1997 to 2007. The year 1997 was chosen as a starting point because it is when South Africa began to grow GM crops. The year 2007 was chosen as the cut-off point of the exercise of collecting the research material for the study. However, during the selection exercise, I found that, especially for the two countries where the debate continued after 2002 – Malawi and South Africa, 2005 marked the end of debate in the region, even if media coverage of the topic of GMOs continues to date.

In consideration of the specific periods of the national debates, there are two phases in the regional debate: pre-2002 and 2002 and afterwards. In Zambia and South Africa, there were discussions in the pre-2002 phase. After 2002, there was no debate around GM maize in Zambia and Zimbabwe. The debate in Zimbabwe occurred only in 2002, and that in Malawi began in the second half of 2002 and by 2005, it had reached almost zero intensity. Overall, the pre-2002 phase is the 1999-2001 period, during which there were discussions in the media in the region on the topic of GMOs in general and not a fully-fledged debate around GM technology in agriculture and GM foods and crops in particular in Southern Africa. During this period, I found that the regional debate looked a lot like the global debates in Europe, North America, South East Asia, and Mesoamerica.

Specifically, both in Zambia and South Africa, the discussions on GMOs began in April 1999 - the early signs of the debate around GM maize in Southern Africa. Zimbabwe entered these discussions in March 2000 and Malawi became involved at the onset of the regional chronic hunger, in April 2001, on the eve of the regional debate. In all the four

cases, the national controversies were more clearly marked as 'debates' in 2002. By the end of 2004, the national debates had lost their intensity in both Zambia and Zimbabwe, and by contrast, the debates in Malawi and South Africa continued until the end of 2005 albeit at a much lower intensity than was the case in 2002.

Thus, the actual period of 'debate' handled in and by the media in Southern Africa spans from April 1999 to December 2005. The matter of GM technology in agriculture was of public interest in Southern Africa during this whole period. The pre-2002 period heralded the regional debate but in 2002 and afterwards, the debate changed its register. I found that it shifted from global debates with 'local inflections'[60] to a regional debate with a specific character, becoming a high-intensity debate in 2002. After 2002 however, it became a low-intensity debate, reaching virtually-zero intensity in Zambia and Zimbabwe.

Text selection

The text selection was done in two steps. First, there were texts on 'discussions' on GMOs and GM technology in agriculture including the topic of GM maize which raised subject matter in a form which explicitly presented the issue as 'debate'. I counted as 'debate' argumentative communication that assumed the participation of persons advancing opposing, contrasting, or alternative –the variety of - opinions on a given issue. Second, there were texts that covered the issue in terms of the debate centred on GM maize and these were press texts.

The preliminary analysis covered a broad range of texts, viz. print news media and to a small extent the 'other' media. After the preliminary analysis however, I turned to concentrate on press texts because they are intended for non-specialist readership. Moreover, unlike the other media (for example, science magazines and exclusively web-based science news media), the press has a much wider circulation base, and is much more accessible to readers. The press, especially in the form of dailies and weeklies, has

[60] For example, the pre-2002 Southern African debate on GM crops looks as though it was a local inflection (a part or continuation) of a global discursive-communication process involving the "globalized diffusion" of GMOs with "localized appropriations." (Thompson, 1995)

a much higher frequency of editions than the other media. By contrast, most science magazines are infrequent, and most are, minimally, monthly editions. The sustenance, or durability, of exclusively web-based science news media is uncertain; they may disappear from the website any time. Unlike in broadcast, where it is difficult to obtain information in the form in which it was broadcast, in the press, information can be obtained with relative ease and most often in the exact form in which it was published. Additionally, the press is more affordable than the other media; in this region, few can afford to buy a science magazine and few have access to the Internet to browse exclusively web-based science news media. Thus, in general, the press enjoys much better circulation, distribution and readership than the other media. Due to this concentration on the press texts, during the subsequent analysis of the selected texts, the other media types, that is, specialist publications such as journal articles, newsmagazines, newsletters, conference and workshop proceedings, and multimedia publications, were left out.

Press texts were selected for study because they seemingly displayed moves of debate, in addition to some noticeable moments of engagement as in argumentative debate in which various participants proffered a variety of points of view on given issues. Participants were considered to be in debate as in argument if there were explicit or implicit varieties of points of view on a given issue. As a group, the texts captured the debate, highlighting contestation among the multiplicity of participants, the diversity of opinions, the conflict, the tension, and, indeed, the regional resistance to GM foods and crops.

Overall, the selected texts comprised 230 media texts, which were available in both print and electronic formats in the period spanning 1997 to 2007 – and so the period (1997-2007) was selected in advance, during the mapping of the research. The texts were accessible in original format, as newspapers, and were available online. [61] All of the texts selected for the second-step analysis were from the press, daily and weekly newspapers in the four countries. Some of the press texts were from local, regional or overseas news agencies. News agencies, as media institutions, operate as primary producers of news as

[61] To identify the research material for this study, I used newspapers in original format as well as three World Wide Web search engines, viz. http:// www.google.com , http://www.metacrawler.com, http://www. googlescholar.com, and http://www.yahoo.com. The material was found in national, regional, continental archives such as http://www.allafrica.com, http://www.misa.org, http://www.gene.ch/genet.html, http://www.irinnews.org, and http://www.thezimbabwesituation.com . See Appendix D

well as transmitters of news to other news media such as print and electronic news media. The newspapers – the press texts - that were selected for the second-step analysis - are marked in bold in the tables, under description, below. In other words, the texts selected for the study were taken from the press – local, regional and overseas news media in original and online newspaper format. First, I selected a range of texts that concerned the topic of GM maize and then chose those that presented different points of view, for and against, or pros and cons, that is, those that showed elements of disagreement or contradiction, that is, debate. Secondly, since my research is broadly in the area of public debate, I excluded specialist media and for the purposes of comparison (across the four countries), I decided to focus on the most visible public media for a general audience – namely, the press.

Description of what determined the text selection

The media coverage-level exercise allowed me to identify the two phases of the debate. The second-step, or proper, analysis took place after the selection of the texts. Before the selection of press texts containing 'debate', four media clusters were collected and identified, local news media, regional news media, overseas news media, and the other media. Most of the research material came from the press. The local media cluster includes newspapers, news agencies, and electronic news media of Southern African countries that covered the four national debates. In some instances, coverage happened outside the media's countries of origin and/or bases of production. The distribution of the collected texts across the four cases was as follows: Zambia 65; Malawi 63; Zimbabwe 24; South Africa 78. The subsequent detailed discussion of the selected texts follows this order in terms of countries.

Zambia

Local newspapers dominated coverage of the debate in Zambia, in the period April 1999 to October 2004. One local daily, *The Post*, had the highest coverage. Two South African weeklies, *The Sunday Times* and *Bua News*, and regional news agency *PANA* also covered the Zambian debate. There was also some coverage of the debate in overseas news media and in the other media. The table below shows the frequency distribution of

the collected texts in terms of media clusters in the coverage of the debate in Zambia. It shows media coverage, media type and place of publication – that is, media clusters. Not all these texts went through into the second-step analysis. In other words, not all the texts 'survived' and became part of the analysis. Zambian texts include both coverage in Zambia and on Zambia by overseas media, that is, in Zambia and about Zambia.

Table 1: distribution of collected texts in/on/about the Zambian debate

Local news media(43)	Regional news media(4)	Overseas news media (14)	Other[62] media types (4)
The Post(32) **The Times of Zambia**(8) **Zambian News Agency**(2) **Zamnet**(1)	**Pan-African News Agency** (PANA) (2) **Bua News**(South Africa)(1) **The Sunday Times** (South Africa)(1)	**The Guardian**(UK) (2) **The Toronto Star** (1) **Reuters News Agency** (2) **The Washington Times(1)** **SAPA-AFP**(4) Sky News television(1) BBC News (2) ANB-BIA (1)	OneWorld (Canada)(1) NGIN(UK)(1) neRage(1) SciDev.Net (1)

NB. In the table above, in bold are the press texts.

Malawi

The press did not dominate coverage of the debate in Malawi in the period April 2001 to December 2005. The other media types did and they include the *African Church Information Service*. Three local newspapers, *The Nation* and *The Chronicle,* and *The*

[62] Other media types entail other than the press

Malawi Standard covered the debate. [63] The local media cluster includes newspapers from neighbouring countries; one daily from Zambia, *The Daily Mail*, a daily from Zimbabwe, *The Daily News*, and the Mozambican news agency, *Agencia d'Informacao de Mozambique*. One regional news agency and two overseas news agencies also covered the Malawian debate. In the overseas news media cluster, one British daily covered the debate. It shows the distribution of the collected texts in terms of media clusters in the coverage of the debate in Malawi. It shows media coverage, media type and place of publication. Only the texts marked in bold went through into the second-step analysis. Malawian texts include both coverage in Malawi and on Malawi by overseas media, that is, in Malawi and about Malawi.

Table 2: distribution of collected texts in/on/about the Malawian debate

Local news media(14)	Regional news media(1)	Overseas news media (7)	Other media types (41)
The Nation(6) **The Chronicle**(3) **The Daily Mail** (Zambia)(2) **Agencia d'Informacao de Mozambique** (Mozambique) (1) **The Daily News**(Zimbabwe) (1) **The Malawi Standard**(1)	**PANA**(1)	**Reuters New Agency** (3) **Xinhua News Agency** (1) **The Guardian**(UK) (3)	Southern African Regional Biosafety Network (South Africa, 2000)(1) News24.com (South Africa) (1) African Church Information Service(1) The African Scientist(2) Genet(2)

[63] Local newspapers that were virtually absent from the debate were *The Daily Times*, *Malawi News*, *The Sunday Times*, *The Courier*, and *The Guardian* and the state-owned *This is Malawi*, *The Weekly News*, and *Boma Lathu* [Chichewa]

			SciDev. Net(6) Afrol News(16)[64] Nature(1) Binas (UNIDO)(1) Gran SA(1) Debtchannel(1) World Development Movement(1) GM Watch(1) Peoples Earth Decade(1) The Christian Science Monitor(1) Crop Biotech Update(1) YaleGlobal (1) Monsanto(1)

Zimbabwe

The debate in Zimbabwe was conducted in local and overseas news media and to some extent in the other media, in the period March 2000 to November 2004. Most of the coverage occurred in the first two media clusters. Local news media included the South African weekly *The Sunday Times* and the Mozambican news agency, cited above in the case of Malawi. The other media included the South African "news and information" website, *Independent Online* (IOL). The table below shows the distribution of the collected texts in terms of media clusters in the coverage of the debate in Zimbabwe. It shows media coverage, media type and place of publication. Only the texts marked in bold went through into the second-step analysis. Zimbabwean texts include both coverage in Zimbabwe and on Zimbabwe by overseas media, that is, in Zimbabwe and about Zimbabwe.

[64] *Afrol News* had so many articles on Malawi's hunger situation as part of the regional famine of 2002

Table 3: distribution of texts in/on/about the Zimbabwean debate

Local news media (10)	Overseas news media (10)	Other media types (4)
The Zimbabwe Independent (4) **The Daily News**(2) **The Financial Gazette**(1) **The Sunday Times**(South Africa)(1) **Agencia d'Informacao de Mozambique** (Mozambique)(1) **The Herald**(1)	**The Guardian**(UK) (2) **The Chicago Tribune**(1) **The Ottawa Citizen**(1) **The Telegraph** (1) **The Moscow Times**(1) **The Financial Times**(1) **The Washington Post**(1) **Reuters**(1) BBC News(1)	Independent Online (IOL) (South Africa) (4)

South Africa

Local newspapers dominated coverage of the debate in South Africa in the period April 1999 to December 2005. They included dailies, *The Business Day, The Business Report, The Star,* and *The Cape Times*, *The Cape Argus,* and weeklies, *The Mail and Guardian* and *The Sunday Times.* Regional news media - other than South African regional news media- were virtually absent from the debate during this period. In the overseas news media cluster, two Canadian dailies, one British daily and one Australian weekly covered the South African debate. In 2002, the Johannesburg Earth Summit drew the attention of the overseas news media to South Africa. The other media included newsletters, *Biowatch SA* and *The ANC Today*. Like the Zambian debate, the South African debate was conducted largely in the local news media, which included the Angolan news agency, *The Angola Press*. The table below shows the distribution of the collected texts in terms of media clusters in the coverage of the debate in South Africa. It shows media coverage, media type and place of publication. Only the texts marked in bold went through into the second-step analysis. South African texts include both coverage in South

Africa and on South Africa by overseas media, that is, in South Africa and about South Africa.

Table 4: distribution of texts in/on/about the South African debate

Local news media(72)	Overseas news media (4)	Other media types (2)
The Business Day(22) **The Mail and Guardian**(12) **The Cape Times**(8) **The Sunday Times**(6) **Cape Argus**(4) **Pretoria News**(4) **The Star**(4) **The City Press**(2) **Bua News**(2) **The Business Report**(2) **The Sunday Independent**(1) **The Citizen**(1) The Financial Mail(1) **The Herald**(1) **The Witness**(1) **The Angola Press**(1) (Angola)	**The National Post**(1) **The Guardian**(UK) (1) **The Ottawa Citizen** (1) **The Weekend Australian**(1)	Biowatch SA(1) The ANC Today(1)

Summary

In sum, as regards coverage per media cluster, local newspapers dominated the coverage of the national debates of Zambia and South Africa. *The Post* and *The Business Day* carried the highest number of stories of the debate in Zambia and South Africa, respectively. In relation to both countries, there was little coverage by overseas news

media and by the other media. Thus, there is no qualitative difference between coverage of the national debates in Zambia and South Africa; this is in spite of the fact that the latter has a wider range of media and that it boasts more robust news media, especially in the post-1994 period, South Africa's democratic dispensation.

Malawi and Zimbabwe had very low coverage of their national debates by the local newspapers, in comparison with Zambia and South Africa. A major negative factor for the media in Malawi is the resource-poverty of the news media institutions whereas for Zimbabwe, it is political repression,[65] and these factors can help explain the local news media's low coverage of the debate around GM maize in the two countries. In Zimbabwe, low coverage by the local newspapers can help explain the good presence of overseas news media in the coverage of the national debate. In Malawi, there are not many local newspapers and this could have been a contributing factor to the dominance of the other media types in the coverage of the national debate. In Malawi, news media are largely privately owned and they struggle economically to stay on the market since they do not get any state subsidies or tax breaks just as they rarely benefit from state advertising or public sector ad spend. In the regional news media cluster, only *PANA* covered the Zambian and Malawian debates. Regional news media were absent from the Zimbabwean and South African debates.

Thus, local press dominated the regional debate, accounting for about 60% of all the 230 news media texts. The other media types came second (about 23 %); overseas news media came third (about 15%); and at fourth place were regional news media (about 2%). The dominance of press texts explains the concentration on the press texts in the second-step analysis the focus of which was on debate centred on GM maize in the four countries. The regional distribution of news media texts per media cluster is as shown in the table below.

Table 5: aggregate distribution of collected texts in the Southern African regional debate

[65] During this period, the ZANU-PF regime introduced a number of laws to control and constrain news media operating in Zimbabwe. (See <http://www.transparecnyinternational.org/article.shtml?cmd2.47%5D=x-347-103795>. See also <http://www.amnesty.org/library/Index/ENGAFRICA460162003?openandof=ENG-ZWE>. Retrieved in June 2005

Case	Local press[66]	Regional press[67]	Overseas press[68]	Other media types[69]	
Zambia	43	4	14	4	65
Malawi	14	1	7	41	63
Zimbabwe	10	-	10	4	24
South Africa	72	-	4	2	78
	139(60%)	5(2 %)	35(15%)	51(23%)	Total: 230

2.2 Preliminary analysis

The sampling procedure identified sources that dealt directly with the debate in each of the four countries and so at first, a close reading[70] of the selected texts was conducted – marked in bold in Tables 1 to 4 above. The study explored the discussions of the topic of GMOs and the emergence and the evolution of the GM maize debate itself. This preliminary analysis involved the identification of the two phases of the regional debate – and hence the periodisation of the debate – and a preliminary description of the debate from the close reading of the selected texts – the press texts. I was looking for the phases of the debate and the key issues raised in it and as a result two phases were found, pre-2002 (1999-2001) and 2002 and afterwards, or the early phase and the later phase.

Issues raised in the early phase of the regional debate resonated with those in the global debates. For example, the suspicions that GM crops aroused in the region were similar to those in the other regions but there were some local inflections to the regional debate such as GM contamination of local varieties of crops through gene transfer and pollen drift from GM crops to non-GM crops, loss of biodiversity, and genetic experimentation. The later phase marked a shift in the register of the debate from the early phase. In the later phase, the debate became region-specific. The specific character of the regional

[66] The predominance of the local press in the coverage of the debate across the cases, except for Malawi, justifies my looking at the debate as having happened in the *Southern African* media. See Appendix A for details on ownership, readership, circulation of the local press in the respective countries of the study
[67] Similarly, see Appendix A for similar details on regional print news media
[68] Similarly, see Appendix B
[69] Similarly, see Appendix C
[70] Close reading of texts involves rereading research material in order to identify the key issues, or recurrent issues or themes, as well as the key voices in discursive-critical communication. (See Boyatzis, 1998, p.48)

debate was that in 2002, political considerations around the adoption of GM crops in Southern Africa - a long-term consequence that was feared widely as being inaugurated by the prospect of the famine-stricken countries accepting the UN WFP's offer of the US-produced GM maize - became predominant and overt.

My reading of the analyses of the GM debate elsewhere in the world showed that in those places, viz. in Europe such as in Great Britain, the Netherlands, France, Denmark, and Switzerland, human health and safety, the effect of GM crops on the environment, the loss of biodiversity and the ecosystem in general were the key issues. Green consciousness, for example, captured most of these key issues in the Euro-American debates. Using this as a guideline, I combed through my research material, looking for occurrences, or instances, of these key issues. I found them in all the four countries, especially those of human health and safety and biodiversity. These issues aroused suspicions here, some of which were reverberations (after-effects) of the suspicions aroused by GMOs in the Euro-American debates and in green consciousness. Further, my reading of science debates in public[71] elsewhere in the world - outside the Euro-American zones - showed that in these places, for example, in Canada, South East Asia, and Mesoamerica, issues of the contamination of local crop varieties by the GM crops of the biotech multinationals, the safety of the consumers of GM foods, and the impact of GM cropping on the ecological environment, on biodiversity and on the ecosystem, were the key issues.

Using that as a guideline, I re-examined my research material, looking for occurrences of these key issues, and how the participants were communicating them, and focussing my attention on the modes of exchange at play. Then I read closely my research material in search of key issues that occurred in neither the Euro-American region nor the other regions of the world. Importantly, the first reading yielded the first-level findings of the study whereby I found that three events, the 2002 famine, the UN WFP's offer of GM maize to Southern Africa in 2002 and Zambia's rejection of the offer in 2002, and the 2002 Johannesburg Earth Summit provided arenas for public debate centred on GM

[71] For example, proceedings from expert conferences and workshops, journal articles, and science newsmagazines, newsletters, multimedia publications and other sources

maize in the region. The Earth Summit precipitated the issues raised in the national debates just as it operated as a threshold for the regional debate.

In the later phase, the debate became region–specific, bringing to light a number of key issues such as those broadly described as international trade; GM seed; the IPR and patents of the biotech multinationals; foreign aid; food security; farm input subsidies; sustainable agriculture; GM policy and regulation; corruption; collusion, among others. Historically, these issues speak to the question of knowledge and power in Africa-West relations, reflecting power imbalance. Today, they speak to Africa's Cinderella status and peripheral position in the global economy, reflecting global socio-economic inequality in the same relations. Suspicions were rife in the regional debate, some of which had local inflections to them, and others reverberated the suspicions aroused in the Euro-American debates, in green consciousness, and outside the Euro-American zone. Other key issues that I found were genetic experimentation and biopiracy. On genetic experimentation, the concern was that Southern Africans would be used as guinea pigs in GM trials, arousing anxieties akin to those aroused by the secret and lethal biochemical experimentation of apartheid South Africa to exterminate indigenous South Africans in the 1980s, and by the Nazi regime's "old eugenics" on Jewish prisoners of war early to mid 1940s. On biopiracy, the concern was that in the absence of GM policy and regulation—a key issue in itself —the region would be dangerously exposed to the evil machinations of the unscrupulous players of global capital and big business that would "bio-pirate" (loot, plunder and pillage) the region's genetic resources and gene banks. For the antagonists (anti-GM participants), all these key issues suggested strongly the need for caution concerning the introduction of GM crops in general and the offer of GM maize wholegrain in particular in the region.

Importantly, the preliminary analysis of the selected press texts yielded four first-level findings, viz. the key issues, which are the issues at stake in the four national debates; the particular communication moves used by participants in the debate; the three leading events that provided pieces of the evidence of what triggered the regional debate; and the period of coverage of each national debate and hence the periodisation of the debate (the

two phases of the regional debate). The particular communication moves and the periodisation are the major findings from the preliminary analysis. More importantly, the preliminary analysis showed that the debate did not regularly conform to classical debate, as discussed earlier; the debate was characterised by a particular 'rhetoric'. In order to understand better the rhetoric of the debate, I investigated and tried to identify a cluster of rhetorical moves used by participants in the debate.

2.3 Refinement of the analytic tools

Having undertaken a reading of the media coverage which established the main phases of the debate and the key issues that were raised during these periods, a further level of analysis was undertaken. This analysis intended to reveal the shape of the regional debate and to provide an in-depth understanding of the coverage material based upon an interpretive approach designed to reveal any recurring debate features in the selected texts.

While the widely understood notion of debate implicates questions of argument as would be discussed by Habermas ([1962] 1989; 1984; 1987) in this case the features characteristic of rational debate are not revealed by the analysis. Instead, it is argued the media debate, primarily because it is *mediated*, does not unfold in the manner Habermas would conceive of as 'ideal'.

Unlike in the case of face- to-face debate, analysing debate in the press or media-mediated discourses[72] must take into account the fact that neither the journalists writing the texts, nor the sources quoted in them, are themselves participants in the debate. As a result, the question of journalistic intention or strategy cannot be assumed because journalists *represent* or *cover* the debate rather than participate in it.

What this in effect means for the analysis is that unlike an attempt to understand the ways in which 'authors' or 'speakers' themselves consciously strategise to achieve particular goals or produce desired effects, a different interpretative approach had to be adopted.

[72] See Radha Iyer (2009), "Entrepreneurial identities and the problematic of subjectivity in", *Discourse and Society*(vol. 20, no. 2, pp. 241-263)

This understanding led in turn to the recognition that the analysis must operate at the level of the coverage be that *within* or *across* texts. Further, it had to be borne in mind that this analysis of mediated debate is one in which the press acts as a particular form of 'medium'. This means that in approaching the analysis, the technical or practical limitations of journalistic practice and media professional imperatives need to be considered when explaining the complexities of the material such as those arising from journalistic decisions in selecting some sources in preference to others. Contemporary journalism and media studies literature and research on news selection, grapples with this complex matter. (See Manning, 2001) Other considerations that needed to be kept in mind include editorial decision making as to what to include or exclude in a particular edition; news value or newsworthiness; gate keeping and agenda setting. Thus, in this study, 'the GM maize debate ' is operating as the central topic enabling me to understand and appreciate the difficulty and challenges journalists face in mediating a debate on, or arising from, science. In other words, the analytic method drawing on the discourse analytic approach needed to consider contextual features such as the fact that convening a debate in the Southern African postcolony (a region characterized by poor scientific and research infrastructure, resource-poor media and underdevelopment) clearly presented the media with particular challenges. The media struggled with the task of reporting and convening debate effectively and I observed, for example, that on many occasions the relay-mode of mediation (mere reporting) and the resulting slippage was visible.

Discourse analysis and the rhetoric of debate in the media

After the preliminary analysis described in the previous section, I attempted to identify the particular 'rhetorical' moves in the selected texts in order to provide evidence for my initial impression that one of the characteristic features of the debate (as represented in the coverage) was an apparent cacophony of voices often in discord and often slipping across a range of apparently unrelated topics or issues.

This preliminary sense of what a more careful analysis might yield, seemed to suggest that this sense of slippage was intimately connected with the interpenetration of science,

history and politics in the debate around GM maize. In other words, as the debate began to unfold in 2002, it became apparent that this complex mixture of scientific, historical and political discourses could not be understood without drawing on the discourse analytic tradition within Media Studies (See Chapter One: Research Orientation) such as is to be found in the journals *Discourse and Society*, *Science Communication*, *Public Understanding of Science*, and *Political Communication*, where media-mediated debate is often analysed and the political dimensions of the debate are explicitly surfaced .

In many of the articles in these journals, research focusing on the texts themselves attempts to look for a way to account for the ideological origins (that is, in the political context) and effects of particular discursive formations. This is often done by using a set of already identified linguistic or stylistic forms used to demonstrate ideology at work, such as the use of passive voice in news reporting. However, in some of this research, as is the case here, the researcher him/herself identifies and names a set of recurring features of the discourse which are then used as heuristic devices in order to account for particular phenomena in the coverage.

A useful example here was provided by Callaghan and Schnell (2001), who in an article entitled "Assessing the democratic debate: how the news media frame elite policy discourse", *Political Communication* (vol. 18, pp. 183-212) argue that interest groupings generate particular 'rhetorics' in order to put their views across strongly. The analysis they undertake reveals that what they describe as the antagonistic and the orthodox groupings (the protagonists) employ several interpretative frames in order to outmanoeuvre each other and compete to set the agenda for the media. In this study, the heuristic device described as *reframing* works in similar ways, as it reveals participants' attempts to outmanoeuvre each other by re-framing each other's arguments or responses.

While the contemporary literature in the discourse analytic tradition played an important part in generating the method used here, an application of classical rhetoric revealed itself, perhaps surprisingly, to be very useful at this level of analysis. The study of the moves and effects undertaken in debate is an extremely ancient enquiry probably dating

back to the work of ancient Greek philosopher Aristotle. (Richards, 2008; Connolly, 1959) Aristotle's '*rhetoric*' contains at least three types of devices; *logos* (the appeal to the intellect or mind, involving logic, numbers, explanations, or facts), *ethos* (the appeal to conscience, ethics, morals, standards, principles, or values), and *pathos* (the appeal to the heart, emotions, sympathy, passions, or sentiments).[73]While this three-part typology is useful because it allows for an identification of *some* of the elements of the approach adopted here, the analysis which follows is different from those which draw more heavily on Aristotle. It does, however, recognise that the particular 'rhetoric' of the GM Maize debate in the media in Southern Africa will sometimes reveal participants using moves that are characteristic of logos, of ethos and pathos, both together and separately.

As shown in Part 2: *Chapters* 3-6 of the thesis, some of the distinctive features of the debate as it emerges in the media coverage relate to what is called slippage and I argue that in spite of some moments of engagement, against the background of a complex nexus of historical, scientific and political concerns around the adoption of GM crops in the region, the debate often unravels and loses focus. As has been pointed out, analysing 'rhetoric' as it is used in print news media requires the understanding that the moves that can be identified need to be attributed both to features of the stretch of the coverage of the topic as well as to the debating points, ideas or issues raised by persons represented or quoted in that coverage. Bearing this point in mind, the analysis undertaken here revealed slippages in the coverage viewed at the coverage level (that is, in a stretch of texts over time) but also those which appeared internal to the debate as it unfolded, apparently in the hands of those who participated in it.

2.4 Derivation of the four main rhetorical moves

The analysis identified four basic rhetorical moves or types of slippage. While it might appear paradoxical to identify `moves' that account for slippage in the debate, it seemed important to uncover any regularities (even those of slippage) that might explain how this cacophony worked. In referring to these rhetorical features as 'moves' I am cognisant that the term 'move' implies intention but in using this term here there is no implication that

[73] The fourth being *mythos*

the journalists or the participants in the debate represented by them, intended to detour the debate, let alone in systematic ways.

The four moves identified in the GM debate are named as 'reframing', 'sidestepping', 'telescoping' and 'silencing'. In approaching the coverage in the region, these four terms were generated for the purpose of accounting for the phenomenon subsequently described as babelization. Sensing the slippage, it was my intention to reveal something, hopefully, interesting about how challenging it is for the media to maintain 'control' over a debate implicating all the contextual dimensions at work in the Southern African case.

Selected examples of rhetorical moves (or slippages) at work across the four cases

Reframing

The term reframing is used to refer to instances in which the same event, issue, or phenomenon is viewed from a different perspective such that some aspect of the phenomenon emerges in a different light or can be read differently. For example, in the Zambian debate, on July 30, 2002, in *The Post* editorial entitled "Dignity in hunger", the conditions that came with the American loans to hunger-stricken Southern African countries were criticised. The editorial comment went thus:

> Zambia's plea for aid has been well received and we appreciate the international community's favourable response to this crisis that is currently brewing. But as they offer their assistance, they should also acknowledge that even the beggars deserve some dignity... While the gesture of assistance may be well meant, it is a matter of concern that the US has set as a condition that it would only provide funds to purchase the genetically modified grain. (July 30, 2002)

In this quotation, there is an appeal to the broad frames of *ethos* and *pathos*, the point that "even beggars deserve some dignity". Crucially, the word "assistance" refers to the loan of US$50 million offered by the American government through the World Bank and the IMF. One particular condition came under scrutiny in the editorial comment: "[I]t is a matter of concern that the US has set as a condition that it would only provide funds to

purchase the genetically modified grain", that is, the maize would only be bought from American commercial farmers and they grew GM maize. IMF representative[74] Mark Ellyne confirmed this condition and two other conditions that were seen by the editorial team as stringent. This concern can be read as practical and economic and hence it can be located in what could broadly be described as *logos*.

However, about two days later, in an article of *The Post* of the edition of August 2, 2002, social anthropologist Dr. Owen Sichone viewed the American loan offer to Southern Africa from a different perspective. Dr. Sichone did not contest the conditions that came with the loan; rather he approached the loan offer from an anti-globalisation perspective, seeing the world as partitioned into regions some of which are "super rich" – (superpowers) and others extremely poor or underdogs. By implication, for Dr. Sichone, Zambia and her neighbours were underdogs. He was quoted as having said,

> By now, it should be clear that President Mwanawasa is a nationalist. In a neo-colonial setting like ours that sounds like a good thing but in the globalised arena of international politics today it is a dangerous position... Zambians are right to be hesitant about receiving GM maize from abroad... If we know what we want to eat we must grow it ourselves ... So you see life is dangerous in a capitalist world and there are those who are so concerned with just getting a meal that they sell themselves. Can such people worry about yellow maize or GM foods? I think many Zambians are already beyond caring. But that is not to say they cannot reverse the slide into dependency... GM foods are not peasant crops they are designed to make the companies that own the patents for particular genes super rich. They will not solve the hunger problem, which has always been about access and not availability... Those who like taking risks or are too poor to care will go for the American one. (*The Post*, August 2, 2002)

[74] On August 12, 2002, in *The Post* article entitled "It will be tragic if Lusaka rejects GM maize – Ellyne", An IMF Resident Representative Mark Ellyne was referred to as having addressed the issue of the conditions that came with US loans to Southern Africa. For Ellyne, Zambia was required to use the loan to access maize only from the US and that the US and the IMF had dictated that the US $ 50 million loan offered to Zambia be used to procure maize only from the American commercial farmers and under the IMF programs Zambia was barred from seeking alternative arrangements. Further, Ellyne counselled that Zambians did not have any better option than the American GM maize, and he warned the Zambian state thus: "If you don't get this food you will be paying more money, which you don't have, for the same quantity of food"

In this quotation, Dr. Sichone is addressing the American loan offer to Southern Africa as is implied by the statement: "Zambians are right to be hesitant about receiving GM maize from abroad" as well as the statement: "Those who like taking risks or are too poor to care will go for the American one." By implication, only desperation on the part of the Zambians would lead to their acceptance of the loan offer. Once more, instead of busying himself with the task of contesting the stringent conditions that came with the American loans, Dr. Sichone is concerned about "the slide into dependency" that would be set off by the Zambian state's and her neighbours' acceptance of such kinds of offers from the western donor community. Dr. Sichone's concern about dependency -broadly located within both *ethos* and *pathos* - brings another the issue into the debate around foreign monetary aid and in doing so, the issue is treated in a different light or is read in a different. There is thus a shift in perspective broadly from *logos* to both *ethos* and *pathos* and hence the rhetorical move of reframing.

Sidestepping

The term sidestepping as used here refers to a feature in the debate characterized by the fact that having confronted a challenging obstacle, a significantly important topic or significant new information, a participant in the debate 'steps aside,' leaving the original path where the obstacle or challenge is located and goes on a parallel path. (Where sidestepping does not occur, the participant takes on the challenge, explores it and in doing so clears the path) Broadly, the topic and broad frame of the sidestepper remains the same as that of the participant to whom the sidestepper is responding. For example, in the Zambian debate, Dr. Luke Mumba gets sidestepped by his colleague Dr. Timothy Mwanza. Dr. Mumba appeared in the columns of *The Post* of July 29& 31, 2002 as a defender of GM maize in particular and GM crops in general in Southern Africa. Dr. Mumba was quoted as having said,

> GM foods may turn out to be better for people … Biotechnology is no different in principle from breeding techniques that have been used for decades … When properly assessed for safety and approved by the appropriate regulatory

> authorities, genetically modified crops can be a significant part of the answer to the conservation of our biodiversity. It is a powerful weapon in Zambia's war on poverty and hunger and can also do much to alleviate environmental degradation (July 29 and 31, 2002)

It is important to note that in this quotation Dr. Mumba is raising the issues of safety, biodiversity, and poverty and hunger. Thus, he is operating in what could broadly be described as *logos* (safety and biodiversity) as well as what could broadly be described *pathos* (poverty and hunger). If we consider the broad frame of *logos* only, his point is that biotechnology is the same as conventional plant breeding and so, for him, issues of safety and biodiversity in GM technology ought to be treated in the same way as they are treated in conventional plant breeding. His colleague, Dr. Timothy Mwanza responded to him the following day, on August 1, 2002 in the same newspaper. In an allusion to Dr. Mumba, the article referred to Dr. Mwanza as having said,

> If GM maize containing the terminator gene is planted and cross-pollinates with our organic maize, we risk destroying the engine of our food security that is driven by small-scale farmers that depend on storing seed from their own harvest. Small- scale farmers produce over 80 per cent of maize in Zambia, thus as a union we are against this veiled form of colonization from the US…We demand that the government should exercise extreme caution and think twice before it acts. (*The Post*, August 1, 2002)

In this quotation, Dr. Mwanza refers to the 'terminator gene' and hence the self-destruction of GM seed when it is planted, leading to the perpetual dependency of farmers on the biotech multinationals for new GM seed every season- and is concerned about inter-breeding (through cross pollination or pollen drift) between GM and conventional (non-GM) crops. Like Dr. Mumba, Dr. Mwanza is operating within *logos*, raising issues of GM seed (as being scientifically inserted with a self-destroying gene) and GM contamination (through out-crossing). But Dr. Mwanza does not directly respond to Dr. Mumba's point that GM technology is the same as conventional plant

breeding. Dr. Mwanza is definitely contesting the scientific point of Dr. Mumba but he is doing so from a different dimension of science broadly understood as the *logos*. Instead, Dr. Mwanza goes on a parallel path, broadly within *logos*, raising different (scientific) issues from a different dimension of *logos*.[75]

Telescoping

Telescoping involves participants narrowing down the scope of debate to one particular event or issue, dwelling on it for sometime time and in some detail thereby blurring the wider, complex issues involved in the debate. For example, in the South African debate, telescoping happened during two particular periods; between January and March 2002 and between September and November 2002. During both periods, the debate was narrowed down to the issue of human health and safety. By homing in on the one issue of safety, which could be described as belonging to the broad framework of *logos*, some of the political as well as ethical issues that were concern in South Africa and the region during the same periods were left unaddressed. A wider set of issues had been raised and they included but were not limited to environmental safety, economic benefits of GM crops, hunger, GM seed, IPR and patents and the biotech multinationals, GM legislation, GM contamination –all of them belonging to the wider frame of *logos*, the dependency of farmers on the biotech multinationals for GM seed –which speaks to the region's poor farmers' *vulnerability* in the face of global capital and big business in a postcolony, which is an issue within *pathos*, the undermining of human dignity and respect that goes with foreign aid (vis-à-vis the historically problematic donor-recipient relationship) – which is an issue within *ethos* –and hence the desperation of hunger-stricken countries – which are issues within *pathos.* Telescoping narrows the scope of the debate, which incorporated elements, could be described as *ethos* and *pathos* down to *logos* (safety).

Silencing

Unlike the three previous rhetorical moves named reframing, sidestepping, telescoping, silencing is used here to refer to a (communication) phenomenon that necessarily occurs at the level of coverage rather than internal to particular news texts. The term silencing is

[75] Just to note that the two scientists are engaged in a debate-like exchange within *pathos* because Dr. Mumba refers to poverty and hunger and Dr. Mwanza refers to food security

somewhat problematic because it suggests that in these cases the journalist or source plays an active role in silencing a particular point; wins, as it were, the argument outright. However the idea of silencing -or perhaps the idea of an important issue *falling silent* - is retained based on the observation that at a particular point in the coverage, a key fact is provided, or an argument is made so strongly, that there is no continued coverage of the issue. A topic or issue then falls silent as if what was previously debatable is now no longer so and the issue does not surface again in the coverage across a certain time-period. Silencing seems to occur when journalists or sources appear to believe that the issue is no longer important, or something deserving of the label 'debate', because one particular participant, or a group of participants, made a point so strongly that no debate followed.

An example of silencing can be found in the Zimbabwean press. Albert Jaure was the first to raise the issue of international trade (alongside that of GM contamination) (See "GMO products threaten seed varieties – ZFU," *The Zimbabwe Independent*, June 7, 2011). On June 19, 2002, in *The Daily News* article entitled "Zimbabwe official says GM Maize would have hit country's beef exports," a Ministry of Lands, Agriculture and Rural Resettlement official reportedly said that the state rejected the offer of the American GM maize wholegrain. According to the state official, GM crops would contaminate local pasture and fodder, something that would consequently jeopardise Zimbabwe's export trade in livestock products with Europe. The Zimbabwean state official said,

> Bio-tech maize, if eaten by livestock, would have jeopardized Zimbabwe's future beef exports to Europe. Zimbabwe cannot accept donations from all over the place just because there is starvation at the moment. As you know, we do not accept GM produce. (June 19, 2002)

In this quotation, the state official is singling out beef as a major export product to Europe and is prioritising future trade).[76] After this statement, the issue of international trade was never raised again in the Zimbabwean media debate on GMOs. Finally and yet

[76] Implicit here is the concern about GM contamination upon the introduction of GM crops in Zimbabwe. Additionally, s/he is downplaying the food-need issue (here and now)

importantly, although this example does not posit a direct challenge to the Zimbabwean science community and/or to the Zimbabwe government official's remark and the fact that the point is not taken up seems to suggest a weakness in the coverage in that the it fails to engage with the debate on a pertinent issue. Below, Case chapter 5 on Zimbabwe offers an example of an instance where a direct challenge is posited.

The chapter so far has been concerned with the method used to identify the slippages at work in the coverage of four national debates. What follows concentrates on the identification, naming, description and analysis of the most important examples of slippage in the debate in order to show this slippage at work in each of the national debates. Importantly, however, the analysis undertaken also shows moments of engagement in which communication exchanges approximate debate in its classical form – providing selected examples of 'real'[77] debate and debate-like[78] exchange, most of which are, in essence, moments of engagement particularly with the science of GM maize. On these occasions, moments of energetic debate in the media reveal the vitality of the political, arenas in which each debate is embedded –an engagement that is in the interests of meaningful public intellectual life.

[77] This qualifier implies a moment of engagement whereby participants are speaking to each other directly on the same issue, from the same perspective, along the same path; they are sticking to the topic and are responding to the point/s raised; they are keeping the domain of the discussion as wide as possible; and they are not keeping silent when provoked directly or indirectly. Nevertheless, this mode of debate does not and is not intended to approximate classical debate, it being debate handled in and by the media in a democracy. Thus, it is real debate in the qualified sense

[78] This qualifier implies that for the most part the participants in a communication exchange observe most of the rules of classical debate but they eventually violate one or more of such rules, for example, by suddenly raising an extraneous issue or bringing in a new or alternative perspective. This mode of debate illustrates weak engagement and hence its debate-likeness

Part 2 Presentation of the research material

In Part 2 of the study, the four cases of the study, Zambia, Malawi, Zimbabwe, and South Africa, are presented in that order. In each case, a three-step approach is undertaken. Firstly, a broad description of the coverage is given in outline, noting, in particular, what form the coverage (for example, whether, it was report, feature article, column, opinion, op-ed, or editorial comment) took who dominated the coverage in a specific period and overall, what event, or events, were generally being reported, and what key issues were being raised and the region-specificity of those issues. Secondly, there follows an explanation of how the media texts were structured, the direction of the coverage in specific periods, and the key features of the coverage in those specific periods, all of this in order to get a clear sense of the shape that the debate in the media took in those specific periods and across the entire periods of the national debates. Thirdly, I note and analyse instances of 'debate' and 'political' concerns in the coverage. I then identify and describe the cacophony in the communication exchanges in the debate in particular texts as well as across a specific period (sequence) of coverage, giving selected *examples* of the instances of the rhetoric and then naming the identified instances of the rhetoric, for example, as reframing, sidestepping, telescoping, or silencing, which the thesis designates as rhetorical moves leading to the slippage.

Chapter 3: "If we destroy *that*, we will have a major problem"[79]

3.0 Introduction to the Zambian debate

This chapter explores the media debate centred on GM maize in Zambia in 2002 and during this period, the debate includes the Johannesburg Earth Summit, a global public deliberative forum on the broad theme of sustainable human development. The Earth Summit is an important episode in the regional debate as a whole because it precipitated the issues raised in the regional debate. Because it distilled, or treated in concentrated form, the key issues raised in the debate, the Earth Summit operated as a threshold for the debate. In this sense, the Earth Summit can also be treated as a watershed to mark the periods of the four national debates in 2002, that is, into 'pre-Earth Summit' and 'post-Earth Summit'. In what follows, a description of the coverage and key features of the Zambian debate is given; the pre-Earth Summit period is divided further into three particular periods, (I) March-June 2002, (II) July 2002, and (III) August 2002, because the national debate changed in its intensity in each of these three periods in particular. After the Earth Summit, the debate lost intensity and, in effect, the August 2002 period marks the end of the national debate in the media, and so, in effect, (IV) the Earth Summit sums it up. The description of the coverage and key features of the national debate[80] –including some examples of instances of 'real' debate and debate-like exchange - is followed by a presentation of selected examples of instances of rhetorical moves, which are illustrative of slippage at work in the coverage and, finally, a consolidating account is given at the end of the chapter.

[79] University of Zambia (UNZA) soil scientist and dean of agricultural sciences Professor Nobed Lungu. (*The Toronto Star*, November 10, 2002)

[80] As discussed in the method chapter above, on the classical model, debate is essentially dialogical. (Bakhtin, 1981) Even where more than two participants are involved in a particular debate, two participants speak to each other directly at a time in a debate episode. Participants in such debate are in disagreement, they contradict (outmanoeuvre) each other's point; they focus on the same topic; they stick to a point; they respond to a point; they take the same point forward and along the same path; they develop a position in the same direction; they keep the scope or domain of communication as wide as possible and sensible. But in public communication practice, debate handled in and by the media can only approximate this ideal. Thus, media coverage that deals with, or produces 'real' debate, or debate-like reporting is that which presents the points that are for and against approximately the same thing, arguing from the same perspective and along the same path

3.1 Coverage and key features of the Zambian debate

(i) March-June 2002, famine and the offer of GM maize

From the March-June 2002 period, four articles concerning the Zambian GM debate in two major local newspapers, the privately-owned *The Post* and the state-owned *The Times of Zambia,* were selected for analysis. During this period, *The Times of Zambia* carried one article in the form of a feature on GM fruits (March 12, 2002) and *The Post* carried three articles, all of them in the form of reports.[81] In the four articles of this particular period, the events generally being reported are the possible role for GM foods as a result of the regional famine. The key issues that were raised in the articles were the safety of GM foods for human health (*The Times of Zambia*, March 12, 2002), and in *The Post*, the issues were Zambia's lack of scientific research capacity and infrastructure and, again, safety of GM foods for human health (April 24, 2002), the unsuitability of GM cropping for Zambia - sustainable agriculture (June 18, 2002), and the UN WFP's program of offering the US-produced GM maize to the Zambian state. (June 19, 2002) As regards the sources quoted or referred to in the texts, two science experts and two representatives of the United Nations dominated coverage during this specific period. For example, in the feature article of *The Times of Zambia* of March 12, 2002, reference was made to University of Zambia (UNZA) Natural Sciences Dean Dr. Luke Mumba. *The Post* article of April 24, 2002 reported National Institute of Scientific and Industrial Research (NISIR) senior scientist Dr. Dorothy Mulenga. The articles of *The Post* of June 18 and 19, 2002 referred to Zambia's representative to UN FAO Richard Fuller and UN WFP Country Director Richard Ragan, respectively.

Key features of the coverage

In *The Times of Zambia* article of March 12, 2002 entitled "How safe are genetically engineered products?", journalist Bwalya Nondo's produced a feature on GM fruits from South Africa being sold in Zambia's supermarkets such as those of Lusaka. Nondo referred to Dr. Mumba and an anonymous source that he described as "a long time friend of mine." The first communication exchange to consider here took place between Nondo and his friend. Nondo quoted his friend directly as having said, "These bananas are very

[81] Namely, *The Post,* April 24, 2002; *The Post*, June 18, 2002; *The Post*, June 19, 2002

inviting and irresistible. You can see from the quality that the local stuff is so inferior - little wonder, local products are shunned." (March 12, 2002) In response, Nondo said,

> I reminded my friend that there could be a tightly locked secret behind the gigantic size of the bananas he had fallen for. That the bananas could after all, not be of their own genetic make-up, but of scientific manipulation, with unknown consequences to consumers. (March 12, 2002)

In these two quotations, the issue in the exchange is the same, the safety of GM foods for human health. Nondo and his friend are speaking directly to each other from the same perspective - that is, whether the place of origin of the GM banana fruit is "local" or (by implication) 'foreign.' For both of them, 'foreign' food implies 'genetically modified' food and they are keeping the focus on the topic, which is GMOs. They are sticking to the point that the place of origin of food matters. Nondo's friend is of the view that "local" bananas are of "inferior" quality whereas (by implication) 'foreign' (GM) bananas are of 'superior' quality and Nondo develops a position in the same direction as that of his friend.

Further, Nondo contradicts his friend and takes the same point forward and along the same path - that is, that apart from the possibility of "a tightly locked secret" in GM fruits, nothing is so far known about the safety of GM bananas to which his friend is visibly attracted. Sources (Nondo and his friend) are quoted as speaking directly to each other on the same issue and from the same perspective or frame. It can be seen that in this bit of the feature article, the communication between Nondo and his friend is a debate-like exchange. In spite of the local inflection, this instance of debate-like exchange mirrors global debates whose reverberations in the coverage of the Zambian debate can be expected at this very early stage of the coverage.

Then it comes as no surprise that after the Nondo-friend exchange that the feature article moved momentarily to global debates in other regions such as South East Asia,

Mesoamerica and North America, where, generally, resistance to GMOs had led to the introduction of GM policy and regulatory frameworks including the UN Convention on Biological Diversity (Rio de Janeiro Earth Summit, Brazil, 1992). After featuring the global debates for a moment, the article returned to the local scene and now it was the voice of Dr. Luke Mumba[82] that Nondo featured. The second communication exchange to consider here took place between Dr. Mumba and Nondo. Nondo quoted Dr. Mumba directly as warning Zambians thus,

> Once released, it is virtually impossible to recall genetically engineered organisms back to the laboratory or the field. Genetically engineered products carry more risks than traditional foods. Some [are] siding with biotech companies and ignoring the rights to know. Without labelling, the causes of new diseases will be very difficult to trace. (March 12, 2002)

> In response to Dr. Mumba's warning, Nondo said,Some biotech companies assert that no labelling is required by falsely claiming that, there is no material difference between genetically modified foods and their traditional natural counterparts. (March 12, 2002)

In these two quotations, Dr. Mumba and Nondo are generally in agreement that GM labelling is important for consumers to make an informed choice about foods and so that biotech multinationals are to blame for spreading misleading information to the effect that GM and non-GM foods are the same nutritionally. However, this exchange is important in at least two ways. First, it takes the same point forward and goes along the same path as in the previously-discussed Nondo-friend exchange - the contrast between 'local' and 'foreign' foods, which now becomes a contrast between 'traditional' and 'GM' foods. In quoting Dr. Mumba, the focus on safety is maintained and the controversy continues to look as though it is centred on whether GM foods are safe for human health, as is implied by Dr. Mumba's reference to "new diseases" resulting from the consumption of GM foods. This example of an instance of debate-like exchange on

[82] For Bwalya Nondo, Dr. Luke Mumba is "a Zambian scientist who has taken interest in biotechnology." (*The Times of Zambia*, March 12, 2002)

the safety issue is a reverberation from the global debates inasmuch as it occurs very early in the coverage. Nevertheless, even if it occurs very early in the coverage, there is criticism of the biotech multinationals and hence the emergence of a practical and economic concern about the adoption of GM crops in Zambia and the region. Unlike in the global debates where green consciousness criticised the biotech multinationals based on safety concerns, here, criticism of these global oligopolies – the criticism itself being practical and economic - transcends the 'green agenda.'

In April 2002, in *The Post* article entitled "Lusaka has no laboratory to detect GM products" (April 24, 2002), Dr. Mulenga is reported as having made a presentation on GM crops at an environmental reporting workshop in Lusaka during which she decried Zambia's lack of GM policy and regulation. In the presentation, Dr. Mulenga is referred to as having said that the safety of GM foods for human health was not the only issue at stake - there were other and more pertinent issues such as the presence of biotech multinationals in the region, lack of scientific research capacity and infrastructure, and the absence of GM policy and regulation in Zambia. Dr. Mulenga was quoted directly as having said,

> Unless we regulate the inflow of GM crops, we are leading to serious problems. We are in a peculiar situation, now that we are faced with hunger. I cannot say eat or don't eat GM maize. But what is saddening is that these long term effects of GM crops are not officially known even though scientific indications are there to show that they exist. It would not be advisable to introduce GM crops before this process is completed. At least we have not yet recorded any cases of GM crops. So people shouldn't panic and get frightened. (April 24, 2002)

In this quotation, Dr. Mulenga is raising the issue of GM policy and regulation in the face of Zambia's weak base of science. This is an epistemic-political concern because it speaks to the vulnerabilities of a Southern African science community in relation to metropolitan science that originated biotechnology and now drives and leads in GM technology in agriculture worldwide. It appears that the lack of scientific research

capacity and infrastructure in Zambia put Dr. Mulenga in a dilemma - "a peculiar situation" - as she was faced with the urgency and immediacy of immense hunger (food need), on the one hand, and the GM maize, on the other hand. On the issue of safety of GM foods for human health, Dr. Mulenga was reported as having confessed that she could not advise people in Zambia whether to consume or not to consume GM maize. She did not know the scientific indicators of the "long–term" effects of GM foods on human health. For her, the Zambian science community was too poor to carry out risk assessment of GM foods and crops locally.

It can be seen here that Dr. Mulenga's participation in the debate changed the direction of the coverage from the human health and safety issue to that of the epistemic-political vulnerability of the Zambian science community. She reportedly saw the issue of the lack of scientific research capacity and infrastructure as crucial because it spoke to the weak bases of science in Zambia and the region, and hence the problem of the 'Cinderella' status and peripheral position of Zambian and regional science in comparison with metropolitan science.

Here I see the emergence of what will become a significant theme in the coverage of the debate –epistemic-political concerns about adopting GM crops in Zambia and the region. Thus, in what appeared as a human health and safety issue, Dr. Mulenga was in effect resisting GM cropping epistemic-politically. Dr. Mulenga was also reported as having said that she was concerned about the dominance of the biotech multinationals in GM technology in agriculture regionally. For her, the dominance of such global oligopolies in the agricultural sector, the backbone of most of the national economies, undermined poverty-reduction efforts in the region. The practical and economic concern about the Zambian science community's lack of capacity to conducts risk assessment continues to be a point of focus, in that coverage shifts from the safety concerns to a practical and economic concern about the monopoly of the region's seed sector by the biotech multinationals. Moreover, there is another point of focus on the epistemic-political, that is, the Cinderella status and peripheral position of postcolonial science has the potential to fuel resistance to scientific and technological advances and innovations such as GM

technology in agriculture because they are originated, led and driven by the West. It is not necessarily the science and technology that is being resisted but its power, given anxieties about colonial legacies.

In June 2002, in *The Post* article entitled "Chiluba's ASIP was a total failure-FAO" (June 18, 2002), Zambia's representative to UN FAO Richard Fuller was reported as having said that GM technology in agriculture was not appropriate for Zambia because the country did not have a well-developed agricultural system and it lacked a regulatory framework for the controversial science. Thus, on the surface, this appears as a safety concern, but there is more at stake. In the report, Fuller's anxiety around the absence of a regulatory framework for GM technology in agriculture was related his concern about the Chiluba regime's "mismanagement" of donor funds intended to boost small-scale farming under the Agricultural Sector Investment Program (ASIP) in the period mid to late 1990s. (June 18, 2002) Here I see the UN agency engaged in criticism of the Zambian state. The coverage continues to explore directly the practical and economic concern about the adoption of GM crops in what, on the surface, looks as though it is a scientific controversy. Notably, the state does not respond to the criticism.

A day later, *The Post* article entitled "UN works on emergency food appeal for Zambia" (June 19, 2002) reported a radio interview in which UN WFP country director Richard Ragan had been asked whether Zambia would get GM maize as relief food. The article focussed on the intervention of the UN WFP in light of the massive hunger that was ravaging Zambia and the region. Here I see the emergence of a food-need issue (the urgency, immediacy and immensity of the hunger) in the coverage. The subject matter of GM maize in particular only came towards the very end of the article. Ragan was reported as having said that the UN agency was considering donating relief maize, which would be genetically modified, to Zambia. Zimbabwe was reported to have already rejected a shipment of GM maize from the US. (Zimbabwe's initial rejection of the offer was attributed partly[83] to human health and environmental safety concerns. Eventually, Zimbabwe accepted the offer). In the report, Ragan was reported as having said that the

[83] In addition to and over and above safety concerns, there were political concerns motivating Zimbabwe's initial rejection of the UN WFP's offer of US-produced GM maize. See *Chapter 5* below

hunger was a matter of urgency requiring immediate intervention because it was immense, affecting most severely orphans, the elderly, the terminally ill, and other vulnerable people in Zambian society. In effect, Ragan raised the issue of GM maize against the background of food need in Zambia. On this issue, Ragan was quoted directly as having said,

> Our feeling is that orphans and vulnerable people will be at risk because the price of mealie will be up. We need to move now because in all likelihood, it's going to take sometime before we bring the food. We got to get the food pipeline today. (June 19, 2002)

In this quotation, by presenting the hunger as being urgent and immense, requiring immediate relief, Ragan is driving a food-need argument. Hunger is definitely a major event in the debate. As always, the most vulnerable people in society need most urgently the intervention of international relief organisations such as the UN WFP and FAO, especially in a situation where the nation-state, for whatever reason, is unable to reach out immediately to these people.

Thus, as has been seen in the four articles, the direction of the coverage in the March-June 2002 period of the Zambian debate is as follows. A range of concerns about GM foods and crops is raised, both as scientific concerns about consuming GM maize and as political concerns about adopting GM cropping in Zambia. Scientific concerns fall into two broad categories, human health and the safety of GM foods, on the one hand, and the merits and demerits of GM cropping in Zambia in particular, on the other. Concerning participants in the coverage, even the science experts do not agree about the merits and demerits of GM cropping.[84] The beginnings of political concerns in relation to GM maize are discernible in this particular period. Generally, the biotech multinationals and GM technology in agriculture are being presented negatively and resisted both practically and economically and epistemic-politically.

[84] For example, Dr. Mumba held a 'science-as-saviour' point of view whereas Dr. Mulenga was concerned about the weak base of Zambian science to cope with the challenges of GM cropping

The key features of the coverage in the March-June 2002 period are as follows. The debate is of very low intensity. Except for the one feature article in the March 12, 2002 edition of *The Times of Zambia*, the articles are in the form of reports. The coverage presents hunger as becoming famine and this prompted the UN WFP to plan to offer Zambia US-produced GM maize as relief food. Further, this early stage of the Zambian debate is marked by tension between truth-claims about the science and technology of GM technology in agriculture (Dr. Mumba, *The Times of Zambia,* March 12, 2002) and the local *interest* (albeit problematic) in adopting GM cropping as a form of sustainable agriculture (Dr. Mulenga, *The Post,* April 24, 2002). Generally, there is no in-depth coverage of the key issues by particular press texts during this period.

Here it is important to note that during this particular period, the coverage displays two debate-like exchanges in the first article (March 12, 2002) but these particular exchanges, in spite of their having local inflections, are reverberations from the global debates. Moreover, the safety issue is becoming recurrent in the coverage and hence is steadily building into some kind of 'safety argument' that runs through all the four articles. But, at the same time, given the imposing presence, if not the predominance, of political (practical and economic and epistemic-political) concerns that are specific to Zambia and the region, the safety argument, though recurrent, is operating as a side, and not central, argument in the coverage.

(II) July 2002 and GM seed

From the July 2002 period, four articles concerning the debate, and all of them in *The Post,* were selected for analysis. Two of the articles (July 26 and July 30, 2002) were reports and the other two (July 30; July 29&31, 2002) were editorial comment and column, respectively. The event being generally reported in the four articles of July 2002 was the offer of GM maize to the Zambian state and the state leaders' indecision as to whether to accept or reject the offer. The key issues being raised can broadly be described as GM seed (*The Post*, July 26, 2002; July 30, 2002), human health and environmental safety (July 30, 2002; July 29&31), sustainable agriculture, international trade, GM

policy and regulation (July 30, 2002), and human dignity and foreign aid (editorial comment, July 30, 2002).

As regards the sources quoted or referred to in the texts, three science experts (UNZA molecular biologist Kazhila Chinsembu, agro-scientist and biotech consultant Bernadette Lubozhya and Dr. Mumba) and three church-based civil society representatives (Fr. Muweme Muweme, Paul Desmarais, and Fr. Pete Henriot) dominated the coverage in July 2002. On the 30th of July 2002, *The Post* also reported a Sky News Television interview in which Zambian State President Levy Mwanawasa and Vice State President Enoch Kavindele were referred to as having rejected the offer unambiguously.[85] On the same day, *The Post* editorial covered the topic –the state's rejection of the offer. Thus, as regards participation in the debate, like in the previous period, in July 2002, the debate was dominated by science experts, civil society representatives, state leaders and a newspaper editor – and so participation in the debate can be said to be elite-official.[86]

Key features of the coverage in July 2002

In June 2002, the Zambian state had rejected the offer of US-produced GM maize, triggering a regional debate. Afterwards, the Zambian debate became intense.

An example of an instance of 'real' debate

On July 26, 2002, in *The Post* article entitled "Government undecided over GM maize – Kavindele," Kavindele was referred to as having said that state leadership was undecided as to whether to accept or reject the offer because it was not sure about the safety of GM maize for human health. In the same report, there was an exchange between USAID administrator Andrew Natsios and UNZA microbiologist Kazhila Chinsembu. The exchange went as follows.

Natsios:

[85] The report ran thus, "We would rather starve than get GM foods, says president." (*The Post*, July 30, 2002)

[86] The sources are socio-politically advantaged and professionally-privileged. Sources in debate are usually of this kind. (See Van Ginnekin, 1998)

"I buy it all the time; I feed my three kids and my wife with GM- improved corn… Even our animals are fed on GM fodder." (July 26, 2002)

Chinsembu responded:

> There are genuine fears… We need to take precautions because we haven't done a risk assessment here yet. The most important point is that we need legislation in place in case there are disputes in the future. People need to have a choice. Even in the US genetically modified food is labeled so people can choose. Here we have no choice, which is morally wrong. (July 26, 2002)

In the first quotation above, Natsios is assuring Zambians that GM maize is safe for human and animal health. Natsios is saying there are no health risks as far as the United States of America is concerned; after all, his American family eats and has been eating GM foods for several years without incurring any health risks. In the second quotation above, Chinsembu is saying there is need for precaution; the health risks specifically Zambians are unknown since no risk assessment has been conducted in Zambia. In this Natsios-Chinsembu exchange, the issue is that of the safety of GM foods for human health. Natsios and Chinsembu are speaking from the same perspective –health risks of eating GM foods. Both of them are keeping the focus on the same topic, GMOs. They are sticking to the point that as far as the consumption of GM foods is concerned, considerations of health risks are crucial. Chinsembu is responding to the same point, taking it forward, and along the same path, raising the related issue of GM labelling and consumer rights of food choice.

In other words, Chinsembu is developing a position in the same direction as that of Natsios'. Chinsembu's is a counter position – in that he alludes to "genuine fears" - and hence contradicting Natsios' position (that GM foods are perfectly safe for human health). This is an example of an instance of 'real' debate. Additionally, this brief exchange brings into view the issue of the epistemic-political vulnerabilities of Zambia and the region. It can be seen that Chinsembu is making a proposal for local risk

assessment of GM foods and crops against the background of poor scientific and research capacity and infrastructure in the Zambian science community. The next article takes up this issue.

Then Chinsembu was further reported as having suddenly changed his view from the issue of human health and safety to that broadly described as GM seed, arguing that if GM maize seed turned out to be "superior" to traditional maize seed then the latter would be "wiped out" genetically. Therefore, it is really only up to a certain point in the article that Chinsembu can be said to be engaged in some sort of debate with Natsios. I consider Chinsembu's rather sudden change of view in Section below.

In the next article, civil society commended the Zambian state for its unambiguous rejection of the offer. On July 30, 2002, in *The Post* article entitled "Zambia shouldn't be pushed into accepting GMOs – JCTR," two representatives of the Jesuit Centre for Theological Reflection (JCTR) – Fr. Muweme Muweme and Fr. Pete Henriot - were reported to have been concerned about the pressure exerted on the Zambian state to accept the offer. Fr. Henriot was referred to as being particularly concerned about health risks of consuming GM foods in the face of the Zambian science community's lack of scientific research capacity and infrastructure:

> We currently have no capacity to evaluate, monitor, and sustain the health risks posed by GMO products, at the very moment that the global market is pushing for healthier food products. (July 30, 2002)

In this quotation, Fr. Henriot is developing the position of local scientist Chinsembu on the need for local risk assessment of GM foods and crops before accepting the offer. Fr. Henriot's concern about the epistemic-political vulnerabilities of the region's science communities, including that of Zambia, in relation to metropolitan science continues to be a point of focus, in that civil society buttresses the position of the local scientist. Fr. Henriot was also referred to as having commended agriculture minister Mundia Sikatana

for supporting the state presidency in rejecting the offer. In support of the state, Fr. Henriot said,

> Stating that Zambia has to prudently evaluate the current offer, especially in the light of discussion on the National Biotechnology and Biosafety Policy, is a very positive stance that we endorse. (July 30, 2002)

The "discussion" on GM policy and regulation would be going on in spite of and in the midst of Zambia's hunger. Concerned with the long-term consequences of accepting the offer, both the state leadership and Fr. Henriot were apparently unmoved by the UN WFP's appeal for relief food given the food need. For his part, Fr. Muweme commended state leadership for acting wisely and courageously by rejecting the offer. For Muweme, the food shortage situation in Zambia and the region needed to be handled carefully, in such a way as to avoid even greater problems in future. Fr. Muweme suggested a multi-stakeholder approach, saying, "Much more in-depth examination by government officials, members of parliament and civil society is required." (July 30, 2002) His concerns were about the lack of safety of GM maize for human health and the negative impact of GM crops on the infrastructure of Zambian agriculture – thereby raising two key issues, human health and safety and sustainable agriculture. Noteworthy here is the recurrence of the issue of human health and safety and the emergence of the issue of sustainable agriculture. The latter issue is overtly practical and economic and hence in the coverage political considerations around the adoption of GM crops by Zambia and its regional neighbours are continuing to be more predominant and more overt.

In the same article, Kasisi Agricultural Training Centre (KATC) representative Paul Desmarais was reported as having resisted GM cropping because, to his view, it would not be sustainable agriculture for Zambian small-scale farmers. Desmarais was referred to as having argued for sustainable agriculture for this lowest category of farmers. Adopting an expert voice, for Desmarais, sustainable agriculture meant "promoting a farming system that uses low external inputs and makes greater use of natural resources found at farm level, including seed." (July 30, 2002) Here, the practical and economic issue of

sustainable agriculture recurs in the hands of another civil society representative who raises a new issue - seed. Still in the same article, JCTR and KATC biotech consultant Lubozhya was reported as having been concerned about the long-term problems that GM crops would bring to Zambia such as the loss of the European markets in non-GM products, environmental degradation, loss of biodiversity and, most tragically, the death of Zambia's informal seed sub-sector. While the issue of seed recurs, the issues of environmental safety, international trade and biodiversity are raised for the first time in the coverage. Thus, the coverage shows the continued predominance of practical and economic concerns (international trade, overtly, and biodiversity, implicitly). Concerning Zambia's informal seed sub-sector, Lubozhya was concerned that the same corporation (Monsanto) owned both the GM seed and the matching agro-chemicals (herbicides and pesticides). (July 30, 2002) Notably, both Desmarais and Lubozhya raised the seed issue. Both issues - international trade and seed - are overtly practical and economic. Having addressed issues of environmental safety, biodiversity, international trade, and seed, Lubozhya turned to the issue of the safety of GM food for human health, saying,

> For officials from the United States to say that they have eaten GMOs without bad effects is certainly no argument at all for ready acceptance of GMOs into Zambia. (July 30, 2002)

In this quotation, the issue of human health and safety continues to be a point of consideration (rather than focus), in that even for someone like Lubozhya who raises practical and economic concerns does not completely lose sight of it. Implicit in this quotation is Lubozhya's allusion to USAID administrator Natsios who, it was seen above in his exchange with Chinsembu, had assured Zambians that GM foods were safe for human health. Thus, Lubozhya is hereby developing a point already made by Chinsembu about the need for local risk assessment. It can be seen in this article that while practical and economic concerns are becoming predominant and overt, the safety issue continues to be recurrent in the coverage.

In the next article, the hunger was reported as urgent, immediate and immense. But, in spite of the food need, there arose an ethical-political issue - the dignity of the hungry people. On July 30, 2002, in *The Post* editorial entitled "Dignity in hunger", the article took an ethical-political angle to the debate. While framing the hunger as "a major humanitarian crisis" which, without the intervention of "external partners," could degenerate into "a serious catastrophe" affecting "over two million people," the editorial comment went thus, "Zambians need to have dignity even in times of suffering and hunger" and that "even beggars deserve some dignity." For the editor, the human dignity of Zambians was at stake because the American loan offer to Southern African states came with stringent conditions, one of which was that the money had to be used to buy maize from American commercial farmers only. The editorial comment raised two issues that are featuring for the first time in the coverage – human dignity, which is ethical-political, and foreign aid, which is practical and economic. The problem for the Zambian state was that the American maize would necessarily be genetically modified. The editorial comment juxtaposed the ethical-political issue of human dignity with the practical and economic issue of foreign aid:

> Zambia's plea for aid has been well received and we appreciate the international community's favourable response to this crisis that is currently brewing. But as they offer their assistance, they should also acknowledge that even the beggars deserve some dignity. Of concern to most Zambians and all other countries affected by the food deficit in the region is the issue of the Genetically Modified Maize from the US. While the gesture of assistance may be well meant, it is a matter of concern that the US has set as a condition that it would only provide funds to purchase the genetically modified grain. (July 30, 2002)

The raising of the issues of human dignity and foreign aid amounts to criticism of the US government. This is political criticism targeted at an external power and authority, a superpower. However, the article does not confine criticism to superpowers; the Zambian state equally faces criticism.

While acknowledging adverse weather as a contributing negative factor leading to the regional famine partly due to the prolonged drought, the editorial comment blamed Zambia's hunger on "several poor [agricultural] policies" of the previous regime, Frederick Chiluba's administration:

> It is a fact that the agricultural sector [has] been on the decline due to the several poor policies that were implemented by Chiluba's government. Chiluba had managed to reduce Zambia's agricultural potential from being self-sustaining to being dependent on food imports. Even the move to establish the Food Reserve Agency to enhance food security has been a lamentable failure and left farmers in a more desperate situation. There is no doubt that this desperate situation in the agricultural sector calls for immediate corrective measures. But while this is being done, there is a serious threat of hunger to be addressed, also urgently. (July 30, 2002)

In this quotation, the Southern African postcolonial-democratic regime of Zambia is being criticised for being policy-wise inept in the agricultural sector. Generally, Chiluba's tenure (1991-2002) was notorious for both high-level (grand) corruption and extremely poor service delivery. Notably, the hunger is being reported as urgent, but unlike UN WFP's Ragan who drives a food-need argument, the editorial comment is not making any appeal for relief food; it is merely acknowledging "a serious threat of hunger" in Zambia. Having rendered the debate predominantly and overtly political, the editorial comment moved on to consider the reported motivation of the state leaders' rejection of the offer – viz. the issue of the lack of safety of GM maize for human health. Rendering the state's decision thus, the editorial comment went on to tackle the issue of safety; it read:

> However, the worry among Zambians and most people in the world is the effect of this same unnatural food on human beings. What the people are simply asking, and thus the US should appreciate the concerns, is whether this food is safe for

> their consumption… What is of paramount importance is the safety of the nationals. (July 30, 2002)

Looking at this quotation, even if it is so far sidelined by the political concerns , the safety issue continues to be a point of consideration in the coverage, and hence the recurrence of the safety argument –GM food is hereby reported as "unnatural." The editorial comment had begun by raising ethical-political and practical and economic concerns, but strangely, it ended up stating that the safety issue was of "paramount importance." It is as if the science (as is implied in the recurrence of the safety argument) was trying to push away the political from deliberation. As a point (simply asserting the "paramount importance" of the safety issue), it does not take the safety issue forward and along the same path as that of the Natsios-Chinsembu exchange. However, the next article does just that.

In the column of July 29, 2002 (which was reproduced on July 31, 2002) of *The Post* entitled "Safety of GMOs," Dr. Mumba singled out concerns about the lack of safety of GM foods in his contribution to the debate. He said at length,

> I have been compelled to contribute on the subject, specifically to address three pertinent issues on the current debate. Firstly, to advise on the question of the safety of genetically modified foods. Secondly, to deal with some common misperceptions that have clouded the debate and thirdly, to make specific suggestions on the way forward as regards GM maize which has been offered by donors. As regards food safety, [GM foods] are safe to eat [and] so far there is no shred of evidence to suggest that eating GM food will be bad for anyone's health. (July 29 &31, 2002)

Concerning the Natsios-Chinsembu exchange of March 12, 2002, in this quotation Dr. Mumba is, rather strangely, taking sides with Natsios, against Chinsembu, his fellow Zambian scientist. While Natsios had argued that GM foods were safe to eat, Dr. Mumba developed Natsios' point further, saying that the lack of safety of GM foods could not be

proven because there was no evidence. Thus, here the coverage continues to explore directly the points for and against the human consumption of GM foods such as GM maize. In quoting Dr. Mumba, the rather 'narrow focus'[87] on safety is maintained, albeit incongruously, and the controversy continues to look as though it is centred on whether GM maize food is safe or unsafe for human health. Further, Dr. Mumba appears to have held a 'science-as-saviour' view concerning GM foods and GM crops in particular and GM technology in agriculture in general. He praised them thus:

> GM foods may turn out to be better for people … Biotechnology is no different in principle from breeding techniques that have been used for decades … When properly assessed for safety and approved by the appropriate regulatory authorities, genetically modified crops can be a significant part of the answer to the conservation of our biodiversity. It is a powerful weapon in Zambia's war on poverty and hunger and can also do much to alleviate environmental degradation (July 29 and 31, 2002)

In his stating that "GM foods may turn out to be better for people" and "genetically modified crops can be a significant part of the answer to the conservation of our biodiversity," Dr. Mumba is evidently excited about GM technology in agriculture. For him, the science and technology is a saviour of Zambia and the region, promising to end hunger, and to reduce poverty significantly. Thus, à la Dr. Mumba, one might get the impression that what was at play in this article was a scientific controversy –a debate internal to science - but this kind of reading would be superficial.

All things considered, across the four articles of July 2002, the range of concerns raised in the July 2002 period (practical and economic, epistemic-political, and ethical-political) is predominantly and overtly political. During this particular period, fresh issues such as those broadly described as seed, biodiversity, international trade, human dignity, and foreign aid emerge in the coverage of the debate but the safety argument (human health and to an extent environmental safety) carries on throughout this particular period.

[87] As in telescoping, for example

Concerning participation, like in the March-June 2002 period, the July 2002 period is dominated by sources that are elite-official. Of the scientists, Dr. Mumba, who had participated in the March-June 2002 period of the debate, this time around zeroes in on his 'science-as-saviour' view, supposedly taking advantage of the ample media space accorded to him as a columnist. In effect, Dr. Mumba narrows down the domain of exchange to the safety argument. Ragan drives a food-need argument but the other participants, across the four articles, do not take it up –they seem to find it unappealing, in spite of the chronic hunger in the country and the region. Thus, during the July 2002 period, the list of the debate towards predominantly political concerns is discernible and the safety argument, though sometimes sidelined, carries on in various postures and magnitudes throughout the period.

As regards the key features of the coverage in July 2002, the Zambian debate gained intensity. There is one instance of 'real' debate during this particular period. The coverage is broadly on the state's rejection of the offer. Apart from Dr. Mumba who advises the state leaders to accept the offer, the sources quoted or referred to in the texts side with the state leaders. Moreover, with the exception of Dr. Mumba's column on the safety of GM foods and crops, it is important to note that there is no focus on particular topics in the coverage by particular press texts during this period. The coverage continues to present the biotech multinationals and the US government negatively. As in the March - June 2002 period, in July 2002, the safety issue remains recurrent – including an instance whereby it is being declared as of "paramount importance." Thus, the safety argument is carrying on in the coverage but, again, on the sidelines of the coverage of a debate that is steadily becoming predominantly and overtly political.

(III) August 2002 and the issue of genetic experimentation

From the August 2002 period, twelve articles concerning the Zambian debate were selected for analysis. Except for one article in the state-owned *Zambia News Agency* (*ZANA*), eleven of the articles were in *The Post*. The articles consisted of seven reports,[88]

[88] See *The Post*, August 1, 2002; *The Post*, August 10, 2002; *The Post* , August 12, 2002; *The Post*, August 12, 2002; *The Post* , August 14, 2002; *The Post*, August 14, 2002; *The Post* , August 22, 2002

four opinions (op-eds),[89] and one feature (*The Post*, August 21, 2002). As in the previous texts, in these twelve articles, the event generally being reported is the Zambian state's rejection of the offer. The key issues being generally raised in the debate include those broadly described as human health and environmental safety, food need, foreign aid, corruption, food security, farm input subsidies, collusion, conspiracy, and genetic experimentation. The last four key issues are new, so far. As regards the sources quoted or referred to in the texts, natural scientists, US government representatives, a social science expert (social anthropologist), an IMF representative, an NGO representative, and a journalist dominated the coverage in August 2002. Thus, like in the March-June 2002 and July 2002 periods, elite-officials dominated the coverage in August 2002.

Key features of the coverage in August 2002

Eventually, Dr. Mumba got a response from a fellow natural scientist and the response was partly scientific and partly historical-political. On August 1, 2002, in *The Post* article entitled "Zambian scientists divided over GM matter", UNZA Lecturers and Researchers Union (UNZALARU) Secretary-General Dr. Timothy Mwanza was reported as having accused both the US government and Dr. Mumba of colluding with the biotech industry. Dr. Mwanza was referred to as having questioned the motive of the US in its foreign aid program, alleging that the US was driven more by "business motives than philanthropy." Turning to Dr. Mumba, his fellow natural scientist, Dr. Mwanza was referred to as having laid a charge of corruption on Dr. Mumba. On this charge, Dr. Mwanza said, "Some experts had allegedly been bought off to convince the state that GM maize was safe." Further, it will be recalled that Dr. Mumba had recently appeared in the column of *The Post* of July 31, 2002 and so Dr. Mwanza's response the following day, on August 1, 2002 in the same newspaper, seems to be the media's attempt to stage debate between the two natural scientists. Dr. Mwanza was reportedly concerned about worsening food insecurity upon the introduction of GM cropping in Zambia, saying,

> We cannot depend on a Republican US government, driven and backed more by business motives than philanthropy, to lecture to us that GM maize is safe for

[89] See *The Post*, August 2, 2002; *The Post*, August 2, 2002; *The Post*, August 8, 2002; *The Post*, August, 21, 2002

> human consumption. We need to be extra cautious because we know. If GM maize containing the terminator gene is planted and cross-pollinates with our organic maize, we risk destroying the engine of our food security that is driven by small-scale farmers that depend on storing seed from their own harvest. Small-scale farmers produce over 80 per cent of maize in Zambia, thus as a union we are against this veiled form of colonization from the US. In the absence of bio-safety legislation, what will happen if things go seriously wrong? We demand that the government should exercise extreme caution and think twice before it acts. If you want to test the depth of a river, do not put both legs into the water. (August 1, 2002)

In this quotation, Dr. Mwanza's concern is about the consequences of adopting GM crops for Zambia's food security rather than about the safety of GM foods for human health or the environment. Here I see that the issue of food security emerges in the coverage. For him, the "terminator gene" has the potential to destroy the informal seed sub-sector. Seed is becoming a recurrent issue in the coverage. Adopting a trade unionist (social activist) voice, Dr. Mwanza is casting the American GM maize in particular and GM technology in agriculture in general as a "veiled form of colonisation from the US," in itself an anti-colonialist positioning. Dr. Mwanza is pointing to the region's historical circumstance of colonialism, the re-installation of which he is resisting. Interestingly, Dr. Mwanza's response to Dr. Mumba is historical-political rather than scientific, a point to which I return in Section 3.2 below.

A social theorist took the Zambian GM debate to another level –global politics and economics. On August 2, 2002, in *The Post* article entitled "Who needs GM foods", proffering his view on the state's rejection of the offer, UNZA social anthropologist Dr. Owen Sichone was referred to as having said that Mwanawasa's rejection of the offer was a "nationalist" attitude that could prove costly "in the globalized arena of international politics." Dr. Sichone reportedly argued that in a neo-colonial setting, such as Zambia in 2002, Mwanawasa's rejection of the offer would make him unpopular in the West. Dr. Sichone was trying to demonstrate his expert knowledge on the dynamics of

globalisation[90] vis-à-vis Africa-West relations. For him, while it was hard for a "beggar nation" like Zambia to reject offers of any food aid, including yellow maize, Zambians could slow down the "slide into dependency" on handouts from the métropole. Dr. Sichone also appeared to be concerned about the IPR and patents of the biotech multinationals and, for him, GM crops were "designed to make the companies that own the patents for particular genes super rich." Dr. Sichone was suggesting that the chief beneficiaries of GM cropping were the biotech multinationals. In the same article, Dr. Sichone was also referred to as having been concerned about the economic injustice in the agricultural sector globally; poor countries were barred from subsidising the inputs of their farmers whereas rich countries gave hefty farm input subsidies to theirs. On this issue, Dr. Sichone was quoted directly as having said, "The aristocratic and thoroughly inefficient EU farmers and US food corporations [get] unfair subsidies," which, for him, is a global condition that has made the poor "beggar nations" and the rich "super rich." Thus, concerning the issue of foreign aid, Dr. Sichone points to the global inequality between Africa and the West. For the social anthropologist, the Zambian GM debate is unmistakably practical and economic with global overtones. It can be seen that in this article, in various ways, Dr. Sichone addresses the global inequality between the rich North and the poor South – within the context of globalisation, and in the process, he surfaces new key issues broadly described as the IPR and patents of the biotech multinationals, and farm input subsidies. Importantly, he addresses the global inequality that underlies the two macro-regions of the world, the North and the South. Importantly, in Dr. Sichone's hands, the practical and economic element in the Zambian GM debate takes on a global character.

[90] Anthony Giddens coined the term 'globalisation' in the 1980s, in the sisterly disciplinary areas of sociology and international relations. It implies interconnectedness of human agencies across the globe, leading to increasing interaction and interdependency, inter-territorially. (Thompson, 1995) There are three schools of thought on globalisation: (a) *cultural theorists*: tend to (positively) look at globalisation as having the potential to improve inter-territorial dialogue, empowering minorities, and progressive solidarity worldwide; (b) *political economists*: tend to look at globalisation negatively as economic re-colonization and sub-imperialism of the periphery by the centre, and hence a serious threat to the sovereignty of the nation-states and regional practical and economic integration and continental unification; (c) *communication media theorists* tend to look at globalisation positively. For them, the globalized diffusion happens at the same time as localized appropriation of messages originating at a distance—symbolic distancing is countered by active and creative local uptake of mediated information and communication. There are two shared concerns about globalisation, viz. (a) one-way and uneven flow of goods, that is, from North to South; (b) inequitable distribution of global communication networks (oligopolies) and unequal access to media. Part of the concern involves international regimes historically-problematic status and role in the periphery: IMF, World Bank, and the UN. Regional and continental regimes – for example, the AU, SADC, ECOWAS, NEPAD - suspect the status and role of these international regimes in some countries, and hence the voguish talk of regional practical and economic integration, and sometimes of the unification of Africa

The historical-political element that Dr. Mwanza had surfaced in *The Post* article of August 1, 2002 recurred on the next day in the same newspaper. On August 2, 2002, in *The Post* article entitled "Political Watch: establishing the safety of GM maize," UNZA veterinary medicine lecturer Dr. Kennedy Choongo was reported as having detected a conspiracy between the UN WFP and the US concerning the food aid program of Zambia and Southern Africa in 2002. Dr. Choongo said,

> My worry is that the scientific advice we need… has already been provided by the same people that are giving us this [GM] maize. In fact, anything more may be obtainable only from them or their colleagues. There is likely to be no new or independent advice because the time is too short. (August 2, 2002)

Dr. Choongo's "worry" is in effect his doubts about the credibility of the scientific advice that Southern African governments would get from the métropole, which has vested political interests in the science and technology in question. For him, there was a precedent of genetic experimentation in the region – the abusive and lethal science of the Apartheid era of South Africa. Dr. Choongo was quoted directly as having said, "Dr. Death [Dr. Wouter Basson]…worked on experiments to get rid of Africans." For him, the American GM food aid is a form of genetic experimentation in which Zambians and Southern Africans would be used as guinea pigs. Dr. Choongo is inciting Zambians to be afraid of GM foods and crops. He is rationalising the fear because he is citing the precedent of genetic experimental abuse and exploitation rooted in the historical-political circumstance of Apartheid. It is important to note that the article surfaces a historical-political element that is an expression of apartheid legacy anxieties.

Incidentally, the fear of genetic experimentation implied the need for GM legislative protection of the Zambians. On August 8, 2002, in *The Post* article entitled "After GM food aid, what next?", Dr. Mwananyanda Mbekusita Lewanika, chief scientific advisor to the state and executive director of NISIR, was referred to as having criticised the state of dilly-dallying in establishing a national GM policy and regulatory framework . Dr. Lewanika said that the state was "caught pants down" – without policy and regulation on

GMOs - by the advent of the famine and the offer of the American GM maize. He advised the state to establish a National Biosafety Framework to regulate biotechnology. Dr. Lewanika was implying that the Zambian science community was un-prepared for GMOs and hence raising an epistemic-political concern.

Eventually, the US government commented on the Zambian state's rejection of the offer. On August 10, 2002, in *The Post* article entitled "If government refuses our maize, we will divert it to countries that need it – says US", two American Congressional Representatives on an envoy to Zambia expressed their views on the Zambian state's rejection of the offer. Alabama Congressional Representative Earl Hilliard assured Zambians that GM maize was safe for consumption because Americans had been consuming it for many years. For Hilliard, Americans had not experienced any adverse effects to their health; that GM maize food was served in American schools and medical institutions, and that "organic" food was "ordinary" food. Interestingly, Hilliard is equating 'GM food' with 'organic' food and arguing that it is consequently 'ordinary' food, where 'ordinary' implies 'safe.' For the study, in arguing for the safety of GM foods, Hilliard is developing the position Natsios took previously in his exchange with Chinsembu. (*The Post*, March 12, 2002) In spite of the occurrence of several political issues that are increasingly becoming predominant in the coverage, the issue of safety, though by now sidelined, carries on in the coverage. North Carolina Congressional Representative Eva Clayton was reportedly concerned about the severity of the hunger in rural Zambia – leading to total starvation and desperation there. On the severity of the hunger in rural areas, Clayton said, "People in Lusitu are depending on wild roots." This quotation exemplifies Clayton's perception of the hunger, especially in rural Zambia in 2002, as being urgent, immediate, and immense. She is taking up the food-need argument that Ragan initiated in *The Post* article of June 19, 2002, an argument that has so far found little or no appeal in the coverage.

Hitherto, the sources referred to or quoted in the debate have not included the local political opposition. On August 12, 2002, in *The Post* article entitled "End GM maize debate before people start dying – Moonde," United Party for National Development

(UPND) parliamentarian Japhet Moonde said that he was concerned about the debate in that it was happening while the people were starving. On the issue of GM maize against the background of the food need, Moonde said,

> The debate going on as to whether or not to accept the GMO must end. The people want food and not academic but unfruitful debates. [S]omething must be done with or without GMOs to address the hunger situation. This government must not play politics on the hunger situation. (August 12, 2002)

It can be seen that in time, someone in Zambia found Ragan's food-need argument appealing. In this quotation, for Moonde, there is an urgent need for relief food in Zambia and the GM debate is a luxury for the elite, state officials and politicians. Yet, in his insisting, "The debate … on …GMO must end," Moonde was in effect dangerously arguing for closure of the debate, in itself a threat to democracy, which thrives, on debate and deliberation on issues at stake in society. Perhaps his impatience lies in the fact that he found the debate "academic" and "unfruitful." Moonde criticised the state, saying, "This government must not play politics on the hunger situation." For him, the Zambian state leaders' indecision was endangering many people's lives in the country. Moonde's criticism of the Zambian state is new, so far, because it is criticism from within the domain of local party politics where there is a tendency for the political opposition of adopting a counter-position to the ruling-majority party on every issue at stake in society.

Eventually, a representative of an international financing institution responded to the issue of foreign aid that had emerged in *The Post* editorial comment of July 30, 2002 and had recurred in the same newspaper on August 1, 2002 in the hands of Dr. Mwanza. On August 12, 2002, in *The Post* article entitled "It will be tragic if Lusaka rejects GM maize – Ellyne", IMF Resident Representative Mark Ellyne was referred to as having addressed the issue of the conditions that came with US loans to Southern Africa. For Ellyne, Zambia was required to use the loan to access maize only from the US and that the US and the IMF had dictated that the US $ 50 million loan offered to Zambia be used to procure maize only from the American commercial farmers and under the IMF programs

Zambia was barred from seeking alternative arrangements. Further, Ellyne counselled that Zambians did not have any better option than the American GM maize, and he warned the Zambian state thus: "If you don't get this food you will be paying more money, which you don't have, for the same quantity of food". Interestingly, an integral part of the dynamics to the foreign aid issue is that potential recipient governments have no alternative to loan offers. This grim reality is being highlighted in Ellyne's quotation, a thing that speaks to the global inequality Dr. Sichone saw earlier.

An example of an instance of a debate-like exchange

Two days later, the issue of genetic experimentation recurred. Another member of the local political opposition echoed Dr. Choongo's concern about genetic experimentation. The issue of foreign aid also recurred. On August 14, 2002, in *The Post* article entitled "US sheds more light on GM maize," UPND parliamentarian Charles Kakoma raised the issue of genetic experimentation. Kakoma said the GM maize food aid was a form of genetic experimentation. In a speech in parliament, Kakoma urged the Zambian state leaders to destroy by burning on fire the 23,000 metric tons of GM maize wholegrain stored in the UN WFP warehouses in Zambia. Kakoma said,

> In Zambia, we value our lives. These lives cannot be experimented upon … [By burning the GM maize] we will be sending a signal to our donors that if they want to help, they should do so in good faith. (August 14, 2002)

For Kakoma, Zambians are not guinea pigs; he is expressing an anxiety about colonial racial legacies. Additionally, Kakoma is addressing the global inequality (underpinning foreign aid) that Dr. Sichone had seen earlier. Unlike Moonde who had criticised the Mwanawasa regime, Kakoma is criticising the western donor community, by implication, saying that western states give donor aid to Africa in 'bad faith'. As I show below, the US embassy in Lusaka responded partly to the criticism about its food aid program. In the same article, a representative of the US embassy in Lusaka who had attended the

national consultation [*indaba*][91] of August 13, 2002 complained that the US had been misrepresented at the *indaba*:

> Although the voices of some key stakeholders, such as the 2.5 million Zambians at the risk of starvation, seemed under-represented, the indaba, nonetheless offered an opportunity for many stakeholders to share their information. Regrettably, in the course of the indaba several speakers made points concerning the US' role in providing relief food that were misleading and inaccurate. In any case, the government would need to work out with the International Monetary Fund (IMF) arrangements for such a loan given the implications for Zambia's HIPC status. At this point, there is no specific loan proposal on the table and the Embassy hopes, the Government of the Republic of Zambia will not need at any point to exercise this last resort safety net option. Instead of building more schools or roads in America, the US government has, for humanitarian reasons, dedicated significant resources each year to help feed vulnerable people around the world.(August 14, 2002)

This was the first time that the US government responded to the criticism about the stringency of the conditions that came with its food aid to Zambia and the region. But the response is only partial because it does not fully address Kakoma's perception of 'bad faith' underlying US-Africa relations. In this quotation, the embassy is asserting that the US gives food aid on humanitarian grounds and that it would rather invest in improving its educational and road transport infrastructure. Unlike in the example of real debate above whereby the participants had the same perspective, kept focus on the same topic, stuck to the point, and responded to the point, here the only things that give the impression that Kakoma and the US embassy representative are engaged in communication exchange is that they are sometimes speaking to the same issue – foreign aid - but on this issue, they nearly miss each other's point. Moreover, Kakoma has another issue - genetic experimentation-, which does not get any response from the US embassy representative. In this respect, the communication between Kakoma and the US

[91] See Brighton Phiri, "US Comes Under Attack over GMOs." *The Post,* August 13, 2002

embassy representative is an instance of a debate-like exchange albeit weak engagement. Due to its opacity, I revisit this particular example in Section 3.2 below.

Also on August 14, 2002, in *The Zambian News Agency* (*ZANA*) article entitled "Biosafety key to verification of GM foods – biologist," South African biotech consultant Muffy Koch was referred to as having attributed the Zambian state's uncertainty about the US-produced GM maize to lack of scientific information. Addressing the press at Lusaka's American Centre, Koch was quoted directly as having urged the Zambian science community thus:

> We have been eating the US maize since 1996. Zambian scientists have the capacity to assess the safety of GMOs. All they need is good laboratories and safety framework. [They need] to exhaustively look at the available safety information in order to come up with a recommendation to government on a viable regulatory framework on GMOs. (August 14, 2002)

For Koch, the 'we' refers to South Africans – further attesting to the safety of GM foods. By disclosing that South Africans have also been eating GM maize food for several years, Koch helps to augment Natsios' position in the Natsios-Chinsembu exchange. Due to its continued recurrence, the safety issue –though still sidelined - can be said to be persisting in the coverage. It continues to be a point of consideration –rather than focus - in the coverage. Still in the same article, JCTR and KATC biotech consultant Lubozhya concurred with Koch. Lubozhya said,

> Government should undertake immediate steps to build the capacity necessary for testing agricultural products to detect the introduction of GMOs. This requires greater laboratory facilities. (*ZANA*, August 14, 2002)

Importantly, in the hands of Koch and Lubozhya, the safety argument suddenly re-surfaces in August 2002, a month when it looked as though it had been eclipsed totally from deliberation and hence its persistence in the coverage. However, as is implied in the

statement “This requires greater laboratory facilities,” the hitherto recurrent epistemic-political concern about Zambia science community’s unprepared-ness for the adoption of GM cropping becomes overt.

The ethical-political element re-surfaced on August 21, 2002. In *The Post* article entitled “How safe are food products in Zambia?”, NGO aid worker Charles Chabala was referred to as having commended the Zambian state for making a “safe decision” in rejecting the offer. Chabala said that GM foods were unsafe. For him, GM foods are not “naturally occurring products” but “artificial food” because “any food modified from its original nature or made to grow at a rate, which is quicker than its normal rate, has an effect on the well-being of human beings.” Here, Chabala is developing further Chinsembu’s position as presented in the Natsios-Chinsembu exchange above. *The Post* editorial comment of July 30, 2002 had rendered GM foods as ‘unnatural’. Now, Chabala is rendering them as ‘artificial’. In addition to his participating in the persistent safety argument, Chabala is doing another thing. In an allusion to Dr. Mumba, Chabala was quoted directly as having said, “It is extremely irresponsible for a Zambian scientist to claim that GM foods have no effect on human health.” (August 21, 2002) Chabala passes an ethical-political judgement on Dr. Mumba whom he portrays as pro-GM. Chabala’s kind of judgement is becoming recurrent in the coverage. It was also seen above that Dr. Mwanza insinuated that Dr. Mumba was a sell-out to the biotech industry.

In spite of trying to render its image positive, the US continued to be presented negatively in the Zambian debate. This time around, the US becomes a victim of a ‘conspiracy theory.’ On August 22, 2002, in *The Post* article entitled “Genetically modified,” journalist Roy Clarke featured GM foods and crops. In the feature article, Clarke referred to his daughter Kupela Clarke as having suspected a conspiracy between the US government and the biotech industry in such a way that those who ate GM maize would become “biologically pacified.” He quoted his daughter directly as having said that GM foods were

> one of Bush's weapons of mass distraction! …The Americans have been feeding us modified food with the gene of a mouse to make us all docile, and obey the American government. (August 22, 2002)

In this quotation, the global inequality to which Dr. Sichone had alluded previously is being taken up but to a higher level – underdog or beggar nation-states such as Zambia are genetically modified such that they are tame before and loyal to superpowers such as the US. In this conspiracy theory, American GM technology as applied to humans would be serving the questionable purposes of eugenics[92]; that is, to breed genetically modified humans.

Also on August 22, 2002, in *The Post* article entitled "Levy explains government's rejection of GM maize", Mwanawasa was referred to as having apologised to the UN WFP, the US and the rest of the western donor community for the state's decision to reject the offer, and that the rejection was "not intended to demean" those who had offered the relief maize. In particular, in his apology to the western donor community, Mwanawasa intended to reduce the devastating impact of –damage control- the apparent demeaning of the western donor community. Mwanawasa realised that the western donor community did not take kindly to his state's uncompromising stance against GM foods and crops. Mwanawasa also apologised to the people, saying,

> The rejection of GM foods was not intended to hurt people threatened by hunger. Rather, it was done to protect the long-term interest of the Zambian people and the environment. (August 22, 2002)

In this quotation, Mwanawasa is attributing the state's decision to reject the offer to "long-term" considerations around the issue of the safety of GM foods for human health and that of the environment. The Zambian state's unambiguous rejection of the offer was one of the events that led to the regional debate centred on GM maize. Interestingly, the reasons for the state's rejection of the offer were in themselves unclear and ambiguous;

[92] Theory and practice of selective breeding applied to human beings and hence a racist form of genetic experimentation

for example, in the quotation above, it is as if the safety issue was the main reason –but the bulk of the articles of August 2002 suggest otherwise.

Overall, in August 2002, the direction of the coverage of the debate is as follows. As has been seen in the twelve articles, the range of concerns is more predominantly and more overtly political than in the earlier period. During this particular period, fresh issues are raised such as those broadly described as food security and conspiracy theory. The safety issue continues to be recurrent though most often sidelined. The safety argument carries on throughout the period but as a side argument. Coverage shows a much more intense GM debate in August 2002 than in either of the two previous periods and this partly explains my difficulty in finding simple and straightforward moments of engagement during this particular period. I designate the steady increase in intensity of the coverage of the debate as 'the energy and vitality of the political ,' which is attributed to the steady gain in momentum of the political that relentlessly forces its way into an area of deliberation - due to its appearance as a scientific controversy - from where the political is ideally barred entry. Thus, science is being inhospitable to the political but which is, in turn, indefatigably gate crashing.

A thread of direction of the coverage towards more predominantly and more overtly political concerns is discernible during this particular period. The natural scientists are the most dominant sources for the media and their concerns are no less political than those of the other participants are. As for the key features of the coverage in August 2002, the articles on the debate are many and are distributed across most of the month. The concern about global inequality is surfaced alongside the issue of foreign aid just as apartheid legacy anxieties are expressed, for example, through the issue of genetic experimentation. Like that of July 2002, the coverage of the debate in August 2002 is broadly on the Zambian state's rejection of the offer.

Unlike in July 2002, the sources quoted or referred to in the texts in August 2002 do not take sides with the state. Instead, they problematise the state leaders' decision by surfacing the complexity of the hunger situation: on the one hand, in the short-term

('here-and-now'), there is the problem of hunger to be solved and, on the other hand, in the long-term('future'), there are GM foods and crops, which have far-reaching political (practical and economic, epistemic-political, and ethical-political) consequences. The coverage presents negatively GM foods and crops, and the western donor community in general. Reportedly, there is a concern about the negative representation of the US government at a Zambian GM *indaba*, but, overall, the coverage does not report the biotech multinationals as being similarly concerned about their public image. Indeed, various criticisms are levelled against the biotech multinationals alongside their presumed biotech expert collaborators and the Zambian state but the criticised seldom respond to the criticisms.

(IV) The Johannesburg Earth Summit[93] and the Issue of Informed Consent and the Upsurge of the Political

The Johannesburg Earth Summit lasted for ten days, August 26 - September 4, 2002. The Earth Summit is important in this study because it produced, in concentrated form, the variety of issues raised in both the Zambian and the regional debate. It was also a threshold (or an upper limit) for the regional debate in that it provided an extra sharp edge to the practical and economic critique of global inequality – the Cinderella status and peripheral position of Southern African postcolonial economies at the global level. Additionally, the Earth Summit can be seen as a watershed of the four national debates. In general, as a global deliberative forum, the Earth Summit is an initiative of the United Nations; it is organised every decade, usually around the broad theme of sustainable human development.[94] Brazil[95] hosted the previous Earth Summit in Rio de Janeiro in 1992. Like its Brazilian predecessor, the Johannesburg Earth Summit in 2002 was a vista for global public deliberation that attracted the communication attention of many voices, including but not limited to state leaders, science experts, academics, environmentalists, and poverty-reduction and development social activists.

[93] *Alias* The World Summit on Sustainable development [WSSD]
[94] Sustainable human development is a theory about development that has environmentalist undertones. (See Morse, 2003)
[95] In 2012, Brazil is also scheduled to host the next Earth Summit (Rio+20) in the same city of Rio de Janeiro

The debate on the Zambian debate took place on the sidelines of the Earth Summit, for example, in the form of press conferences, statements and briefings. During and soon after the Earth Summit, three articles concerning the Zambian debate in three different newspapers - the South African state-owned news agency, *Bua News* (September 3, 2002), *The Post* (September 5, 2002) and *PANA* (September 6, 2002) - were selected for analysis. All the articles were reports on the Earth Summit episode of the Zambian GM debate. The event generally being reported was the Zambian state's rejection of the offer, and it was the state's resolute stance, in the face of famine, which attracted the critical attention of the global community. The sources quoted or referred to in these three articles are elite-official, Mwanawasa, the American social activists, and the African Civil Society Group, respectively.

On September 3, 2002, in *The Bua News* article entitled "Zambia won't endanger people's lives – Mwanawasa," Mwanawasa was referred to as having raised the issue of genetic experimentation –now becoming a recurrent issue in the coverage. Mwanawasa was quoted directly as having said, "We will not allow our people to be used as guinea pigs." For Mwanawasa, the Zambian state would protect its citizens from genetic experimentation in much the same way as parents protect their children from deprivation and harm. Perhaps Mwanawasa was implying that since GMOs were generally at the experimental stage in the West, they were potentially harmful to human health. Zambia and the region would be used as a testing ground for the controversial organisms. He was also referred to as having argued that in Zambia and the region precaution was required because the West itself was uncertain about and divided on the issue of potential benefits and risks of GMOs. On the question of benefits and risks of GM cropping, Mwanawasa said,

> I have engaged extensively with the UN and other agencies, notably FAO and none of them have given the assurance that GMOs presented no future risks to human nature. In fact, the UN was not condemning or upholding the usage of GMOs. (September 3, 2002)

For Mwanawasa, the whole world, not just Zambia, has doubts about GMOs. It can also be seen that Mwanawasa's use of the term "future risks" signals his concern about the long-term consequences of adopting GM crops in Zambia. This re-echoes what he had said previously, in August 2002, back home, and hence a recurrent issue.

The American social activists represented at the Earth Summit commended the Zambian state for rejecting the offer of the US-produced GM maize. [96] On September 5, 2002, in *The Post* article entitled "Booing characterises Powell's address [WSSD]", American social activists were referred to as having criticised the Bush administration for acting in favour of "corporate interest over humanity and the environment." The social activists' criticism was reportedly in reaction to US Secretary of State Colin Powell's address at the Earth Summit in which he was quoted as having said that the US was "committed to the protection of the environment including global climatic changes." In particular, one of the American social activists, Michael Dorsey of The Sierra Club of Washington, DC, was reported as having threatened to undermine Congress in order to make it lose the vote at the November 2002 election. In reference to the Zambian state's decision, Dorsey accused his government of colluding with the biotech industry, saying,

> We are going back home and ensure that we radically vote out the current congress that has prostituted itself with the corporate world and relegating the interest of the people by even going to the extent of imposing GMOs on poor countries including Zambia. (September 5, 2002)

In this quotation, Dorsey is making a threat to Congress as is implied in his use of the phrase "radically vote out". Dorsey is suspecting collusion between the US government and the biotech industry in spreading GM crops globally – now becoming a recurrent issue in the coverage. Generally, looking at the American social activists' take on the Zambian GM debate, there was an upsurge of the political. Likewise, the African social activists represented at the Earth Summit commended the Zambian state. On September 6, 2002, in the *PANA* article entitled "African civil society backs Zambia for rejecting

[96] See also their "Statement of Solidarity with Southern African Nations over GM food and crops." (www.IATP.org, August 26, 2002. Retrieved in June 2006)

GM maize," the African Civil Society Groups (ACSG), which comprised representatives of NGOs from 45 African countries, were referred to as having lent their support to the Zambian state for rejecting the offer. For them, GM food was contaminated; they said,

> We the African Civil Society Groups join hands with the Zambian government and people in rejecting genetically engineered contaminated food for our starving brothers and sisters. We refuse to be used as the dumping ground for contaminated food, rejected by the northern countries… We also stand together in preventing our continent from being contaminated by genetically engineered crops, as a responsibility to our future generation. (September 6, 2002)

In this quotation, the African social activists are saying they are going to "join hands … for our… brothers and sisters," building solidarity with fellow Africans. For them, Africans, now artificially separated territorially by colonial geography, must come together in order to fight against neo-colonialism and neo-imperialism in their various guises and poises (the realisation of Nkrumah's dream of 'African Unity'). Drawing on the Nkrumaist doctrine of 'the unification of Africa,' as implied in their use of the phrases "join hands," "stand together" and "our sisters and brothers," the African social activists are calling for the unity of all Africans. They are decrying the pressure exerted on the Zambian state by the US, the UN WFP and the global financiers in particular and the western donor community in general. On the matter of external pressure, the ACSG said, "The Zambian government is being forced into a difficult position. Zambia … is exercising its sovereign right to refuse GM food." Here, the ACSG's are invoking the idea of "sovereign right," implying self-rule and autonomy in the African postcolony. Additionally, in their use of the phrase "dumping ground for contaminated food," the ACSG want to get the sympathy of the otherwise diverse audiences gathered at the Earth Summit for hunger-stricken Southern Africans. They also want to incite popular disapproval of the American GM maize. Importantly, the ACSG raised the issue of informed consent. This is an important point because it is a new issue, so far. On this issue, the ACSG said,

> Advanced informed agreement is the cornerstone of the Cartagena Protocol on Biosafety, and should be respected by UN agencies. The fact that countries and people require food assistance should not be a reason to deprive them of the choice to obtain non-GM food. (September 6, 2002)

The ACSG are in effect saying that 'informed consent' is required for the potential recipients of relief food such as GM maize. Put differently, even countries experiencing chronic hunger have a choice as to what offers of relief food to accept or reject, and these consumer rights of choice of relief food are enshrined in the global convention of the United Nations known as the Cartagena Protocol on Biosafety.

Overall, across the three articles of the Earth Summit period, the direction of the coverage of the Zambian GM debate is as follows. The range of concerns is exclusively political as evidenced in the sources reportedly surfacing the issue of nation-states' rights of sovereignty and the concomitant ethical-political rights of choice of recipient countries of relief food. Notably, the safety argument is not present during this period. Informed consent is the only new issue raised. Social activists are the sources that dominate the Earth Summit episode of the Zambian debate. The key features of the coverage are as follows. The three articles that cover the Earth Summit episode of the Zambian GM debate provide an upsurge of the political. Coverage presents the deliberation during the Earth Summit as extremely intense as evidenced by the social activists' booing and jeering of the American state leader, Powell.

As in the July 2002 and August 2002 periods, the coverage of the Earth Summit episode of the Zambian GM debate is broadly on the state's rejection of the offer of the American GM maize. Whereas the coverage presents the Zambian state positively – and this is the first instance of such an explicit presentation-, the US government and the biotech multinationals are presented negatively.

The Earth Summit precipitates the Zambian GM debate. All the features that show up during the Earth Summit are noticeable in the previous three periods of the coverage and hence my rendering of the Earth Summit as a precipitating event in the debate in particular and the entire regional debate in general. There is no instance of 'real' debate or debate-like exchange during the Earth Summit episode of the Zambian debate. The next section begins to consider this question, by looking at aspects of what else is going on in the coverage.[97]

3.2 Slippage at work in the coverage of the Zambian debate

This section presents selected examples of instances of rhetorical moves in the coverage of the Zambian debate, three examples of which are illustrative of reframing, three seen to be illustrative of sidestepping, one seen to be illustrative of silencing, and one seen to be illustrative of telescoping. Reframing means seeing approximately the same phenomenon from a different perspective, or setting it up differently and as a result some things emerge in new light or are read differently. Sidestepping means that upon confronting a challenging obstacle, one steps aside and goes on a parallel path –instead of staying on the original path, taking on the challenge, exploring it and clearing the path. Silencing involves the media not giving voice to an addressee who is, otherwise, addressed or provoked directly. Telescoping implies narrowly focussing on an issue or argument for some considerable length of time, in the process eclipsing or blurring wider, complex issues. These are the most important rhetorical moves that were picked out from the coverage of the Zambian debate and some moves function across periods while others happen internal to a particular period.

Reframing

It was seen above that on July 26, 2002, Natsios and Chinsembu reportedly addressed the issue of human health and safety. (*The Post*, July 26, 2002) In the article, Natsios and Chinsembu disagreed as to whether GM maize was safe or unsafe for human health. The former reportedly said that GM foods were safe for consumption because he fed his family safely on it while the latter said that GM foods were not safe for consumption

[97] Debate modelled on the classical (Habermasian) conception of debate is not manifest in this particular case. Classical debate cannot really be expected to manifest in a controversy handled in and by the media. More on this in Part 3 of the study

because there were "genuine fears" about their effects for human health. In this disagreement, there is some engagement between Natsios and Chinsembu in what the thesis designates as the 'safety argument', which is located within what could broadly be described as *logos*. However, Chinsembu changed his view from the issue of human health and safety to that broadly described as GM seed, saying that if GM maize seed turned out to be "superior" to traditional maize seed then the latter would be "wiped out" genetically. Chinsembu's response belongs to the practical and economic, which is also in *logos,* albeit a different dimension of *logos*. The topic of concern has shifted from safety to GM seed, even if both issues may preliminarily be located within what could broadly be described as *logos*. However, upon close inspection, it can be seen that Chinsembu's issue of GM seed is double faceted, in that it has a different dimension that belongs to what could broadly be described as *pathos* –the dependency of farmers on the biotech multinationals for GM seed every farming season. Zambian farmers would depend perpetually on the biotech multinationals for GM seed. In introducing the issue of GM seed, the focus of the coverage moves away momentarily from the human health and safety issue to a practical and economic concern. When Chinsembu changed his view from human health and safety to GM seed, a concern about the dependency of farmers on foreign companies emerged in the debate for the first time. In effect, Chinsembu reframed the safety argument into a dependency argument, thereby making a shift from the scientific domain of human health and safety to the historical and practical and economic domain of farmers' dependency on the GM seed of the biotech multinationals. There is thus a shift from *logos* to *pathos* and hence the rhetorical move of reframing. This suffices as an example of an instance of reframing because the reconstruction involves a major domain shift, leading to slippage in the debate.

The one example above is that of reframing within an article. The next and second example is that of reframing at the level of coverage. The phenomenon that was reframed was the decision of the Zambian state when it was offered GM maize. It will be recalled that the Zambian state rejected the offer and this decision was reportedly not based on budget because Zambia had the option of taking a loan to buy relief maize outside the US. Rather, the decision was based on the safety of Zambians. In August 2002, State

President Mwanawasa was quoted, retrospectively,[98] as having said, "We would rather starve than get something toxic."[99] However, IMF representative Mark Ellyne, instead of addressing the state president's safety concern viewed the state's decision to reject the offer of the US-produced GM maize exclusively in terms of budget; for him, if Zambia continued to reject the offer it would run into budgetary problems sooner than later as the market price of maize would continue to rise. Ellyne viewed the state's decision in terms of what could broadly be described as *pathos* –increased human suffering (more hunger) due to a possibly high increase in expenditure on imported maize. Even if there is some overlap of rhetorical domains between the state and Ellyne (*pathos* appears in their respective responses), his is a different dimension within *pathos*, and since he shifts quite substantially from the *logos* of the state, their topics of concern are different and divergent from each other. Ellyne said, "If you don't get this food … you will be paying more money." (*The Post*, August 12, 2002) By setting up the state's decision in terms of budget, Ellyne reframed the Zambian state's decision. Overall, the reconstruction of the state's decision about safety into a budgetary, or fiscal, issue is an example of an instance of reframing across articles.

In *The Post* column of July 31, 2002, in his 'science-as-saviour' view, Dr. Mumba reportedly presented GM technology in agriculture as "a powerful weapon in Zambia's war on poverty and hunger." The phrases "powerful weapon" and "war on poverty and hunger" can be located within what could broadly be described as *logos*. On August 1, 2002 in *The Post*, Dr. Mwanza reportedly reconstructed not only Dr. Mumba's positive portrayal of the agricultural science but also his pro-GM stance. *Contra* Dr. Mumba's optimism, Dr. Mwanza reportedly presented GM cropping negatively as "a veiled form of colonisation from the US." The phrase "veiled form of colonisation" can be located within what could broadly be described as *pathos*. Thus, what Dr. Mumba saw as the farmers' economic liberation (salvation), Dr. Mwanza saw as the farmers' economic bondage (captivity). The two natural scientists are engaged as in a debate-like exchange. By contrast, in an article of *The Post* of August 2, 2002, UNZA social anthropologist Dr.

[98] State President Levy Mwanawasa had made the statement much earlier than August 28, 2002, having addressing various forums including Sky News cable television and BBC News
[99] Craig Winters, "Campaign to Label Genetically Engineered Foods", *CropChoice* guest commentary, August 29, 2002

Owen Sichone responded to Dr. Mumba's 'science-as-saviour' view; the view that "GM foods may turn out to be better for people." Dr. Mumba's topic of concern – GM maize as salvation - can be located within what could broadly be described as *logos*. Dr. Sichone viewed any decision leading to the acceptance of the offer of GM food aid differently. He was quoted as having said,

> Can such people [hungry Zambians] worry about yellow maize or GM foods? I think many Zambians are already beyond caring. But that is not to say they cannot reverse the slide into dependency... GM foods are not peasant crops they are designed to make the companies that own the patents for particular genes super rich. (August 2, 2002)

In this quotation, the topic of concern is "the slide into dependency" and it can be located within what could broadly be described as *pathos*. Dr. Sichone has taken an anti-globalisation stance and is addressing the condition of global inequality whereby the rich can choose what to eat but the poor have to make do with whatever is donated to them. Thus, in the hands of Dr. Sichone, there is a shift in perspective from *logos* (GM maize as salvation) to *pathos* (global inequality, leading to greater suffering for the impoverished global South). This is an example of an instance of the rhetorical move of reframing across articles.

Addressing the press on the sidelines of the Johannesburg Earth Summit on August 28, 2002, USAID administrator Andrew Natsios accused African social activists of endangering the lives of millions of famine-threatened Southern Africans by encouraging their governments to reject the offer of US-produced GM maize. Natsios was quoted as having,

> They can play these games with Europeans, who have full stomachs, but it is revolting and despicable to see them do so when the lives of Africans are at stake ... The Bush administration is not going to sit there and let these groups kill

> millions of poor people in Southern Africa through their ideological campaign. (*The Washington Times*, August 31, 2002)

In this quotation, Natsios's topic of concern is food need, or hunger. His concern can be located in what could broadly be described as pathos. For Natsios, the food need in the region was so severe that the state leaders' indecision, or dilly dallying, amounted to mass murder, or crime against humanity. Since by August 2002 only the Zambia state had maintained a resolute stance against GM maize, Natsios was addressing the Zambian state leaders.

By contrast, also addressing the press on the sidelines of the Earth Summit, chief scientific advisor to the Zambian government Dr. Mwananyanda Mbikusita Lewanika was quoted as having said, "US did not get prior consent from Zambia before shipping contaminated food grain to us." (*PANA*, September 6, 2002). In other words, Zambia did not give its informed consent to the western donor community; the UN WFP and FAO unilaterally decided to ship US-produced GM maize to hunger-stricken Zambia and five of her Southern African neighbours. The issue of informed consent was raised for the first time at the Earth Summit as far as media coverage of the Zambian debate is concerned and this issue can be located within what could broadly be described as *ethos*. The reframing went from something seen from the perspective of food need to something seen from the perspective of informed consent, which belongs to the broader ethical-political realm of democratic rights of choice of consumers. There is thus a shift in perspective from *pathos* (hunger) to *ethos* (informed consent).

In all these examples, the media allow – and do not intend- the rhetorical move of reframing to happen, in that the introduction of the social, political and historical dimension into the GM maize debate –an apparent scientific controversy - already constitutes this mode of slippage in this kind of debate in this particular region and time.

Sidestepping

As indicated above, there are three selected examples of instances of sidestepping, two within articles and one across coverage. In each example, a challenge is encountered but it is sidestepped, the sidestepper takes a parallel path to where the challenge is placed. The first example is that of sidestepping within an article. In *The Post* article of August 14, 2002, Kakoma reportedly raised a number of issues including genetic experimentation (GM food aid as a genetic experiment) and foreign aid (bad faith in Africa-West, or recipient –donor, relations). Both genetic experimentation and foreign aid (because it is practical and economic –or political) are issues within what could broadly be described as *logos*. As was seen in the coverage section above, Kakoma was not the first to raise these issues; moreover, the *indaba* of August 13, 2002 in Lusaka reportedly raised these two and other issues. However, in the same article, a representative of the US embassy in Lusaka complained about the misrepresentation at the *indaba* of the US government– that is, as a superpower- was imposing as GM maize on Southern Africa. The caricaturing of the US government as a superpower imposing unwanted food aid on the region fits into *logos*, albeit another dimension, because it is practical and economic. It is in the nature of foreign aid to be imposed on recipient countries by donor countries (some of which are seen as superpowers). In this article, the representative did not address the issues of foreign aid and genetic experimentation and yet these issues posed a challenge to Zambia vis-à-vis the matter of the adoption of GM crops. The representative sidestepped the challenge and went on a parallel path, complaining about the misrepresentation of the US government at the national consultation on GM maize. Thus, the unfolding of the two key issues (genetic experimentation and foreign aid) around the historical-political falls away at this point in the coverage, in that the American embassy evades the historical-political and goes on a parallel path, worrying about its government's public image in Zambia and the region.

The second example is that of sidestepping within an article. In the *ZANA* article of August 14, 2002, Lubozhya reportedly raised the issue of the epistemic-political vulnerability of the Zambian science community, arguing for local risk assessment of GMOs, instead of relying on foreign science communities for the same expertise and

competence. Lubozhya's issue of local risk assessment can be located in *logos*; (the epistemic-political vulnerability per se belongs to *pathos).* In the same article, commenting on the need for a national GM policy in Zambia, South African biotech consultant Muffy Koch reportedly advised the Zambian science community "to exhaustively look at the available safety information in order to come up with a recommendation to government on a viable regulatory framework on GMOs" thereby rendering the GM policy-making process the exclusive domain of science experts. Koch's response (or issue) falls within *logos,* albeit a different dimension of *logos* from that of Lubozhya's. In this article, Koch sidestepped Lubozhya's issue, local risk assessment; it ought to be borne in mind that "the available safety information" came from South Africa, a pro-GM country. Sidestepping the issue of local risk assessment, Koch went on a parallel path, believing that the provision of up-to-date scientific information on GMOs obviated the need for local risk assessment. Moreover, in Koch's hands, the unfolding of the issue of the epistemic-political vulnerability of the Zambian science community - their inability to conduct local risk assessment - falls away from the coverage, in that she thinks the debate is all about safety.

The next example is that of sidestepping across coverage. It will be recalled that on July 26, 2002, Chinsembu made a dependency argument –the region's poor farmers' unmitigated and perpetual dependency on the GM seed of the biotech multinationals. The topic of concern (dependency) falls within what could broadly be described as *pathos*. On July 30, 2002, Fr. Muweme, Desmarais, Fr. Henriot and Lubozhya added to that perspective. Between them, they raised practical and economic concerns about Zambia's incapacity to conduct risk assessment, or what the article referred to as "no capacity to evaluate, monitor, and sustain health risks"(an issue belonging to what could broadly be described as *logos*); the impossibility of achieving sustainable agriculture through GM cropping (an issue belonging to what could broadly be described as *logos*) ; the loss of the European market in non-GM produce (an issue belonging to what could broadly be described as *pathos*); and the death of the informal seed sub-sector(an issue belonging to what could broadly be described as *pathos*). Also on July 30, 2002, as it has been seen immediately above, the debate took an ethical-political angle, raising an issue that could

broadly be described as belonging to *ethos*. In these three articles, the debate was predominantly located within both *logos* and *pathos* and to some extent within *ethos.* However, the thread of direction set up by Chinsembu, the three civil society representatives (Roman Catholic clerics) and Lubozhya fails to be developed - when in his column, Dr. Mumba evades all these challenges and goes on a parallel path, championing GM technology in agriculture as a 'saviour' science, yet a different dimension of *logos*, thereby evading the issues of *pathos* as well as *ethos* altogether . This is an example of an instance of sidestepping across a period and across a number of articles.

Silencing

In a column in *The Post* of July 29, 2002, Dr. Luke Mumba addressed the issue of the threat to biodiversity that the introduction of GM crops in Zambia might entail. He raised this issue in a context in which critics of GM maize were concerned by the threat to biodiversity which genetically modified strains seemed to present to local varieties on the grounds of their apparently superior strength.

In the column, which was reproduced on July 31 in the same newspaper, Dr. Mumba is quoted as arguing against this view and as supporting the position that GM technology, coupled with the proper agricultural regulation, would avert any negative results. GM maize, he suggests, would in fact increase rather than threaten biodiversity and may even be good for the environment. He was quoted as having said:

> When properly assessed for safety and approved by the appropriate regulatory authorities, genetically modified crops can be a significant part of the answer to the conservation of our biodiversity. It is a powerful weapon in Zambia's war on poverty and hunger and can also do much to alleviate environmental degradation (*The Post*, July 29 and 31, 2002)

Despite the fact that Dr Mumba provided no supporting evidence for this view in this column or anywhere else in the same newspaper- and no assurance as to the existence the

appropriate regulatory framework - there was no debate on the issue in the subsequent media coverage. Perhaps due to his credibility as a scientist, it is as if his assertion that GMOs could conserve biodiversity and the environment was taken as fact. What ever the reason, having argued this point, Dr Mumba appeared to silence these concerns and the question of a threat biodiversity disappeared from the Zambian debate.

Telescoping

Food need is an issue that recurred across the debate in the March–June 2002 period, and so the debate had a particular focus on this issue during this period. In the edition of *The Times of Zambia* of March 12, 2002, the feature article reported of Africa's "[pounding] pangs of hunger"; in *The Post*'s edition of April 24, 2002, the report cited Dr. Mulenga as referring to Zambia's hunger as a "peculiar situation." In *The Post*'s edition of June 19, 2002, the newspaper reported UN WFP's plan to intervene in Zambia's hunger situation by offering the US-produced GM maize as relief food. In the feature article and the two reports, Zambia's hunger was said to be immense, urgent and hence requiring immediate intervention – in the form of food aid from the western donor community. In particular, it appears that for Dr. Mulenga, the peculiarity of the hunger situation is that whilst the state could not reject the offer of the GM maize (due to the hunger) easily, at the same time it could not accept the offer easily (due to political considerations). Since the topic of hunger is recurrent throughout the debate during this period, coverage can be said to be telescoping because the domain of the coverage of the debate is narrowed down to that of food need.[100] Telescoping has the effect of the coverage blurring wider political concerns such as historical-political, practical and economic, ethical-political, and epistemic-political concerns. The food-need argument operates in the here-and-now mode, blurring the political challenge posed by GM crops in the long-term. It blurs the major theme, that is, the political considerations around the long-term consequences of adopting GM crops in Zambia and the region. Additionally, in the coverage of the debate during this period,

[100] By narrowing the scope of the debate down to hunger, the debate was also oversimplified; for example, the reasons for Zimbabwe's rejection of the offer are not articulated in the report of *The Post*'s issue of June 19, 2002: "Asked if Zambia would get food aid that is genetically modified which Zimbabwe rejected recently; Ragan said some of the food will be genetically modified. Ragan said despite Zimbabwe rejecting some of the food aid recently, they in fact got some of the food that was modified and the only problem was with shipment." (*The Post*, June 19, 2002) Contrary to Ragan's view, due to the unaddressed political concerns, "the only problem" could not have been the "shipment" of the controversial GM maize from the South African port of Durban to Harare

the safety argument operates as another example of telescoping in that the domain of the coverage is sometimes narrowed down to safety. Coverage shows telescoping in the hands of the protagonists - the sources cited or referred to as being primarily concerned about the hunger or safety. During this particular period, wider issues that were left unaddressed due to telescoping include but are not limited to lack of scientific research capacity and infrastructure, the need for sustainable agriculture, and the loss of international trade ties with Europe.

Coverage also shows telescoping in the hands of the journalists. On the latter, as discussed later in the penultimate chapter of the study, telescoping in the hands of journalists can be attributed to technical limitations of the journalistic practice and media professional imperatives, especially those that have to do with news selection and news making such as 'news value,' 'news sources,' 'gate keeping,' and 'agenda setting.'

3.3 Consolidation

Thus, it can be seen that in all the instances of the four moves, there is discord in the communication exchanges in the debate. The debate can be described as displaying 'slippage' in the form of, and due to, rhetorical moves. By slippage, it is implied disjuncture in communication. It appears that slippage in communication in the debate occurs in at least two ways. Firstly, the slippage occurs as a result of a communication disjuncture between the scientific truth-claims about GM foods and crops and Zambia's political interest about adopting GM technology in agriculture in Zambia. The political interest in progress to propel Zambia forward, towards advanced agriculture, to end the chronic hunger, is problematic because it is destabilised or deflected by colonial legacy anxieties – GM technology in agriculture being a western science. On scientific truth claims, there is a safety argument that has three broad dimensions, viz. human health, the environment, and GM policy and regulation.

On the political anxieties, there are practical and economic arguments against the biotech multinationals and the sustainability of GM cropping as well as an epistemic-political argument about the weakness of Zambian science and the vulnerabilities of regional

science communities in the face of metropolitan science, the sole innovator and propagator of GM technology in agriculture. There are instances of this slippage internal to particular texts, across coverage over a specific period, and across coverage over a number of periods. In all of these instances, the participants that drive the safety argument and those that drive the political (historical-political, practical and economic, epistemic-political and ethical-political) arguments talk past each other. Secondly, the slippage occurs as a result of a communication disjuncture between those participants who point to food need and those who are concerned about the long-term consequences of the state leaders' acceptance of the offer. On the surface, the food-need argument and the long-term consequences argument look as though they engage with each other (the 'here-and-now' versus 'the future' communication exchanges), but upon close inspection, they do not do so. In effect, the two camps of participants talk past each other inasmuch as neither camp addresses the primary concerns of the other.

In this particular case, the rhetorical moves of reframing and sidestepping are the more prevalent – the less prevalent are those of silencing and telescoping. Reframing and sidestepping are the more prevalent rhetorical moves most possibly as a result of differences in domains, between the sources that are quoted or referred to, especially the disparity between the scientific and political domains. *Qua* reframing, and due to the disparity between domains, it appears strongly that sources feel the need to reconstruct what others have reportedly said before they can respond or put forward their views. In the July 2002 and the August 2002 periods, reframing occurs both internal to certain texts and across particular periods of the coverage; it is not displayed in the March-June 2002 period. *Qua* sidestepping, and for the same reason, sidestepping sources take paths that run parallel to the original paths where the challenging obstacles are placed. They do not take on the challenge; they do not explore the original paths; neither do they clear the paths of the obstacles. In the March-June 2002 period, sidestepping occurs across the period whereas in the two subsequent periods it occurs both internal to certain texts and across particular periods of the coverage. Sometimes sidestepping follows from, or is reinforced by, reframing – for example, in the July 2002 and August 2002 periods. Overall, the selected examples of the instances of the slippage presented in the foregoing

have enabled the chapter to distinguish between when an article made a rhetorical move, when a source in debate executed a rhetorical move, and when coverage effected a rhetorical move. Overall, threads of direction towards certain topics or arguments are not developed and key issues or major themes are blurred across the coverage. The political challenge is posed but not addressed and it keeps falling away at certain points in and across the coverage.

Finally, it is, firstly, important to acknowledge in the coverage moments of engagement. Secondly, it is important to acknowledge that in spite of the persistence of safety issues (operating as a side argument), political concerns are predominant and overt throughout the coverage –and hence the energy and vitality of the political due to the predominance of the political. Thirdly, it is important to acknowledge that inasmuch as science, due to its tendency of ring fencing, is being inhospitable to the political; it (the political) is forcing its way into an apparent scientific controversy, an area of deliberation whereby science tries to seal it off. As it were, the political is relentlessly breaking the barriers set firmly against it. Moments of engagement and the energy and vitality of the political obscure the slippage because during these moments either the slippage is virtually absent or it is not evident. Therefore, as regards key features, the coverage displays not only the rhetorical moves and the resulting slippage but also moments of engagement as well as the energy and vitality of the political.

Chapter 4: "How can you have a nation with no seed of its own?"[101]

4.0 Introduction to the Malawian debate

This chapter explores the media debate centred on GM maize in Malawi in 2002 and afterwards. Unlike the Zambian debate, the Malawian debate continued in the post-2002 period, albeit in low intensity and with low media coverage; it occurred after the Johannesburg Earth Summit and so it is essentially a 'post-Earth Summit' debate in two particular periods, (I) 2002 (October-December, 2002) and (II) Post-2002 (January 2003-July 2004). As in the previous case, a description of the coverage and key features, including examples of instances of 'real' debate and debate-like exchange, is given followed by a presentation of selected examples of instances of rhetorical moves, illustrating slippage at work, in the coverage. Lastly, at the end of the chapter a consolidating account is given.

4.1 Coverage and key features of the Malawian debate

(i) The Malawian debate in 2002 and the issue of GM contamination

From the October-December 2002 period, eight articles concerning the Malawian debate were selected for analysis. Four of the articles were in the British press,[102] one in global news agency *Reuters* and the remaining three were in the local press.[103] Six of the articles were reports and the remaining one article was a column (*The Guardian* (*UK*), November 19, 2002). In these seven press texts, the events generally being reported are the regional hunger, the UN WFP's offer of the American GM maize to Southern African countries including Malawi, and the regional debate triggered by Zambia's rejection of the offer. The key issues raised in the debate can be broadly described as GM contamination, seed, foreign aid, international trade, loss of biodiversity, sustainable agriculture, human health

[101] Newsreader, op-ed, *The Times of Zambia*, October 31, 2002
[102] *The Guardian* (UK), October 7, 2002; *The Guardian(UK)* October 17, 2002; *The Guardian* (UK), November 19, 2002; *The Independent*(UK), December 1, 2002
[103] *The Nation*, December 3, 2002; *The Nation*, December 12, 2002; *The Nation*, December 17, 2002

and safety, and environmental safety. As regards the sources in the texts, representatives of environmental and development groups Greenpeace and ActionAid, social activists, local and foreign state ministers, local state officials, NGO aid workers, representatives of the biotech industry and hybrid seed suppliers, overseas journalist George Monbiot, and USAID administrator Andrew Natsios dominated coverage during this particular period.

Key features of the coverage

On October 7, 2002, in *The Guardian (UK)* article entitled "US dumping unsold food on Africa," a number of sources were reported to be in the Malawian GM debate, against the background of the hunger. The sources were representatives of Greenpeace and ActionAid, Andrew Natsios (USAID) and Malawian state officials. The representatives of Greenpeace and ActionAid were reportedly concerned about the use of hunger-stricken Southern Africa as a "dumping" ground for the American GM maize. They said, "The US food aid to Southern Africa has been tied to heavily subsidized GM food grown only in the US." Their use of the term "heavily subsidized" signals their view that the US was using the regional famine to benefit its commercial farmers, under the pretext of offering food aid. In particular, Greenpeace described the GM maize as "a covert subsidy for US farmers." The two groups also alleged that the US was "manipulating the Southern African food crisis to benefit … GM food interests." For Greenpeace and ActionAid, apart from benefiting the American commercial farmers, the food aid would benefit the biotech multinationals ("GM interests").

An example of an instance of 'real' debate

The same article went on to report Natsios' response to the allegation, and, subsequently, an exchange occurred between Natsios and Alice Wynne Wilson of ActionAid. Natsios said,

> There is no way that any responsible country can deal with this drought with cash for work. The food deficit in Southern Africa is so big that there's no way people can buy it on the local market. It has to come from outside. We offered non-GM foods but they all declined to accept it. We would have preferred to send non-GM wheat, or rice but they only wanted maize. We tried to source non-GM maize but the industry said they could not guarantee that it was GM-free. (October 7, 2002)

In response to Natsios, and in reference to the UN information about the availability of non-GM maize in some parts of Africa such as Kenya, Uganda, Tanzania and South Africa, Wilson said,

> This shows that the alternative to rejecting GM food aid is not starvation. Good practice in emergency aid is to provide cash support to the UN's World Food Program, so that it can buy grain from the most cost-effective sources. Bringing large volumes of food into a region that has areas of surplus can lead to a situation where there are food shortages in one part of a country, and locally produced food rotting in other parts. (October 7, 2002)

The Natsios-Wilson exchange is on the same issue of foreign aid – whether to donate money to a hunger-stricken country for it to buy relief food (non-GM maize) wherever it can find the food or to send relief food (GM maize) to the country. Natsios and Wilson are arguing from the same perspective - both are looking for the best approach to the rendering of assistance in such an emergency. Both are keeping the focus on the same topic – GM food aid. Wilson is responding to the point that Natsios has made, which is that due to the unavailability of food in Southern Africa, monetary aid could not serve the purpose of alleviating the hunger. Wilson is taking Natsios' point forward and along the same path, arguing that the unavailability of maize in parts of Africa is oftentimes due to poor distribution, which is partly the reason why there are moments when some areas have "surplus" relief maize while "locally produced food [is] rotting in other parts." Here, Wilson is contradicting Natsios' point. Indeed, for her, non-GM maize was available in certain African countries and so the American commercial farmers were hardly "the most cost-effective sources." In this exchange, sources are quoted as speaking

directly to each other on the same issue and from the same perspective. Both are keeping the domain of exchange wide enough to accommodate their otherwise contradictory points. The disagreement –whether monetary aid or food aid is the best way of relieving the hungry - is an example of an instance of 'real' debate.

In the article above, Natsios and Wilson were looking at both Malawi and the entire region. In the next article, the sense of a 'regional' debate became more pronounced. On October 17, 2002, in *The Guardian (UK)* article entitled "African divisions disrupt relief effort," SADC was reportedly divided over the issue of GM maize and had consequently not managed to build a consensus as to whether to accept or reject the maize – as wholegrain or mealie meal (milled maize). The "divisions" were reportedly causing problems for those involved in the distribution of relief food in the six-worst affected countries, including Malawi. The region was referred to as divided, as follows. Zambia had rejected the offer and maintained a "hard-line stance." Malawi and Zimbabwe had demanded that the GM maize wholegrain first be milled to avoid GM contamination. The key issue in this article was GM contamination - the contamination of local maize varieties by GM maize crops. For the sources referred to as "aid workers," Malawi could not afford to mill the GM maize wholegrain due to budgetary constraints and other "logistics of milling," and so there was the prospect of Malawian farmers planting the GM maize wholegrain as seed. In the same article, SADC Ministerial Council Chair Ana Dias Lourenço was of the view that human health and safety was the key issue in the debate. Dias Lourenço said, "Persistent concerns have been raised over the safety of GM maize and this has seriously jeopardized the delivery of food to vulnerable people." Dias Lourenço is of the view that regional relief efforts were hampered by concerns about the lack of safety of GM maize for human health. Contrariwise, the regional body's primary concern was reportedly about GM contamination. In this article, the issue of human health and safety emerges in the coverage of the Malawian debate.

The coverage surfaced other primary concerns. On November 19, 2002, in *The Guardian (UK*) article entitled "The covert biotech war," environmental journalist George Monbiot wrote a column on the debate in Malawi and the region with the express aim of exposing how Monsanto in particular and the biotech multinationals in general were handling the 'anti-GM' resistance in the region. In the process, Monbiot raised a number of issues such as food security, IPR and patents, foreign aid, farm input subsidies and the collusion between western states and the biotech multinationals. He argued that human health and safety was not an issue in the regional debate. For Monbiot, contrary to Zambian State President Mwanawasa's view that it was "poison," GM maize was safe:

> The president of Zambia is wrong. Genetically modified food is not, as far as we know, "poison". While adequate safety tests have still to be conducted, there is as yet no compelling evidence that it is any worse for human health than conventional food. Given the choice with which the people of Zambia are now faced - starvation and eating GM - I would eat GM. The real problem with engineered crops, as this column has been pointing out for several years, is that they permit the big biotech companies to place a padlock on the food chain. (November 19, 2002)

In this quotation, Monbiot is discounting human health and safety as an issue and is proceeding to discuss other issues, one of which is food security. On this issue, Monbiot is accusing the biotech multinationals of putting "a padlock on the food chain." For him, GM cropping is a threat to food security because the biotech multinationals have monopoly control over GM seed, which they patent and over which they enjoy exclusive legal ownership rights (IPR). Here, it is important to note the emergence of an important new issue, IPR and patents, alongside that of food security. On the issue of IPR and patents, Monbiot said,

> By patenting the genes and all the technologies associated with them, the corporations are manoeuvring themselves into a position from which they can exercise complete control over what we eat. (November 19, 2002)

By raising the issue of the IPR and patents of the biotech multinationals, Monbiot is highlighting the role of global capital and big business in hunger–rather than food security - in the developing world, thereby implicating the biotech multinationals in the regional famine. Crucially, Monbiot's take on the debate marks a shift in the coverage, from the concern about GM contamination to the more overtly practical and economic concerns about food security and IPR and patents. In other words, Monbiot begins to contextualise the debate within a particular kind of critique that can be seen as a political economy analysis of GM foods and crops in Southern Africa.

In a way reminiscent of Greenpeace and ActionAid's criticism of the conditions that came with the US foreign aid in the October 2002 articles, Monbiot decried the pressure USAID was exerting on Malawi and its neighbours Zambia and Zimbabwe to accept the offer. For USAID, Malawi and others had no other option than GM maize, but Monbiot disagreed with USAID; for him, non-GM maize was available and "[e]ven in the US, more than 50% of the harvest [had] been kept GM-free." For Monbiot, it was possible for the US to sell non-GM maize to the region because its farmers had it. Monbiot's claim that American commercial farmers had non-GM maize that they could have sold to hunger-stricken Southern African countries is significant because it says something about –inasmuch as it reinforces - Greenpeace and ActionAid's earlier suspicion of the US government, concerning its foreign aid policy. In other words, US foreign aid policy rather than scarcity of maize in Africa dictated that Southern Africans be fed on GM maize. Here, the issue of foreign aid re-surfaces in the coverage –having emerged early October 2002. In reference to the US government's foreign aid program in Southern Africa, Monbiot cited USAID's website where he claimed the American agency for international development boasted thus:

> The principal beneficiary of America's foreign assistance programs has always been the United States. Close to 80% of the USAID contracts and grants go directly to American firms. Foreign assistance programs have helped create major markets for agricultural goods, created new markets for American industrial

> exports and meant hundreds of thousands of jobs for Americans. (November 19, 2002)

Thus, for Monbiot, the US gave with one hand but it took back what it had given with the other hand, as it were, and hence the sinister motive behind its foreign aid policy. The American food aid was going to benefit the American commercial farmers and the biotech multinationals. Specifically on the issue of farm input subsidies, Monbiot decried the fact that the American food aid program provided what he called "a massive hidden subsidy to its farmers." Practical and economically, this was part of global injustice, in that the US government was free to give input subsidies to its farmers, whereas the neo-liberal agenda barred Southern African governments from giving any input subsidies to their farmers. Finally, Monbiot suspected collusion between the US and the biotech multinationals. Citing the same website of USAID, Monbiot claimed that the American agency had launched an extensive GM technology transfer program for developing countries and it would give biotech multinationals Monsanto, Syngenta, and Pioneer Hi-Breed massive opportunities for technology transfer to the world's poor regions. Biotech giant Monsanto would provide financial support to USAID. On the new issue of collusion and in the context of Southern Africa, Monbiot said,

> The famine will permit USAID to accelerate this strategy. It knows that some of the grain it exports to Southern Africa will be planted by farmers for next year's harvest. Once contamination is widespread, the governments of those nations will no longer be able to sustain a ban on the technology. (November 19, 2002)

In this quotation, Monbiot is suspecting that the US had colluded with the biotech multinationals and together they had connived to exploit the famine to introduce GM crops to Southern Africa. Farmers would plant as seed the maize wholegrain meant only for consumption. Due to the lack of scientific research capacity and infrastructure, or generally weak bases of science, the region was not capable of countering, or containing, GM contamination. Importantly, in the coverage of the Malawian and regional debate, Monbiot was the first to raise a concern about the epistemic-political vulnerability of the

region. Moreover, in Monbiot's hands, the US government and the biotech multinationals came under heavy criticism.

The American foreign aid policy was growing into a key issue in the coverage of the Malawian and regional debate. On December 1, 2002, in *The Independent (UK)* article entitled "US policy on aid is 'wicked' – Meacher," British Environment Minister Michael Meacher was reportedly concerned about the US foreign aid policy in regard to the hunger in Malawi and other Southern African countries. The article cited Malawi as one of the Southern African countries that had rejected the UN WFP's offer of American GM maize wholegrain. Meacher accused the US of forcing starving countries to accept its GM maize and of refusing to supply non-GM maize as requested by these countries. In his accusation of the US government, Meacher also incited the world to get angry with the US government. Meacher said,

> It is wicked, when there is such an excess of non-GM food aid available, for GM to be forced on countries for reasons of GM politics. If there is an area where anger needs to be harnessed, it is here. (December 1, 2002)

In this quotation, Meacher is evidently angry with the US government. However, Meacher's affective response is rather strange; he, a British state minister, is inciting the world to rise up in anger against the US government, Great Britain's closest ally. The issue of foreign aid continues to be the point of focus in the coverage, in that early December 2002 Meacher re-echoes other participants' earlier concerns, especially those of Wilson (*The Guardian (UK)*, October 7, 2002) and Monbiot (*The Guardian (UK)*, November 19, 2002).

In the same article (*The Independent (UK)* December 1, 2002), in what appears to be a response to Meacher, a top American official said that Malawi and the region had no option other than accepting the offer of the American GM maize. The top American official was reported as having said, "Beggars can't be choosers," a proverbial construction of hunger-ravaged Southern Africans that reflects the grim reality of the global inequality underlying Africa-West relations, which are generally characterized not only by practical and economic injustice and power imbalance but also by the West's disrespect for Africa. It can be seen that in this article, the coverage continues to explore directly the points for and against the American food aid.

Eventually, just as it had happened with SADC's Dias Lourenço in October 2002, *The Independent (UK)* article of December 1, 2002 reported that "top American officials" had said that the Southern African debate was about the issue of human health and safety. These officials assured Southern Africans that GM maize was safe for human health because Americans had been eating it without adverse effects for their health. The safety issue re-surfaced in the coverage early December 2002 after its emergence mid October 2002. It had been sidelined; it is as if an issue that had emerged had along the way become invisible but eventually regained visibility. The temporary invisibility of the safety issue can be attributed to the predominance and overt-ness of the political (practical and economic and epistemic-political concerns). Thus, perhaps thinking that the debate was all about the safety issue, the top American officials appear to have missed the region's primary concerns about foreign aid, and especially about GM contamination that would lead to the loss of export trade with Europe.

Overall, up until now, coverage of the Malawian debate has happened in the foreign press and it has become evident that at play is a regional debate and so the former is an integral part of the latter. Hitherto, the primary concerns in the Malawian debate have been about GM contamination and the stringent conditions that came with the American food aid.

The safety issue is on the verge of being eclipsed, or blurred, by political concerns. However, the eclipse is only partial because, in spite of its low prevalence and its being sidelined, the safety issue carries on in the coverage. Additionally, the debate has an activist element without necessarily being dominated by social activists.

After *The Independent (UK)* article of December 1, 2002, coverage shifted to the local press up to the end of 2002. On December 3, 2002 in *The Nation* article entitled "GM maize milling starts next week," it was reported that the Malawian state was concerned about GM contamination through the planting of GM maize wholegrain as seed. As a precaution, the state was going to have the wholegrain milled into mealie meal before giving it to the people. Agriculture and Irrigation Minister Aleke Banda was reported as having said that milling would be restricted to millers who had the capacity, as a control measure to check against "leakage" to farmers who might plant the GM maize wholegrain. In the article, the reporter asked state minister Banda whether some of the GM maize would "leak" to some farmers who would plant it as seed; in response, the minister said he was "non-committal" to such a possibility, even if reported. In a way reminiscent of the coverage in the foreign press, in the local press article, the primary concern was GM contamination. The prospect of the 'leaking' of GM maize wholegrain to farmers generated anxiety in Malawian state leaders and officials. Importantly, in this article, the issue of GM seed emerges in the coverage; the issue of GM contamination becomes the most recurrent in the coverage.

Nine days later, African social activists put under scrutiny the Malawian state decision to accept the offer. On December 12, 2002, in *The Nation* article entitled "Malawi should have rejected GM maize –experts," a Lilongwe-based conference of international NGOs –including the Malawi Economic Justice Network (MEJN) - from ten African countries was reported. The aim of the conference was to develop an African recommendation on food security strategies and GM food aid. Citing a research paper compiled by the

conference organizers, the article reported the African social activists as having criticised Malawian state leaders and those of other Southern African nation-states that were faced with famine in 2002 for making a mistake in accepting the offer of the American GM maize. Notably, the Malawian state came under criticism. For the African social activists, the mistaken decision would affect "all future generations of people, plants and animals," for example, in Malawi. Moreover, their reference to "future generations" suggests their drawing on the 'sustainable human development' discourse, which has a strong environmentalist (for example, green consciousness), dimension. They commended the Zambian state leadership for adopting a resolute 'anti-GM' stance and rejecting unambiguously the offer of GM maize. They said,

> It took a lot of political will for Zambia to reach the decision of rejecting GM food. This shows that GM food aid can be resisted if there is enough political will from the respective governments. This should be an example to other African countries. (December 12, 2002)

In this quotation, the African social activists' use of the terms "rejecting" and "resisted" signals an activist element in the debate. On the latter, the African social activists' are consciously resisting the introduction of GM technology in agriculture in Malawi and the region. Their resistance is against the re-installation of dependency in this part of the African postcolony–this time around, farmers' dependency on the GM seed of the biotech multinationals. For them, the Malawian state was the exemplar of a politically weak-willed state in contrast to the Zambian state, a politically strong-willed state. This criticism of the state is interesting firstly because unlike in the previous instances, the criticism targets a state, which could be perceived as a victim of the famine (mainly due to the prolonged drought). Secondly, in contemporary political thought, especially in development studies, the conceptual binary opposition weak-willed state/strong-willed state can be likened to development studies' binary opposition 'weak state/strong state,' often deployed to distinguish states in the African postcolony from those of the métropole. Hence, on this other reading, and in contrast to the African social activists' view, both Zambia and Malawi fall necessarily into the category of 'weak states.' (Mkandawire, 2001)

In the same article, the social activists were also concerned about GM contamination and its implication for export trade with the EU, which had banned GM agricultural products. The issue of GM contamination continues to be the point of focus, poising as a 'major theme' of the coverage of the Malawian GM debate. On this theme, the social activists were concerned about the evolution of super weeds as had happened in Canada. They argued, "Unlike chemical contamination, genetic contamination can never be recalled," implying that GM contamination is irreversible. The article also reported Zambian biochemist Dr. Mwananyanda Lewanika as having said that unlike for the Americans, for Southern Africans, maize was a staple food and so large quantities would be involved in the consumption here. Dr. Lewanika said,

> When the maize is used to make porridge and nsima [pap], the heat applied may cause foreign proteins to be transferred to human beings thereby becoming a risk to their health. (December 12, 2002)

Here, Dr. Lewanika is saying that there are regional differences globally in the intake of maize and that the quantity of food one consumes per day is an important factor to take into account. However, he did not specify the negative effects for human health arising from taking large quantities of GM pap, as would be the case with Southern Africans. It is important to note that, in the hands of Dr. Lewanika, the safety issue carries on in the coverage, but it is appearing for the first time in the local press.

Two weeks after its emergence, the seed issue recurred in the coverage. On December 17, 2002, in *The Nation* article entitled "Maize seed shortage hits the country," it was reported that Malawi had a critical shortage of maize seed, a situation that led to fears that some farmers might plant GM maize wholegrain as seed. The prospect of poor farmers planting the relief maize as seed became a lot more immanent mid December 2002. Several sources testified to the critical shortage of maize seed, including Peoples Trading Centre (PTC) Group General Manager Jerry Buskies, Monsanto Regional

Manager Charles Price, Pannar Seed Country Office Manager Frank Samidu, and NASFAM Business Operations Manager Ronald Ngwira. NASFAM's Ngwira was quoted as having said, "We have reached a point where farmers are laying their hands on any seed they can find and planting of GM maize cannot be ruled out." Ngwira's use of the expression "laying their hands on any seed" brings anxiety to his imagined media audience, underscoring the gravity of the seed shortages in Malawi, and hence the graphic scenario of farmers scrambling for seed in retail outlets of Malawi in December 2002, the beginning of the farming season. Here, the issue of GM contamination continues to be the point of focus, in that the graphically-reported critical shortage of hybrid maize seed raised the spectre for GM contamination in December 2002 in Malawi for it increased the prospect of farmers planting the GM maize wholegrain as seed.

As seen in these three articles of December 2002 in the local press, as was the case in the foreign press, GM contamination was a primary concern in the local press. Likewise, in the local press, the loss of export trade with major markets in Europe was attributed to GM contamination. Here, the safety issue occurred once and a Zambian scientist at the African social activists' conference raised it. It has very low prevalence, and hence sidelined, in the coverage.

Overall, in the seven texts above, the range of concerns raised is predominantly and overtly practical and economic as implied by the recurrence of, and the sustained focus of the coverage on, the primary concern about GM contamination, which is linked closely to issues of international trade, foreign aid, food security and GM seed during this particular period. The human health and safety issue carries on in the coverage as a side argument, and in one instance, the issue is disavowed explicitly as a primary concern in the debate. On the other hand, environmental safety is treated implicitly as an issue in the coverage due to the recurrence of the primary concern about GM contamination – as is expressed in the worry about the planting of GM maize wholegrain as seed.

As in the Zambian debate, the sources in the Malawian debate are elite-official. Unlike in the Zambian debate, and with the exception of Monbiot, the biotech multinationals are not presented negatively as the media bring into debate a representative of Monsanto albeit only to comment on the scarcity of hybrid maize seed on the market in Malawi mid December 2002. As in the Zambian debate, the US is presented negatively in the Malawian debate and the media find one such critic as their source, Great Britain, the US government's closest ally. The *Guardian* (*UK*)'s columnist Monbiot seems to double as journalist and environmental activist, and due to the latter positioning, his views on US foreign aid policy have an overt activist tinge. The bearings of the coverage towards the overtly practical and economic and to an extent the epistemic-political are discernible in this particular period.

During this period, the key features of the coverage of the Malawian debate are as follows. There is one instance of 'real' debate early October 2002 on the issue of foreign aid, which is region-specific, and so it is certainly not a reverberation from the global debates. The coverage of the debate begins after the Zambian state has rejected the offer unambiguously. Zambia's rejection of the offer triggers the debate in neighbouring countries such as Malawi. In all these articles, the Zambian debate is a strong point of reference for the Malawian debate. Crucially, the national debate is generally being reported as an integral part of a much wider debate, the regional debate centred on GM maize, and none of the articles is exclusively covering the Malawian debate as an isolated series of events. Thus, by the time the matter of the American GM maize enters the Malawi's 'media sphere,' the deliberations have already taken on a regional character and hence what is being reported in the media about Malawi is an integral part of the regional debate.

(II) The Malawian debate after 2002 and (once again) the issue of GM contamination

Broad description of the coverage

After 2002, Malawi continued to experience hunger and media coverage of the hunger represented it as worsening from year to year.[104] Thus, hunger forms the background to the Malawian debate in the post-2002 period. Here, the particular period of the coverage under consideration spans from January 2003 to July 2004. During this period, two articles were selected for analysis, one in *The Malawi Standard* (January 7, 2003) and another in *PANA* (July 21, 2004), and both are in the form of reports. In the two articles, the event being generally reported is the hunger and the country's continued dependency on foreign food aid. The key issues raised in the debate can be broadly described as GM contamination, seed, human health and safety, and environmental safety. The sources that dominate coverage during this period include a state minister, a state official, a medical scientist (oncologist), and three small-scale farmers. Distinctive to the Malawian debate, the three small-scale farmers are not elite-official but the rest are.

Key features of the coverage

An example of an instance of debate-like exchange

On January 7, 2003, in *The Malawi Standard* article entitled "Government officials uproot GM maize plants," it was reported that ministry of agriculture officials and members of the local communities in Blantyre rural, Southern Malawi, uprooted some subsistence farmers' GM maize seedlings. An exchange ensued between Ministry of

[104] For example, on January 7, 2003, in *The Chronicle* article entitled "Greater than a food crisis," the hunger was reported as a food crisis: "In Malawi … this year's food crisis has come on top of a poor season last year." Two years later, in 2005, Malawi was still dependent on foreign food aid. For example, on August 29, 2005, in *The Nation* article entitled "Monsanto donates K124m for relief food," UN WFP director Karen Sandelback was referred to as having thanked Monsanto Fund President Deborah Patterson for a cash donation to buy relief maize for the hungry in Malawi. On November 21 2005, in an article of *The Chronicle* entitled "Malawi loses K5 billion in corruption", the hunger in Malawi was described as "a major food crisis."

Agriculture Principal Secretary, Andrina Mchiela, and three farmers, respectively, as follows.

Andrina Mchiela:

> We received reports that some farmers had planted GMO in Lirangwe, Mdeka and another area in Blantyre. I have forgotten its name. Our field officers went around [interviewing] the people there about the farmers who planted GMO. The communities themselves assisted in uprooting the maize seedling and the Ministry distributed free farm inputs to the farmers as an alternative. The problem with us Malawians is that we expect government to do everything for us. The people can plant winter crops as an alternative. (January 10, 2003)

Robert Malizani of Lilongwe:

"Farmers were forced to plant the seeds because they had no seeds when planting rains started." (January 10, 2003)

Anonymous farmer of Blantyre:

> Government knows the dangers of planting GMO maize while me, I don't. I just know that when one plants any maize variety, he will harvest at the end of the growing season. (January 10, 2003)

Lester Luwanda of Phalombe:

"Long time ago farmers used to stock some seeds from their harvest but because of hunger, the practice has now become history." (January 10, 2003)

In the first quotation above, Mchiela is saying that government did not act alone; the people in the affected area were involved in the up-rooting of GM maize seedlings. The motivation for the government-led action is only implicit in Mchiela's statement but the article cites "environmental pollution" of "local maize varieties" by GM maize crops as the motivation behind the action. Thus, even in the post-2002 period, the coverage continues to focus on GM contamination as a primary concern in the Malawian debate. In the Mchiela-Malizani exchange, the issue is the planting of GM maize wholegrain as seed. Malizani is responding to Mchiela's point, which is justifying the government-led action of uprooting GM maize seedlings. *Pace* Mchiela, Malizani is saying that the affected subsistence farmers decided to plant the wholegrain as seed due to long delays in the government's Extended Target Inputs Program (ETIP), popularly known as the 'Starter Pack' program, in which they were supposed to be given free farm inputs, including hybrid maize seed. Malizani is providing background to the farmers' motivation to plant GM maize wholegrain as seed, in the process contradicting Mchiela. Mchiela is disabusing Malawians of their 'dependency syndrome,' always looking up to government for free farm inputs such as seed inasmuch as she is urging farmers to diversify to winter staple food cropping.

In the Mchiela-anonymous farmer exchange, the anonymous farmer is arguing that, for some farmers, lack of knowledge and information was a contributing factor to their planting the GM maize wholegrain as seed. For Malizani, the factor is the scarcity of seed and the long delays in the execution of the farm input subsidy program whereas for the anonymous farmer, it is ignorance. The anonymous farmer is disagreeing with Mchiela.

In the Mchiela-Luwanda exchange, Luwanda is responding to Mchiela's point about farmers' chronic dependency on farm input subsidies from government, and he is in effect building the position of Malizani by furnishing a historical background. For Luwanda, persistent hunger has destroyed the traditional agricultural practice of storing

seed among farmers (the informal seed sub-sector), leading to farmers' dependency on commercial hybrid seed, for example, GM seed, which has to be bought every farming season because it is non-recyclable. Luwanda is contradicting Mchiela, the state official, saying that it is not true that farmers have a 'dependency syndrome'; but rather, they happen to be victims of climate change, for example, prolonged drought contributing to famine in the region in recent years.

Taken as a whole, it can be seen that in all the three exchanges above, the issue is the same –the planting of GM maize wholegrain as seed; the perspective is also the same, GM seed. All the participants are keeping focus on the same topic, GMOs, and they are sticking and responding to the point raised by the first speaker, Mchiela. The anonymous farmer and Luwanda are taking forward the same point that the second speaker, Malizani, has made and are arguing along the same path. They are developing their respective positions in the same direction as that of Malizani. All the three respondents to Mchiela are keeping the domain or scope of communication exchange as wide as possible, accommodating a variety of themes such as GM contamination, farm input subsidies, and climate change. All three disagree with the state official. Since the state official, as the first speaker, does not counter any response, the disagreement is an example of an instance of debate-like exchange.

On July 21, 2004, in the *PANA* article entitled "Malawi experts blame GM foods for rise in cancer cases," Malawi National Cancer Registry (MNCR) director, Dr. Charles Dzamalala, reportedly said that there might be a link between the consumption of GM foods and the rise in cancer cases in Malawi. Dr. Dzamalala said, "There might be a linkage between the increasing cancer cases and the proliferation of GM foods on the local market." On this reading, the Malawian oncologist was of the opinion that GM foods such as GM maize were unsafe for human health. The article cited MNCR reports in which cancer was said to be "dramatically increasing in Malawi recording 2, 900 cases

annually" and this unprecedented increase in cancer cases was attributed to the introduction of GM foods in 2002 in the country. These medical reports disclosed that "[a]vailable data indicates that up to 30 percent of such cancers are caused by bad dietary habits" and the consumption of GM maize food was one of such habits. Importantly, this is the first instance in the coverage of the GM debate of Malawi and the region when GM foods are linked to a specific negative effect on human health. Thus, the safety issue, in spite of its low prevalence and in spite of its being sidelined, carries on throughout the entire period of the coverage (October 2002 to July 2004).

It will be recalled that previously, Dr. Lewanika had conjectured unspecified negative effects for health for people who took large quantities of GM maize meal. Dr. Dzamalala moved from the issue of human health and safety to that of the epistemic-political vulnerability of the Malawian science community. He said,

> Malawi has no capacity to detect prevailing types of cancer and treat them using surgical excision, the theatre or prescriptions of anti-cancer drugs. Moreover, some cancer types are incurable. Urban people are more prone to cancer risk because they are more exposed to air, contaminated water and industrial pollution. (July 21, 2004)

In this quotation, the oncologist is going beyond the issue of human health and safety; he is pointing to Malawi's weak base of medical science. For him, any outbreak of cancer would exceed the coping levels of Malawi's medical research capacity and infrastructure. Dr. Dzamalala was the first to draw the media's attention to Malawi's poor scientific research capacity and infrastructure in the medical and health sector. In effect, Dr. Dzamalala re-echoed Monbiot's concern made earlier, in the 2002 period (*The Guardian* (UK), November 19, 2002), about the epistemic-political vulnerability of the Malawian science community. Moreover, his use of the phrase "they are exposed to air, contaminated water and industrial pollution" signals his alluding to GM contamination.

Thus, the primary concern about GM contamination continues to be a point of focus, in that it commands sustained coverage throughout the post-2002 period.

Finally, in retrospect, the article reported that back in 2002, the state had warned of human health and environmental hazards of GMOs. In 2002, agriculture minister Aleke Banda was referred to as having said,

> We have been warned of the environmental and health hazards of GMO foods and no farmer should be allowed to use such maize for planting material. (July 21, 2004)

Here, state minister Banda is foregrounding environmental safety in his caution to farmers not to plant GM maize wholegrain as seed. The safety of GM foods for human health is just part of his cautionary message. Crucially, the safety argument carries on in the coverage. However, as it was seen above, contrary to the state minister's caution, some farmers planted the wholegrain maize as seed. It is only in 2004 that in a retrospective coverage of the debate in 2002 the state's other concerns were presented unambiguously – the state had rejected the offer partly due to issues of human health and environmental safety.

Overall, after 2002, the range of concerns raised in the coverage of the Malawian GM debate is overtly practical and economic as is implied by the primary concern about, or running theme of, GM contamination and its close link with issues broadly described as international trade, foreign aid, food security, and GM seed. The issue of GM seed is overtly political in that it is being surfaced in the GM maize debate in the backdrop of popular dissatisfaction with poor public service delivery. The issue of free farm inputs belongs to the large question of postcolonial states' farm input subsidies prohibited by the neo-liberal agenda of the western donor community and the two international financing institutions (IFIs), IMF and the World Bank. The issue of GM contamination implies

contamination of local varieties of maize by GM maize crops through cross-pollination or out-crossing leading to the genetic mutation of the former and environmental pollution in general. GM contamination is practical and economic in important ways, especially in agro-based economies such as Malawi. Dr. Dzamalala also pointed to the epistemic-political vulnerability of Malawi, that is, if GM foods had anything to do with the rapid increase in cancer cases. Malawi's poor medical research capacity and infrastructure could lead to a health crisis. As sources, the farmers, as individuals, engage a state official in debate-like exchange and hence they are not spoken for by urban-based voices, a thing that alleviates them temporarily from their oft-subaltern status in the local media sphere. As in the October-December 2002 period, the biotech multinationals such as Monsanto are presented, rather oddly, in a positive manner in 2002 and after 2002.[105] Two safety issues (human health and the environment) carry on throughout the post-2002 period, though infrequently and as a side (safety) argument throughout the coverage. Having a briefer period than the Zambian debate, the coverage of the Malawian GM debate (October 2002-Juy 2004) is equally intense. For the most part, even when it is somewhat acknowledged, the political is not properly engaged, and this is the subject matter of the next section.

4.2 Slippage at work in the coverage of the Malawian debate

This section presents selected examples of instances of rhetorical moves in the coverage, two of which are illustrative of what has been called reframing and two seen to be illustrative of sidestepping. As in the Zambian debate, the examples selected in the Malawian debate are important moves that happen either throughout a period or at a particular point in the coverage.

[105] In August 2005, *The Nation* referred to Monsanto as "Maize seed maker Monsanto." (*The Nation,* August 29, 2005)

Reframing

It will be recalled that at the peak of the Southern African hunger, the UN WFP offered the region GM maize. The western donor community, the relevant UN agencies (WFP and FAO) and the IFIs as global financiers –the protagonists- urged the region to accept the offer and they all argued that, in terms of health, there was nothing wrong with the food. In August 2002, USAID administrator Andrew Natsios was reported as having said, "The US is leading the world effort to prevent a widespread humanitarian crisis from developing in Southern Africa". (*The Economist*, August 2002) Natsios was referring to the American loan offer to hunger-stricken Southern African countries. In *The Guardian (UK)* article of the edition of November 19, 2002, George Monbiot, in his column, viewed the hunger situation differently; he viewed the hunger and the offer of GM maize in another way or from a very different angle. For him, there was a hidden agenda to the offer; he reportedly identified a "covert biotech war," as per the title of his column. For him, the 'offer' was 'war' – in effect, a guerrilla war, because it was clandestine. This signals a shift in perspective from what could broadly be described as *ethos* (the offer of food aid is an act of beneficence, or philanthropy, and hence an ethical gesture of goodwill) to what could broadly be described as *pathos*.

Moreover, concerning the players in the offer, Monbiot identified other players than the western donor community, the UN agencies and the global financiers. He identified the real players of global capital and big business, the biotech multinationals – players that were not visible on the scene of the offer; for Monbiot, these invisible players waged war on poor and food-insecure countries such as Malawi. He feared that "the biotech companies [were going] to place a padlock on the food chain" of the region. Monbiot insisted that in their entry into the region, the biotech companies were not following normal procedures of foreign investment. Monbiot was thus concerned that "the corporations [were] manoeuvring themselves into a position from which they [could]

exercise complete control over what we eat." Here, Monbiot is referring to the IPR and patents of the biotech multinationals over GM seed upon the introduction of GM crops in Southern Africa. He argued further that the encroachment of the biotech multinationals into the Southern African postcolonial economies would have "devastating implications for food security in [these] poorer countries," raising the issue of food security. By bringing into view the biotech multinationals, that is, players operating behind the scenes of the event of the offer of GM maize in the face of regional famine, Monbiot set up the event differently, in practical and economic terms, thereby posing an important question about the price to be paid upon the introduction of GM crops in Malawi and the region. Monbiot's use of the terms "war," "padlock," "manoeuvring," "complete control," and "devastating" signals his 'activist' reframing of the debate. His was a reframing of the debate that can be read as 'activist' because of the strong and sharp tone of his statements.

If we were to treat the entry of the biotech multinationals into Southern Africa positively, as foreign investment of western capital, the original broad framework could be described as *logos*. In the hands of Monbiot, what can be seen as positive turns into something that can be seen as negative, that is, a matter belonging to what could broadly be described as *pathos*. Monbiot's take on the Malawian and regional debate represents a domain shift - from the domain of what at first, and on the surface, appears as a quotidian beneficent, or philanthropic, act - relief food offer, alongside safety concerns, to the complex domain of exploitative and abusive foreign investment, global capital and big business. In introducing such key issues as GM seed, IPR and patents of the biotech multinationals, and food security, the focus of the coverage moves away from the protagonists' issue of the offer of what for the Americans and the United Nations saw as safe food to pathological as well as practical and economic concerns, fears and suspicions about the region's adoption of GM crops.

In an article in another British newspaper, *The Independent* (UK) of December 1, 2002, it was also shown in the coverage section above that British environment minister Meacher expressed his view on the conditions that came with the US food aid to Southern Africa. Once again, Meacher was quoted as having said,

> It is wicked, when there is such an excess of non-GM food aid available, for GM to be forced on countries for reasons of GM politics. If there is an area where anger needs to be harnessed, it is here. (*The Independent (UK)*, December 1, 2002)

In this quotation, Meacher is uncharacteristically casting the US, Great Britain's closest ally, as wicked and malevolent power that was imposing its GM maize on poor countries of Southern Africa when non-GM maize was available in other parts of Africa. Meacher adopted an activist tone and incited the whole world to anger against the US.

However, in an article of *Reuters* of December 9, 2002, Tony Hall, U.S. Ambassador to UN WFP and FAO who had just visited Malawi and Zambia, two hunger-stricken countries accused the region's state leaders, especially the Zambian state president. Addressing a press conference in Brussels, Belgium, Hall likened Mwanawasa and his neighbours, especially Mugabe, to criminals against humanity to be indicted and tried at ICC. More relevantly, in response Meacher's kind of statements, Hall reportedly urged the European Union to step up efforts to avert the looming famine in Southern Africa. He called on the EU to do more to persuade Southern African countries that GM food was safe for human consumption. Hall was quoted as having said,

> People that deny food to their people, that are in fact starving people to death should be held responsible...for the highest crimes against humanity in the highest courts in the world…The EU has made some great statements (on the safety of GM food), at the same time there are people who have thrown a lot of doubts, who have been neutral… We cannot be neutral on this issue...We need strong statements. We are beyond this discussion (on GM) here. (*Reuters*, December 9, 2002)

In this quotation, Hall understands the hunger situation in Southern Africa differently from the way Meacher understands it. Unlike Meacher, the issue is not the US imposing its GM maize on hungry Southern Africans but rather the state leaders themselves. Hall is shifting the blame from his president, George W. Bush, to the likes of Levy Mwanawasa, Robert Mugabe and Bakili Muluzi. Here, Meacher and Hall are engaged in a debate-like exchange and so there is no slippage.

However, when Hall addresses the EU, he is in effect in a different frame altogether and he does concede this; he says, "We are beyond this discussion (on GM) here*".* Hall is entering into the familiar and traditional terrain of US-EU trade disagreements that obviously precede the GM debate in Southern Africa. The EU had put a ban on the commercialisation of GM products until 2003 when it lifted the ban. The subtle blame Hall was making is that the EU was fuelling the resistance to the offer of US-produced GM maize in Southern Africa. By reconstructing the GM debate in terms of historic differences between the US and the EU, Hall creates a slippage in the communication between him and Meacher and hence the rhetorical move of reframing.

Sidestepping

In a joint article of *SAPA* and *Reuters* of October 12, 2002, South African State President Thabo Mbeki was reported as having been concerned about the region's resistance to the offer of GM maize. Citing Mbeki, the article went thus:

> President Thabo Mbeki said having the food sitting at the port was sending mixed signals. Whereas the region was seeking food aid, it looked like it did not need it. South Africa has decided to carry the cost of milling the GM maize currently stored at South African ports. Zimbabwe and Mozambique will accept GM maize only if it has been milled, which averts the risk of contaminating local GM-free crop strains. (SAPA& Reuters, October 12, 2002)

In this citation, Southern African state leadership as a whole was uncertain about the offer of GM maize; on the one hand, it looked like the leadership needed GM maize; on the other hand, it looked the leadership did not need the maize. Mbeki was referring to these "mixed signals" in the region; as a result, GM maize was sitting uncollected at the port of Durban in South Africa. Overall, the region was divided over the controversial maize. Indeed, an article of *The Guardian (UK)* of October 17, 2002 reported of "divisions" in the SADC over GM foods and crops to the extent that the regional body was failing to form a united front to form a "consensus on accepting milled seeds." The SADC was reportedly concerned about farmers' planting the GM maize wholegrain as seed and about the resulting cross-pollination between GM maize crops and local maize varieties. Sources referred to as "aid workers" were reportedly pondering the logistics of milling to ensure that the wholegrain did not end up in the hands of farmers who would be tempted to plant it due to the scarcity of seed in the region. Malawi had a critical shortage of seed. The challenge was the leakage of GM maize wholegrain to farmers before milling was done – leading to the problem of GM contamination - and SADC reportedly failed to come up with a response to the challenge. The aid workers were addressing this challenge, which was practical and economic as it had far-reaching implications for international trade with Europe where GMOs were banned commercially. The issue of milling can be located can be located within what could broadly be described as *logos*.

However, a SADC official sidestepped the challenge and addressed the issue of human health and safety, taking the path of a scientific argument that ran parallel to the path of the practical and economic argument where the obstacle lay. Dias Lourenço was referred to as having said that the key issue in the Malawian and regional debate was that of human health and safety, saying, "Persistent concerns have been raised over the safety of GM maize and this has seriously jeopardized the delivery of food to vulnerable people." (October 17, 2002) Yet, in the article, the "divisions" among the SADC member states were primarily over concerns about GM contamination. The article made a rhetorical move of sidestepping by presenting Dias Lourenço as having addressed a parallel issue in

the debate. In this article, sidestepping happened when Dias Lourenço, instead of addressing the challenge of the GM maize wholegrain leaking to farmers leading to GM contamination, took a parallel path to the issue of human health and safety, proceeding on a parallel path to the one where the challenge was placed. Thus, in introducing the issue of safety, the focus moves away from the practical and economic concern (GM contamination) to a scientific concern (human health and safety), and this is in spite of the fact that both issues can be located in what could broadly be described as *logos*.

During the same period, another example of the rhetorical move of sidestepping was identified. In *The Independent (UK)* article of the edition of December 1, 2002, it was seen above that British Environment Minister Michael Meacher as having accused the US of being "wicked" in its foreign aid policy. Meacher was addressing the issue of the conditions that came with US foreign aid to Southern Africa – and the stringency of the conditions has been discussed above. Meacher talked of "GM politics" informing the American foreign aid policy, complaining about the stringency of the conditions that came with the US government's loan offers to the region. A direct response to Meacher could have addressed the complaint by countering that the conditions were not stringent and that they were fair or justifiable under the circumstances. However, it was also seen above that US Ambassador to UN WFP and FAO, Tony Hall, had a different take on the issue. Hall was quoted in the *Reuters* article of December 9, 2002, as having said,

> People that deny food to their people that are in fact starving people to death should be held responsible...for the highest crimes against humanity in the highest courts in the world. (December 9, 2002)

In this quotation, Hall is subtly blaming certain Southern Africa leaders for the hunger and, once more, he is likening them to criminals against humanity to be tried at the ICC at The Hague. Hall steps aside the issue of the conditions that came with the American loan offer to Southern Africa –which is what Meacher is commenting on. By stepping

aside, going on a parallel path addressing Southern African state leaders, he left the challenge unaddressed.

In both examples of instances of sidestepping above, sidestepping participants encounter some challenging obstacle placed in their way; they do not take the challenge on; they do not explore the challenge for solutions or viable options, and they do not clear the path, attempting to remove the obstacle. Instead, they step aside and go on parallel paths to the paths taken, ideally, by non-sidestepping participants. Considering both examples together, the thread of direction set up by the inclusion of practical and economic concerns such as foreign aid and GM contamination fails to be developed when participants evade the practical and economic challenge posed by the introduction of GM crops in Malawi and the region.

4.3 Consolidation

Coverage shows slippage. Coverage also shows moments of engagement. Political (practical and economic and to an extent epistemic-political) concerns are predominant and overt throughout coverage. The slippage occurs in at least two ways. First, there are instances of the slippage between the sources that are driving the food need and the seed need (scarcity of seed) arguments and those expressing the primary concern about GM contamination. The two groups of sources are talking past each other. Second, there are instances of the slippage between the sources that are driving the safety argument, such as the SADC official, USAID's Natsios, Dr. Lewanika, and Dr. Dzamalala, and those concerned about the practical and economic and epistemic-political consequences of adopting GM cropping in Malawi and the region. These consequences are grounded in the region's historical-political circumstances of colonialism and imperialism. The safety argument is infrequent but rather persistent –as a side argument - throughout the two periods of the coverage.

Both reframing and sidestepping occurred internal to particular articles. Sidestepping occurred as a result of an article changing direction from one dimension to another dimension of the same domain. On the other hand, reframing occurred as a result of reconstructing the message of other sources. Apart from having an 'affective' effect on the debate, reframing involved a domain shift because it effected a change in meaning in what was reconstructed. Finally, like in the coverage of the previous national debate, in the coverage of the Malawian GM debate, there are three key features of the coverage, the rhetorical moves and the resulting slippage, moments of engagement, and due to anxieties about colonial legacies, the political is predominant and overt. Thus, obscuring the slippage are moments of engagement as well as the energy and vitality of the political.

Chapter 5: "Not in a thousand years"[106]

5.0 Introduction to the Zimbabwean debate

This chapter explores the debate around GM maize in Zimbabwe in 2002 in the media. Like the Zambian debate but unlike the Malawian debate, the Zimbabwean debate has an Earth Summit period; there was no media debate after 2002. Media coverage of the debate can be divided into three periods, (I) pre-Earth Summit (June 1-August 18, 2002), (II) Earth Summit (August 26-September 4, 2002), and (III) post-Earth Summit (October 4 - December 17, 2002). As in the previous two cases, the chapter gives a description of the coverage and key features, including some examples of instances of 'real' debate, during these three periods, followed by a presentation of selected examples of instances of rhetorical moves in the coverage , followed further, in the final section, by a consolidating account.

5.1 Coverage and key features

(I) The pre-Earth Summit Zimbabwean debate and the twin issues of GM contamination and international trade

From the pre-Earth Summit (June 1 - August 18, 2002) period, nine articles concerning the Zimbabwean debate were selected for analysis. Three articles were published in the local press,[107] three in the British press,[108] two in the American press (*The Washington Post*, July 31, 2002; *The Chicago Tribune*, August 18, 2002), and one in the Russian press (*The Moscow Times*, July 2, 2002). Eight articles were reports and the remaining one article was a column (*The Guardian (UK*), August 13, 2002).

In the nine articles, the events generally being reported are the hunger that became famine, the offer of GM maize, and the Zimbabwean state's rejection of the offer. The key issues raised in the debate include those broadly described as international trade, GM

[106] Ian Smith, Prime Minister of Southern Rhodesia (1964-1965); Prime Minister of Rhodesia (1965-1979). For Smith, Rhodesia would never attain political independence from white minority rule. Today, Smith's prophetic arrogance sounds like an ill omen, given the continuing political turbulence in Zimbabwe in spite of the recent rather power-sharing deal (Government of National Unity) negotiated between the ZANU-PF and the MDC – in both principle and practice a rather fragile GNU

[107] *The Zimbabwe Independent*, June 7, 2002; *The Daily News*, June 19, 2002; *The Zimbabwe Independent*, June 28, 2002

[108] *The Guardian(UK),* June 1, 2002; *The Daily Telegraph*, August 2, 2002; *The Guardian(UK*), August 13, 2002

contamination, human health and safety, IPR and patents and the biotech multinationals, farm input subsidies, collusion, and, uniquely, the land reforms.

Members of the diplomatic corps, science experts, representatives of farmers unions, commercial farmers, state ministers and officials, representatives of agencies of the United Nations, biotech advocates, USAID and other American government officials, representatives of international NGOs, economists and other academics, State President Robert Mugabe, and environmental activist and journalist George Monbiot were the sources that dominated the coverage of the Zimbabwean GM debate.

Key features of the coverage

Coverage began in the foreign press, specifically in a British newspaper, and not surprisingly, the issue of the land reforms interpenetrated with the Zimbabwean GM debate. On June 1, 2002, in *The Guardian (UK)* article entitled "Starving Zimbabwe shuns offer of GM maize," sources referred to as "Zimbabwean authorities" reportedly rejected the UN WFP's offer of 10, 000 metric tonnes of relief maize, because it had not been certified as free from genetic modification. The sources distanced the Zimbabwean state's decision from the anti-imperialism of State President Mugabe. Noteworthy here is the emergence of the 'historical-political,' specifically, imperialism, early on in the coverage. On the historical-political circumstance of imperialism, sources referred to as "Zimbabwean authorities" were quoted directly as having said, "But the decision [of rejecting the offer of GM maize] was not yet another example of President Robert Mugabe protesting at western imperialism." The sources were presumably refuting an allegation made previously, that Mugabe had initially rejected the offer of GM maize because he was an anti-imperialist. Like the Malawian state authorities, the Zimbabwean state authorities were concerned about GM contamination and the loss of export trade in non-GM farm produce primarily within Africa. Further, they were reported as having said that the decision to reject the offer was taken "to protect Zimbabwe's own crop and its ability to export certified hybrid maize seed throughout Africa." Interestingly, the authorities were attempting painstakingly to de-link the issue of GM maize from that of souring relations between Zimbabwe and Great Britain, following the eviction of some

white-settler farmers from their land in the controversial land reforms. The GM debate entered into an atmosphere that was already politically charged, and hence both the GM debate and the land reforms can be seen as interpenetrating discourses. Furthermore, sources referred to as "agricultural experts" reportedly said that the state leadership's decision to reject the offer was not to be viewed as "a petulant act by the Mugabe government." These two groups of sources appear to be consciously resisting a reconstruction of the debate into a frame of anti-imperialism. Noteworthy at the onset of the coverage are interpenetrating discourses and, more evidently, a historical-political swirl threatening to eclipse the manifest primary concerns of the GM debate. Apparently, the Zimbabwean state's anti-GM stance was official and well-known in its embassies worldwide. A source referred to as "the embassy" confirmed that Zimbabwe did not waive its requirement that relief food must be certified as "entirely non-GM." Other sources referred to as "the country's farmers" –most likely commercial farmers - were concerned about the loss of export trade with Europe upon the introduction of GM cropping in Zimbabwe. In reference to European markets where GM products were banned, Zimbabwe's farm produce "would then be barred from export," the sources reportedly said. The point being made here is that GM contamination would lead to the loss of export trade with Europe where commercial dealings in GMOs were banned.

In this article, two issues were raised, GM contamination and the loss of export trade with Europe. Additionally, discernible in the article is the presumed anti-imperialist attitude of Mugabe, which is being disavowed painstakingly, underscoring the then broken international relations between Zimbabwe and the West. The article does not allude directly to the land reforms.

Then the coverage moved to the local press and when it did, the issues of GM contamination and the loss of export trade with the major trading partner recurred. On June 7, 2002, in *The Zimbabwe Independent* article entitled "GMO products threaten seed varieties – ZFU," sources referred to as "agricultural experts" were reported as having said that Zimbabwe faced "the threat of losing most of its agricultural export contracts" if

it accepted the offer. Specifically, Zimbabwe Farmers Union (ZFU[109]) business promotion manager Albert Jaure reportedly said that GM maize was in danger of interfering with the local seed varieties - GM contamination - and as a result GM-contaminated Zimbabwe would risk losing its "competitive edge … on the international market." ZFU's Jaure was specific about the magnitude of the loss that Zimbabwe would incur in its export trade:

> Our products ranging from cotton, beef, maize and many others have managed to capture international markets at premium prices because of our record of non-GMO products… If our maize tests GMO, it automatically implies that our beef and poultry industry has a high likelihood to be GMO as well since we feed them on maize. Experience from the 1992 drought shows that people in the rural areas planted the yellow maize they got as government relief. (June 7, 2002)

In this quotation, Jaure is saying that local varieties of maize and cotton and local breeds of cattle and poultry stand the danger of being GM contaminated; for him, there is a prospect of poor farmers planting the GM maize wholegrain as seed due to a historical precedent set by the previous drought of 1991/1992. Jaure is drawing a close link between GM contamination and the loss of export markets. The issues of GM contamination and international trade continue to be a point of focus, in that other players outside the state apparatus –for example, farmers unions - also cite them as rationale for the state's pre-cautionary stance. The two closely-rated issues seem to speak to a real anxiety about the adoption of GM crops in an agro-based economy such as Zimbabwe.

The article referred to two other sources. The first lot of sources was referred to as "the crops technical team at the Commercial Farmers Union (CFU)." The CFU[110] agricultural experts were reported as having said that in spite of the lack of scientific evidence about the safety of GM foods, as a precaution, pro-GM countries made an effort to get non-GM foods for their consumers. Here I see the emergence of the issue of human health and safety in the coverage of the national debate. The second source was Biotechnology Trust

[109] ZFU is a farmers union composed of emergent indigenous Zimbabwean small- to medium-scale farmers
[110] CFU is a union of white-settler Zimbabwean farmers engaged in large-scale or mechanised and highly-capitalised farming

of Zimbabwe (BTZ) program officer Julius Mugwagwa who reportedly said that there was need to engage "further studies" of GM foods before they could be allowed into Zimbabwe. Here, though implicit, BTZ's Mugwagwa is suggesting local risk assessment of GMOs, thereby raising an epistemic-political concern in that he has a perceived sense of the epistemic-political vulnerability of the Zimbabwean science community in relation to metropolitan science. However, since Mugwagwa does not specify the content of the "further studies," he leaves open the question as to whether his country has the scientific research capacity and infrastructure to conduct the advanced studies he is suggesting. Interestingly, the CFU experts' safety concern and Mugwagwa's suggestion appear to be incongruous with the other sources' views that converge on the concerns about GM contamination and the loss of export trade if Zimbabwe adopted GM cropping.

On June 19, 2002, in *The Daily News* article entitled "Zimbabwe official says GM Maize would have hit country's beef exports," a Ministry of Lands, Agriculture and Rural Resettlement official reportedly said that the state rejected the offer of the American GM maize wholegrain. According to the state official, GM crops would contaminate local pasture and fodder, a thing that would consequently jeopardise Zimbabwe's export trade in livestock products with Europe. The Zimbabwean state official said,

> Bio-tech maize, if eaten by livestock, would have jeopardized Zimbabwe's future beef exports to Europe. Zimbabwe cannot accept donations from all over the place just because there is starvation at the moment. As you know, we do not accept GM produce. (June 19, 2002)

In this quotation, the state official is singling out beef as a major export product to Europe. Implicit here is the concern about GM contamination upon the introduction of GM crops in Zimbabwe. S/he is prioritising international trade (the future) and downplaying the food-need issue (here and now). In quoting the state official, the focus on the practical and economic concerns about GM contamination and the loss of export trade is maintained and the controversy continues to centre on whether or not Zimbabwe should adopt GM crops.

However, in the same article, sources referred to as "various sectors" took up the food-need issue and they were reportedly "upset" with the state for rejecting the offer of relief food that could have alleviated the hunger of not less than "7.8 million" Zimbabweans. Here I see the food-need issue recurring but it is not a point of focus in the coverage. Only milled GM maize was acceptable in Zimbabwe. According to USAID and the UN WFP, the Zimbabwean state was ready to accept an offer of milled GM maize.

In spite of the primary concerns about GM contamination and the consequent loss of export trade, the Zimbabwean state apparently changed its mind and was reported as having accepted the offer on condition the GM maize wholegrain was milled. On June 28, 2002, in *The Zimbabwe Independent* article entitled "Govt approves GM maize imports" UN WFP public affairs officer in Zimbabwe, Makena Walker, reportedly said that the Zimbabwean state had accepted the offer on condition it was milled upon arrival. The state reportedly set this condition due to concerns about GM contamination leading to the loss of export trade in beef with Europe. Surprisingly, Walker attributed the state's initial rejection of the offer to the issue of human health and safety:

> There are no restrictions placed on GM foods under the Codex Alimentarius, which is the joint World Health Organization and Food and Agriculture Organization body dealing with safety and other standards for trade in foods. The UN WFP neither tests nor labels for GM content since that is not called for by the Codex and there are no internationally-accepted standards for such tests.(June 28, 2002)

In this quotation, Walker is saying that the UN WFP does not put any restrictions on GM foods, which have passed the safety standards of a donor country and are accepted by the recipient country. For Walker, the two UN agencies are concerned only about the safety of GMOs for human health and the environment.

In the same article, a source referred to as "government" reportedly said that GM cropping "threatened beef exports and local maize seed varieties." The twin issues of GM contamination and the loss of export trade continue to be a point of focus, in that the state consistently cites them as rationale for its anti-GM stance.

After the Zimbabwean state had reportedly accepted the offer conditionally, it was still reluctant to embrace GMOs fully, and the state's half-heartedness reportedly led to delays in the procurement of the GM maize by international food agencies such as the UN WFP. The state imposed special waivers on a case-by-case basis for the procurement of the relief food and this led to delays because the special waivers were obtained after an arduous process of consultations - involving three state organs, the Biosafety Board, the Ministry of Lands, Agriculture and Rural Resettlement, and the Ministry of Public Service, Labour and Social Welfare. A source referred to as a "recent UN report" complained about the "administrative complexity of obtaining the waiver," which was worsening the "food crisis." This source was criticising the Zimbabwean state, alleging that the Zimbabwean state had created a "grain monopoly" that had made it almost impossible for non-governmental dealers and the UN agencies to import and distribute relief maize in the country. In a way reminiscent of the criticisms of the Malawian state by the African social activists and the farmers, this UN report, in its allegation, was subtly criticising the Zimbabwean state. This was the first time in the coverage that the state came directly under criticism.

In July 2002, coverage of the debate returned to the foreign press. On July 2, 2002, in *The Moscow Times* article entitled "Mugabe finds new targets as disaster looms," UN WFP regional director Judith Lewis was reportedly concerned about the "grain monopoly" that was leading to delays in the procurement of relief maize. Lewis was a specific voice in the UN report referred to above and she alleged that the Zimbabwean state had created "grain monopoly." She was of the view that "the situation could go from bad to catastrophic" – that is, if the state continued to hinder the efforts of NGOs and the UN agencies in the importation of relief maize. Lewis is hereby driving a food-need argument (about the hunger as being urgent, immediate and immense) that emerged in the

hands of the state official in *The Daily News* article of June 19, 2002. By featuring the contrasting view of Lewis, the coverage continues to explore directly the points for and against the food-need issue. Thus, the coverage captures a perceived sense of ongoing debate across articles. Then the article moved to the issue of the land reforms in connection with the hunger. Again, here, the GM debate and the land reforms are interpenetrating. Crucially, in the interpenetration, the primary concerns about GM contamination and the loss of export trade are on the verge of being eclipsed by the historical-political issue of the land reforms. In the change of direction in the coverage, the article represented Zimbabwe as a country that was prosperous before the land reforms but now its agricultural sector was in decline – it could not produce enough food even for itself. For example, Zimbabwe was reported as "a nation that was once the breadbasket of Southern Africa" and as "a country that used to export food to hungry neighbours." Represented as a "breadbasket" and food exporter Zimbabwe is hereby cast, retrospectively, in good light as the 'Eden' of Southern Africa. The land reforms were reported as the major factor leading to the hunger of 2001/2002. The United Nations was referred to as having attributed the hunger to "drought and government seizures of white-owned commercial farms." Here I see that the state came under criticism again, blaming it squarely for the hunger.

In this article, there was a cause-effect relationship between the land reforms and the hunger - leading to the situation whereby the Zimbabwean state resorted, uncharacteristically, to importing food, and hence the GM maize. Similarly, the article itself attributed the hunger to "drought, a crashing economy and a land reform program that [had] destroyed commercial farming." The use of the phrase "crashing economy" signals criticism of the state, now becoming a point of focus in the coverage.

Hitherto, it had been reported that the Zimbabwean state had accepted the offer conditionally. In the American news media however, the story was that the state had rejected the offer. On July 31, 2002, in *The Washington Post* article entitled "Starved for food, Zimbabwe rejects US biotech corn," the Zimbabwean state, which was reported

previously to have accepted the offer on condition that it was milled, was now reported to have rejected a consignment of GM maize. For the American newspaper, the rejection "reignited a long-smouldering scientific and political controversy over the risks and benefits of gene-altered food." The word "reignited" is used to imply that the GM debate emerged in an atmosphere that was already politically volatile. The term "long-smouldering" is used to signal the GM debate's continuity with a politically-aflame past –that is pregnant with political tension. Importantly, the article is driving a 'merits and demerits' argument as is implied by the use of the phrase "risks and benefits of gene-altered food." Additionally, the term "scientific and political controversy" is used to signal the American newspaper's perception that the issues raised in the Zimbabwean debate were partly scientific and partly political. Interestingly, the foreign newspaper did not acknowledge the predominance of the political in the coverage; and yet it can be seen that up until this point, the primary concerns have been practical and economic in the coverage – especially GM contamination and the loss of export trade.

Sources referred to as "biotech advocates" were reported to have criticized the Zimbabwean state "for balking at the humanitarian assistance." Here, once again, the state came directly under criticism, now a recognisable feature of the coverage. They also reportedly accused Mugabe of being concerned more "about his political independence than his citizens' lives." The reference to "political independence" brings into view the West's harsh criticism of Mugabe. Following the land reforms, Mugabe together with the ZANU-PF regime gained notoriety in the West. It is important to note that sometimes the issue of the land reforms partially eclipses primary concerns, portending to turn the GM debate into a 'land reforms' debate.

Sources referred to as "other scientists and economists" disagreed with the "biotech advocates." They said,

> If some of the corn seeds are sown instead of eaten, the resulting plants will produce gene-altered pollen that will blow about and contaminate surrounding fields. That could render much of the corn grown in Zimbabwe - a nation that in most years is a major exporter - unshippable to nations in Europe and elsewhere that restrict imports of bioengineered food, because of environmental and health concerns. (July 31, 2002)

In this quotation, the "other scientists and economists" are raising three key issues, namely, GM contamination, loss of export trade, human health and environmental safety. In quoting the American elite sources, the focus on the twin issues of GM contamination and international trade is maintained and the controversy continues to centre on whether or not the Zimbabwean state should adopt GM crops. Additionally, the coverage does not completely lose sight of the issue of safety.

In the same article, one of the American economists, Neil E. Harl, Professor of Economics at Iowa State University, said that GM contamination was a key issue in the Zimbabwean debate. Harl said, "Pollen drift is a real problem, especially with maize. It places these countries in an extremely difficult position." (July 31, 2002) Here the issue is GM contamination, hitherto one of the two issues that have been a point of focus in the coverage. Further, Harl alleged that the US and the biotech multinationals had colluded in spreading GM crops worldwide, Southern Africa included. Here I see the emergence of the issue of collusion in the coverage. In response, the US and the biotech industry reportedly "vehemently denied any such collusion." For his part (in the refutation), Monsanto Director of Global Technology Transfer Rob Horsch said,

> I don't think there is any justification to make claims like that… Although the company has used private detectives to identify and prosecute US and Canadian farmers it suspects of saving patented seeds, that policy would be adapted to accommodate local traditions in other countries. (July 31, 2002)

In this quotation, Horsch is refuting the allegation of collusion, but in the process bringing up issues of GM seed and IPR and patents. On the latter, Horsch is arguing that Monsanto was going to approach the issue of IPR and patents differently in different countries, and so there was little to worry about in Zimbabwe in particular and in Southern Africa in general.

Another allegation was that the US was "strong-arming Zimbabwe" through the relief food. During this period, the unpopular regime of the ZANU-PF was suffering chronically from sanctions and trade embargoes, and so the concern was that the American relief food was going to prop up Mugabe. Sources referred to as "US officials" refuted the allegation; they said that US did not have any hidden agenda in its food aid program in Southern Africa. The article also reported Carol Thompson, a political economist at Northern Arizona University in Flagstaff, as having said that the US was taking advantage of the hunger to introduce GM crops to the region. Thompson accused the US of "using its power to impose its view that modified maize is not a danger." She added, "It is highly unethical not to just cover the costs for milling." (July 31, 2002) Thompson is surfacing an agenda of power driving the US foreign aid policy. Moreover, in the hands of Thompson, an ethical-political issue of foreign aid emerges in the coverage of the Zimbabwean GM debate.

Still in the same article, Africa Faith and Justice Network (AFJN) senior policy analyst, Carole Collins, raised the issue of IPR and patents, saying, "If these crops get in, then farmers basically lose their rights to their own agricultural resources." (July 31, 2002) Here the issue of IPR and patents recurs in the coverage, thereby putting the biotech multinationals under spotlight. Further, IFPR Director-General Per Pinstrup-Andersen was reported as having said that he was not convinced that GM contamination or any other issue was the motivation behind Zimbabwean state's reluctance to accept the offer. Pinstrup-Andersen accused the Zimbabwean state of using the food aid to play politics, a

change in the direction in the coverage of the debate. Specifically, the accusation of 'playing politics' was identified above in the Zambian case. Going somewhat off tangent (from the safety issue), Pinstrup-Andersen was quoted as having said,

> I think the Zimbabwe government is using this to show its muscle against the United States and other Western countries because of the criticism the president has been receiving from outside. I think it is irresponsible … unless they know they can get enough food from elsewhere that is not genetically modified." (July 31, 2002)

In this quotation, Mugabe's role as aggressor is notable as is implied in the use of the phrase "show its muscle against." Pinstrup-Andersen is accusing Mugabe of being anti-imperialist. In his use of the phrase "it is irresponsible," Pinstrup-Andersen is raising an ethical-political issue in his accusation of Mugabe. For him, Mugabe's anti-imperialist agenda is the one that was driving the state's anti-GM stance. In other words, for Pinstrup-Andersen, Mugabe does not have the hungry Zimbabweans at heart. Further, in his use of the phrase "show its muscle against," Pinstrup-Andersen is typecasting Mugabe as an aggressor and a belligerent character. The negative characterisation – caricaturing - of Mugabe as an anti-imperialist carries on in the coverage, though intermittently.

By contrast, the article reported Mugabe as being "prudent." In an address to parliament, Mugabe said,

> We fight the present drought with our eyes clearly set on the future of the agricultural sector, which is the mainstay of our economy. We dare not endanger its future through misplaced decisions based on acts of either desperation or expediency. (July 31, 2002)

In this quotation, Mugabe is countering the food-need argument. His counter takes into consideration "long-term" consequences of adopting GM cropping in Zimbabwe, "the

future of the agricultural sector." Here the coverage continues to explore directly the points for and against the food-need issue.

In sum, this longish article involved many sources, and apart from raising some key issues, it had an undercurrent of the problematic Africa-West relations characterized by mutual distrust between the US and Zimbabwe. It is as if the GM debate was trying to superimpose itself on a simmering crater, a historical but still current political storm between an internationally-notorious political regime and its former colonizer. The direction of the coverage of the debate is marked by instances of parallel pathing, or sidetracking, to the issue of the land reforms often punctuated by criticism of the state leader and the ZANU-PF regime. The parallel pathing has the effect of threatening to drown the GM debate inasmuch as the key issues raised in the GM debate are on the verge of being eclipsed by the historical-political storm. The interpenetration of discourses of GM technology in agriculture and the land reforms is manifest in this article.

In August 2002, and still in the foreign press, the Zimbabwean state reportedly accepted the offer eventually. On August 2, 2002, in *The Daily Telegraph* article entitled "Mugabe `agrees to' US maize for the starving despite GM protest," the Zimbabwean state was reported to have accepted a large consignment of GM maize wholegrain, long after rejecting the first consignment. There are two exchanges in this article.

First example of an instance of 'real' debate

The first exchange involves overseas journalist Roger Highfield (the writer of the article) as the first source and three other sources that the journalist cites in the article, the Herald editorial, "experts," and the Zimbabwe High Commission in London, in that order. The exchange was as follows.

Journalist: “GM food… has been eaten by Americans for years with no apparent ill-effects.”

Herald editorial: "Vegetables … could be contaminated with genes from such grain.”

Experts: “GM contamination of vegetables ‘is a scientific impossibility.’”

Zimbabwe High Commission in London: “GM foods are not allowed in Zimbabwe because ‘scientifically, they haven't been proven to be safe’.”

The exchange opens with the journalist guaranteeing the safety of GM maize because Americans have been eating it safely for several years. In response to the journalist’s point, the Herald editorial contradicts the journalist, taking the point forward and along the same path of human health risks, arguing that GM contamination of vegetables by GM maize wholegrain (at the stage of distribution of the wholegrain to the hungry people) could eventually endanger human health as people eat genetically-mutated vegetables. In turn, the “experts” (science experts) respond to the Herald editorial’s point, contradicting the point. The fourth source –the Zimbabwe High Commission in London- points to the science experts’ ‘burden of proof’: inasmuch as the science experts argue that scientifically GM maize wholegrain cannot contaminate vegetables (perhaps because maize and vegetables belong to different genera and species), the safety of GM foods has not been proven scientifically. By imposing the burden of proof on the science experts, the Zimbabwe High Commission in London is contradicting their point.

In this exchange between the journalist and the other three sources, the one issue under consideration is that of the safety of GM foods for human health and they have the same perspective, human health risks of eating GM foods. For all the four participants, the topic is GMOs and they keep the focus on it. All four stick to the issue of human health and safety and they respond to the points being made by previous speakers. They are individually developing their respective positions in the same direction as the previous individual speakers. The sources are presented as if they are speaking directly to each

other on the same issue, from the same perspective, and in disagreement with each other. Thus, this is an example of an instance of 'real' debate.

Second example of an instance of 'real' debate -in the same article

The second exchange took place between two groups of sources referred to as "biotech proponents" and "others," respectively. The exchange went thus:

Biotech proponents: "Mr. Mugabe seems to care more about demonstrating his independence than saving the lives of 6 million said to be facing famine."

Others: "Washington [is] using the food crisis to get US gene-altered products established in a part of the world that has resisted them."

For the "biotech proponents," Mugabe's motive in rejecting the offer of the American GM maize is anti-imperialism. For them, Mugabe just wanted to prove a point to the US and especially its closest ally, Great Britain: that Zimbabwe is a sovereign state, a political point that would put more than half of the Zimbabwean population in great danger of death by starvation. In turn, for the "others," the US government's motive in giving GM maize to Zimbabwe was to introduce GM cropping in Southern Africa, a region that had resisted GMOs in general and GM foods and crops in particular. It can be seen that in this exchange, the two sources are addressing the same issue –'foreign aid.' They have the same perspective –'motives' of either rejecting or giving food aid. They are keeping the focus on the same issue and sticking to the point. The second lot of sources (the "others") are responding to the point being made by the first lot of sources (the "biotech proponents") – about the motives behind foreign aid – and are contradicting the latter around the same point. Therefore, the exchange here is an example of an instance of 'real' debate.

Monbiot, a dominant voice in the Malawian debate, was also present in the Zimbabwean debate. Coverage in the foreign press zeroed in on the historical-political dimension of

the Zimbabwean debate. On August 13, 2002, in *The Guardian (UK)* column entitled "War on the peasantry," Monbiot reportedly drew a link between the hunger, the land reforms and GM maize in Zimbabwe. Monbiot's first contention was in regard to 'reports' on the land reforms in the British newspaper *The Daily Telegraph*; in his reading of the reports, Monbiot understood *The Daily Telegraph* as having said that "His[Mugabe's] assault on white-owned farms [was] the principal reason for the … famine." Monbiot disagreed with these reports, saying,

> Though the 4,500 white farmers there own two-thirds of the best land, many of them grow not food but tobacco. Seventy per cent of the nation's maize - its primary staple crop - is grown by black peasant farmers hacking a living from the marginal lands they were left by the whites. (August 13, 2002)

In this quotation, Monbiot is surfacing the racial inequality in Zimbabwe, which was at that point in time exemplified by the skewed distribution of the land, and hence Monbiot's dichotomy: "the best land/ the marginal lands," reflecting the racial divide: "white farmers/black peasants." His point was that white-settler farming could not have averted the famine because its focus was on tobacco and not on maize production. Thus, for Monbiot, a different explanation was required to understand the hunger of Zimbabwe in the context of the land reforms, and his preferred explanation is historical-political (racism and neo-imperialism).

Monbiot responded to the accusation that Mugabe was playing politics with the American GM food aid. For him, Mugabe was not any worse off than the state leaders of the western superpowers, saying, "Just like Mugabe, the rich world has also been using food aid as a political weapon." (August 13, 2002) For Monbiot, Zimbabwe and Zambia had "fiercely resisted" GM crops for fear that GM technology in agriculture would grant the biotech multinationals "control over the food chain." (August 13, 2002) Monbiot is closely linking the issue of food security with the IPR and patents and the GM seed of the biotech multinationals. Here I see that the practical and economic concerns are overt in the coverage. And then Monbiot's column moved to the Malawian debate whereby he

drew on the neo-liberal agenda to explain the principal cause of the hunger of 2001/2002 in that country. Monbiot blamed the IMF for the hunger and so Malawi would continue to face hunger in the post-2002 period because the global financiers had barred it from subsidizing farm inputs.[111]

Returning to the Zimbabwean debate, Monbiot's column returned to the issue of the land reforms. For him, in principle, the land reforms were a constructive move by the state and this is in spite of the fact that the IMF "prevents state spending on land reform" and that "the governments of the rich world don't like land reform." Monbiot's characterisation of the métropole as "the rich world" surfaces the global inequality that leads to what the thesis terms the 'bantustanisation' and 'peripheralisation' of the African postcolonial economies -'global apartheid'. Monbiot supported the Zimbabwean land reforms as a means to attaining food security.[112] In this article, it can be seen that in the hands of overseas journalist Monbiot, the coverage of the Zimbabwean debate zeroes in on the historical-political, just as it digresses shortly to the Malawian debate, surfacing the same. The sharp tone of Monbiot's statements betrays an activist tinge. Still in the foreign press, coverage continued to show the GM debate interpenetrating with the issue of the land reforms. On August 18, 2002, in *The Chicago Tribune* article entitled "Famine looms for 6 million people in Zimbabwe," the land reforms were linked reportedly to the hunger, leading to the UN agency responsible for relief food –the UN WFP- to offer Zimbabwe GM maize. The article reported thus, "President Mugabe's seizure of white-run farms in Zimbabwe has pushed the country close to economic ruin."

[111] Monbiot said, "Malawi has also been obliged to take GM maize from the US, partly because of the loss of its own strategic grain reserve. In 1999, the IMF and the European Union instructed Malawi to privatise the reserve. The private body was not capitalised, so it had to borrow from commercial banks to buy grain. Predictably enough, by 2001 it found that it couldn't service its debt. The IMF told it to sell most of the reserve. The private body sold it all, and Malawi ran out of stored grain just as its crops failed. The IMF, having learnt nothing from this catastrophe, continues to prevent that country from helping its farmers, subsidizing food or stabilising prices. The same agency also forces weak nations to open their borders to subsidised food from abroad, destroying their own farming industries." (*The Guardian (UK),* August 13, 2002)

[112] Monbiot argued, "Land distribution is the key determinant of food security. Small farms are up to 10 times as productive as large ones, as they tend to be cultivated more intensively. Small farmers are more likely to supply local people with staple crops than western supermarkets with mangetout." (*The Guardian (UK),* August 13, 2002)

Third example of an instance of 'real' debate –across two articles

The Chicago Tribune article criticised Mugabe for evicting white farmers who are portrayed as the ones who grow maize, the staple food for Zimbabweans:

> Food production has plummeted as white farmers, who once made Zimbabwe a major food-exporting nation, are being driven off their farms as part of a government effort to transfer Zimbabwe's farmland to black owners. (August 18, 2002)

In this quotation, the writer of the article (the journalist) is supposedly responding to a previous article in a British newspaper. As it was seen above, in *The Daily Telegraph*, Monbiot had said:

> Though the 4,500 white farmers there own two-thirds of the best land, many of them grow not food but tobacco. Seventy per cent of the nation's maize - its primary staple crop - is grown by black peasant farmers hacking a living from the marginal lands they were left by the whites. (August 13, 2002)

This is an exchange across two articles. In the first quotation, Monbiot is saying that white-settler farmers grow cash crops such as tobacco and not staple food crops such as maize, and so they (the white farmers) are irrelevant as far as food security efforts are concerned in Zimbabwe. Monbiot's point is that subsistence ("black peasant") farmers grow most of the maize. Monbiot is arguing that historically the skewed distribution of land has disadvantaged indigenous Zimbabweans, leaving them with "marginal lands," and has advantaged white-settlers with "the best land." By contrast, for the journalist of *The Chicago Tribune*, the eviction of white-settler farmers led to chronic hunger. White-settler farmers and not indigenous Zimbabwean subsistence farmers are the growers of staple food crops, especially maize, in the country. The article contradicts Monbiot's point. Food security is the issue and the two participants are speaking from the same perspective or frame, staple food cropping in Zimbabwe –who the actual producers of

maize are. Even if it is an exchange across articles, the participants are keeping focus on the same topic, the land reforms and they are sticking to the same issue of food security. The journalist of the American newspaper is supposedly responding to Monbiot's point and the former is supposedly contradicting the latter. In this exchange across two articles, the two sources can be taken as speaking to each other on the same issue, from the same perspective, along the same path, and addressing the same topic. It is an example of an instance of 'real' debate across two articles.[113]

The Chicago Tribune article is the last text selected for analysis in the pre-Earth Summit period. In this article, the historical-political issue of the land reforms is recurrent and on the verge of eclipsing the issues of GM contamination and the loss of export trade. It was as though the GM debate was competing for media space with an older, historical-political debate that was threatening to superimpose itself upon the GM debate during this particular period. In the pre-Earth Summit period of the Zimbabwean debate, a range of concerns is raised, more about GM crops and less about GM foods; and in respect of GM crops, the predominant concerns were about GM contamination of local maize varieties and the loss of export trade with Europe primarily in beef. Additionally, the land reforms, in themselves a key historical-political issue in Zimbabwe, are represented generally as a causative agent of the hunger. Although it can be seen as part of the context of, or the background to, the GM debate, the issue of the land reforms has the effect of significantly changing the direction of the coverage of the debate at various points in time. The GM debate emerged at a moment when Zimbabwe's international relations with the West were at their lowest ebb and in the coverage of the GM debate this situation is manifesting itself as the caricaturing of Mugabe as an anti-imperialist.

[113] At the level of *form* of argument, and not of *content*, this example qualifies as 'real' debate –mainly due to the fact that participants are speaking to each other on the same issue, from the same perspective, along the same path, and addressing the same topic. At the level of content, details of what farmers do, for example, would be required in a real debate, but this is not the case here

Like in the Zambian and Malawian debates, in the Zimbabwean debate, state leaders and officials are concerned about the long-term consequences of adopting GM cropping whereas the international relief food agencies and the western donor community drive a food-need argument. Thus, the direction of the coverage towards much more overtly political concerns is discernible in this particular period. Unlike in the Zambian debate but like in the Malawian debate, in the Zimbabwean debate, the biotech multinationals are referred to as a source in the coverage. Like in the Zambian debate but unlike in the Malawian debate, in the Zimbabwean debate the biotech multinationals are presented negatively. As regards the key features of the Zimbabwean debate during this period, as in the Malawian debate, coverage began in the foreign press. The debate was very intense and it involved several local and foreign participants. Except for Monbiot's column (*The Guardian (UK),* August 13, 2002), the articles were reports. The coverage presented the hunger as massive, affecting over half of the population and the Zimbabwean state as resisting GMOs in general and the American GM maize in particular. The coverage presented the state as vacillating between rejecting and accepting the offer throughout the period – a state having historical-political as well as practical and economic and ethical-political concerns about GM foods and crops while it is faced with famine and the lure of the offer of controversial relief food. Importantly, during this particular period, I have identified some engagement, three examples of instances of 'real' debate. Moreover, I have noticed that evidently, the Zimbabwean GM debate enters into a politically-charged terrain. It has a quasi-volcanic character, and hence the energy and vitality of the political that is manifest during this particular period of the coverage.

(II) The Zimbabwean Debate at the Earth Summit and the Issue of Genetic Experimentation

From the Johannesburg Earth Summit episode of the Zimbabwean debate, three articles concerning the Zimbabwean debate were selected for analysis and all of them were in the foreign press.[114] Two articles were reports[115] on the Earth Summit episode of the

[114] Global: *The Reuters,* August 31, 2002; South Africa: *The Sunday Times*, September 1, 2001; Canada: *The Ottawa Citizen*, September 1, 2002
[115] See *Reuters,* August 31, 2002; *The Sunday Times*, September 1, 2002

Zimbabwean debate and the third one was an editorial comment (*The Ottawa Citizen*, September 1, 2002) on the Zimbabwean debate that was motivated by the Earth Summit. The Zimbabwean debate took place on the sidelines of the Earth Summit itself. The event generally being reported was the Zimbabwean state's reluctance to accept the offer and the regional resistance to GM crops. The sources that dominated coverage were Zimbabwe's Minister of Lands, Agriculture and Rural Resettlement, Dr. Joseph Made, UN FAO leader, and Gregory E. Gyetko of Dunrobin, Canada. Five days into the Earth Summit, on August 31, 2002, in the *Reuters* article entitled "Zimbabwe rules out GM food aid, won't talk to US," State Minister Dr. Joseph Made reportedly said that GM cropping was a form of genetic experimentation on the Zimbabwean population. Here I see the emergence of the issue of genetic experimentation, which speaks specifically to the historical-political circumstance of apartheid South Africa. Dr. Made was also concerned about the effect of GM cropping on the ecological environment; here I see that the safety issue of the environment, though infrequent and sidelined, is carrying on in the coverage. Dr. Made reportedly refused to discuss the matter of GM maize food aid with American officials who came to the Earth Summit. His refusal to talk to the American officials at the Earth Summit is testimonial to the poor international relations between Zimbabwe and the US during that particular period. On the issue of genetic experimentation, Dr. Made was quoted directly as having said,

> We do not accept genetically modified material into Zimbabwe…There is nothing to discuss...You can't use the Zimbabwean population as guinea pigs...There is no way we can bring that material into Zimbabwe, which is a very clean environment. (August 31, 2002)

In this quotation, Dr. Made is raising the issue of genetic experimentation. Interestingly, the state minister is retrenching the state's 'anti-GM' stance long after accepting milled GM maize. Apartheid South Africa has a violent history of scientific experimentation with weapons of mass destruction invented specifically for the express intention of exterminating indigenous South Africans. Chemical and biological warfare scientist Dr. Wouter Basson alias Dr. Death is one of the rogue scientists implicated in that violent history. Further, in quoting Dr. Made as saying that Zimbabwe "is a very clean

environment," the focus of the coverage on the issues of GM contamination and international trade is maintained and the controversy continues to centre on whether or not Zimbabwe should adopt GM crops.

At the Earth Summit, the issue of collusion recurred. The biotech industry and the western superpowers were suspected of collusion. The United Nations was reportedly under the same suspicion. Further, the UN agencies responsible for relief food were criticised for being complicit in the "force-feeding" of Southern Africans on GM maize. Here I see that UN agencies came under severe criticism. In September 2002, a UN senior official was reportedly concerned about the region's rejection of the offer. On September 1, 2002, in *The Sunday Times* article entitled "Think before refusing GM food," UN FAO Director-General Dr. Jacques Diouf was reportedly concerned about the Southern African states' rejection of the GM maize food aid, thereby implicating the Zimbabwean and Zambian states. Dr. Diouf said,

> We should make sure before we reject it that there are scientifically valid arguments on which to base that decision… The United Nations therefore believes that in the current crisis, governments in Southern Africa must consider carefully the severe and immediate consequences of limiting food aid available for millions of people so desperately in need. Their plight must weigh heavily in government decision-making. (September 1, 2002)

In this quotation, Dr. Diouf is driving a safety argument as is implied in his use of the phrase "scientifically valid arguments." The safety argument carries on in the coverage. In other words, though sidelined by political concerns, safety issues are becoming persistent in the coverage. He is also driving a food-need argument as is implied in his use of the phrase "so desperately in need." Dr. Diouf's view appears incongruous at the Earth Summit especially, given the heavy presence of social activists mobilising the sustainable human development agenda.

As was the case in the pre-Earth Summit period of the Zimbabwean debate, the loss of export trade became a primary concern in a Canadian newspaper article during the Earth Summit; the article was motivated by the sustainable human development agenda of the Earth Summit. On September 1, 2002, in *The Ottawa Citizen* editorial comment entitled "GM corn would harm African trade," Gyetko was referred to as having said that *The Ottawa Citizen*'s editorial had missed "a couple of important issues" about GM maize in Africa. The first issue missed was that of the loss of export trade: "the poor people in Zimbabwe make their living selling food to Europe, where GM foods are not accepted."

The editorial reported Gyetko as having said that if the Zimbabwean state accepted the offer of GM maize wholegrain, the poor farmers would most likely plant some of it as seed, leading to GM contamination because "the GM maize [would] spread through the entire country, as GM canola [had] spread in Canada." Gyetko was certain that the poor farmers of Zimbabwe would plant the GM maize wholegrain as seed because the famine had wiped out their seed stock. If GM maize spread in the Zimbabwean agricultural sector, the biotech multinationals would gain a foothold through IPR and patents and take over the local seed market, leading to the poor farmers' dependency on the biotech multinationals for GM seed and the matching agro-chemicals. The second issue that Gyetko claimed the editorial missed was that the land reforms were not the causative agent of the hunger. He said, "The vast amount of farmland in Zimbabwe is planted with tobacco" and this echoes Monbiot's view earlier. However, the editorial conceded not knowing enough about this issue: "Perhaps this deserves some investigation." Thus, for Gyetko, in the Zimbabwe GM debate there were two primary concerns, GM contamination and the loss of export trade. Additionally, for him, the debate emerged and evolved against the background of the land reforms. In quoting Gyetko, the focus on the issues of GM contamination and international trade is maintained and the controversy continues to centre on whether or not Zimbabwe should adopt GM crops. Moreover, the biotech multinationals, due to their IPR and patents over GM seed, continue to be presented negatively in the coverage.

Apart from the UN FAO leader's view, coverage of the Zimbabwean debate at the Earth Summit surfaces political concerns, and the range of these concerns is predominantly practical and economic, as is implied by the predominance and overt-ness of the primary concerns about GM contamination and the loss of export trade. Incidentally, Mugabe was reported to have attended the Earth Summit (*Reuters,* August 31, 2002) but the coverage did not feature him, preferring, instead, to feature agriculture and lands Minister Dr. Made who raised the issue of genetic experimentation.

(III) The Zimbabwean debate after the Earth Summit and the food-need argument

From the post-Earth Summit (September-December 2002) period, four articles concerning the Zimbabwean debate were selected for analysis. Two of the articles were published in global news agency *Reuters* (September 9, 2002; December 9, 2002), one in a local newspaper (*The Daily News,* October 4, 2002), and the remaining one in the Mozambican news agency *Agencia de Informacao de Moçambique* (December 17, 2002) and all four were reports. In these four articles, the events generally being reported are the hunger, the region's resistance to GM foods and crops, and the regional debate centred on GM maize. The key issues being generally raised in the debate include those broadly described as GM contamination, seed, international trade, food need, the land reforms, and human health and safety. The sources that dominate the coverage during this particular period include a South African biotechnologist, a representative of the South African grain industry, a UN WFP official, a SADC-based Zimbabwean scientist, and a senior American official.

Key features of the coverage

Key features of the coverage are as follows. As one of the two primary concerns, GM contamination re-surfaced in the coverage of the debate after the Earth Summit. On September 9, 2002, in *the Reuters* article entitled "Milling a temporary solution to Africa GM debate," a number of sources were reported as having expressed their views on the issue of milling as an anti-dote to the planting of GM maize wholegrain as seed. All the sources viewed milling as a temporary measure. A source referred to as a "UN WFP

official" was concerned about the high cost of milling and that the process of milling was going to lead to delays in the distribution of the much-needed relief food. Primarily due to the concern about GM contamination, the Southern African states' demand to have the GM maize wholegrain milled into finely-ground flour before giving it to their hungry people had fiscal implications because these states did not have money budgeted for milling the wholegrain. Zimbabwe and Malawi made such a demand and neither of them had any money for milling.

One of the sources concerned about the fiscal implications of the demand for milling was National Chamber of Milling (South Africa) Executive Director, Jannie de Villiers. For de Villiers, no one was willing to give Southern African states money to pay for the milling. Thus, for him, the region, especially SADC, would have to cushion the cost of milling since no western donor was willing to do so. In retrospect, the article reported Secretary of State Colin Powell who was present at the Earth Summit as having attributed the regional resistance to the issue of human health and safety – and not to the issue of GM contamination. Perceiving that the resistance was based on the concern about the lack of safety of GM maize food for human health, Powell was quoted as having said,

> In the face of famine, several governments in Southern Africa have prevented critical US food assistance from being distributed to the hungry by rejecting biotech corn, which has been eaten safely around the world since 1995. (September 9, 2002)

In this quotation, Powell is adopting the role of science expert, assuring delegates at the Earth Summit about the safety of GM foods. Notably, the safety issue is persistently carrying on in the coverage. However, the top American politician's 'acquired' science expert authority comes into serious question as evidenced by the booing and jeering that his presentation provokes at the Earth Summit.

In the same article, another source that reportedly viewed the region's demand for milling in terms of the issue of human health and safety was AfricaBio (South Africa) Executive

Director, Professor Jocelyn Webster who said, “The milling of the maize is a very good short term solution to allay any safety concerns." (September 9, 2002) Moreover, for Webster, the regional resistance to GM foods and crops – as manifested in the demand for milling – was due to the lack of scientific knowledge and information in the region, advising thus, “[T]hose governments need to seek information.” (September 9, 2002) Here, once more, though still sidelined by political concerns of the region, safety issues are defying total eclipse. The article also reported de Villiers as having said that there was need for the region to “adopt higher-yielding maize varieties,” which implied the use of advanced agronomic methods such as GM technology. For him, the point was to combat food insecurity and propel the region towards sustainable agriculture using advanced agronomic methods. De Villiers said,

> If we (in South Africa) were still using the maize varieties of 20 years ago the yield would be so low that we wouldn't be able to feed the people here either. (September 9, 2002)

In this quotation, De Villiers is praising GM technology in agriculture, expressing a view akin to Dr. Mumba’s ‘science-as-saviour’ view in the Zambian case. De Villiers is making a case for GM technology as an instrument for achieving sustainable agriculture in the region. He is urging the region to emulate the example of South Africa, which has embraced GM crops fully. Insofar as both Webster and de Villiers take a pro-GM stance, in line with their state and in contrast with the antagonists including the Zimbabwean state officials and president Mugabe, it can be seen that the coverage continues to explore directly the points for and against both the twin issues of GM contamination and international trade in particular and the broader theme of the region’s adoption of GM crops in general.

Finally, the article attributed the hunger in Zimbabwe to drought and bad weather as well as “ill-advised land policies.” Thus, the land reforms continue to interpenetrate with the GM debate. Moreover, climate change is acknowledged as a contributing factor to the regional famine.

Early October 2002, the issue of GM contamination became linked closely with that of indigenous seed. On October 4, 2002, in *The Daily News* article entitled "Zimbabwe; genetic modification poses a threat to indigenous seeds," a SADC-based Zimbabwean scientist was referred to as having been concerned about the extinction of indigenous seed varieties upon the introduction of GM crops in the region. Addressing a workshop on agro-biotechnology in Lusaka, SADC Plant Genetic Resource Centre (SPGRC) acting director, Charles Nkomo, reportedly raised issues of seed, IPR and patents, GM contamination, loss of biodiversity, and biopiracy. For Nkomo, through the IPR and patents of the biotech multinationals, western countries would colonize the region's indigenous seed varieties. Nkomo said that the African plant species could disappear if GM crops cross-pollinated with them and farmers were likely to lose indigenous plant species through out-crossing. Concerned about the continued loss of Southern Africa's biodiversity, Nkomo decried what he saw as the 'colonisation' of the region's genetic resources by the biotech multinationals through IPR and patents.

Fourth example of an instance of 'real' debate -loss of biodiversity

In the middle of the article, there was an exchange between two groups of sources, social activists and science experts. Referring to a 5-day biotechnology workshop in Lusaka, the writer of the article (journalist) said:

> One of the fears expressed by environmentalists concerning the controversial GM technology is that farmers are likely to lose indigenous plant species through out-crossing. There are concerns that GM plants may overpower indigenous plants and there would then be no indigenous biodiversity. While there are fears that GM crops would pollinate non-GM crops, pro-GM scientists say pollination is however not synonymous with GM crops but all plants out-cross when brought together. (October 4, 2002)

Looking at this quotation, the exchange is between sources referred to as "environmentalists" and "pro-GM scientists." Their exchange goes something like this:

Environmentalists: If GM crops are introduced in Zimbabwe and the region, farmers are likely to lose indigenous plant species through out-crossing.

Pro-GM scientists: Out-crossing happens to all crops including GM crops since they all cross-pollinate.

The two groups of sources are looking at the same issue – loss of biodiversity. They have the same perspective – out-crossing in crops. They are keeping focus on the same issue and are sticking to their respective points. The respondents –the science experts – are responding to the point being made by the social activists. The science experts are contradicting the social activists. They are quoted as speaking directly to each other on the same issue, from the same perspective, and along the same path. The disagreement is a snippet in the middle of an article in which the topic is Nkomo's concern about the biotech multinationals' patenting of the region's indigenous plant species.

Then the article returned to Nkomo of the SPGRC; Zimbabwe was reportedly conducting GM trials amidst the concern about GM contamination following its conditional acceptance of the American GM maize. Specifically, Nkomo raised the issue of the lack of scientific research capacity and infrastructure in Zimbabwe and the region, saying,

> There are these issues of GMOs which despite not being experts, we find ourselves having to be involved … As a consequence, we may have to make drastic changes to the centre to respond to the new technologies. The problem is we may not have the capacity to protect our species. (October 4, 2002)

In this quotation, Nkomo is saying that the region lacks expertise, resources and capacity as far as risk assessments of GMOs are concerned. For Nkomo, the epistemic-political vulnerability of Zimbabwe and the region renders it vulnerable to biopiracy by the IPR-protected biotech multinationals. Through biopiracy, Nkomo is arguing, Southern Africa is "losing thousands of its indigenous species," which are "being patented elsewhere in

the West." Nkomo is accusing the biotech multinationals of biopiracy –the thieving of Southern Africa's genetic resources of indigenous plant species. Importantly, Nkomo is pointing to the epistemic-political vulnerability of the region's science communities in relation to metropolitan science.

In December 2002, the food-need argument developed a new dimension – the political-judicial. On December 9, 2002, in the *Reuters* article entitled "US calls food aid refusal a crime against humanity," US ambassador to UN FAO and WFP, Tony Hall, was referred to as having incited the world to bring to trial Zimbabwean and Zambian state presidents for starving their people by rejecting the offer of the American GM maize. At a press conference in Brussels, Hall had made the incitement thus,

> People that deny food to their people that are in fact starving people to death should be held responsible...for the highest crimes against humanity in the highest courts in the world. (December 9, 2002)

In this quotation, Hall is laying a charge on Mugabe and Mwanawasa. Hall wants the two Southern African leaders to be tried at the International Criminal Court (ICC), The Hague, for committing crimes against humanity, and hence his raising a political-judicial concern, which is surfacing for the first time in the coverage.

Moreover, Hall accused the EU of fuelling the regional resistance to GM maize. For him, Europe's anxieties fuelled the region's concerns about the safety of GM foods and he asked the EU to do more to persuade Southern African countries that GM food was safe for human health. By reducing it to the issue of human health and safety and by viewing it as a ripple of the Euro GM debate, Hall appears to have missed the region-specificity of the Zimbabwean debate – that is, in the way he was reported in this article. About two weeks later, Hall repeated his political-judicial take on the Zimbabwean debate. On December 17, 2002, in *Agencia de Informacao de Mocambique* article entitled "US hits out over African food policies", Hall accused Southern African state leaders of using food aid as a "political weapon" and of rejecting the offer, putting in danger of death by

starvation the lives of several millions of people. Addressing a press conference in London, and referring to Mugabe, Hall said,

> If it's the president of a country that is giving the orders [to deny people food], he should be tried by the highest court … [T]hey're denying food to their own people, they're using it as a political weapon. (December 17, 2002)

In this quotation, Hall is laying fresh charges on Mugabe and, presumably, on Mwanawasa too. Hall is suggesting that Mugabe's rejection of the offer of GM maize is motivated by an anti-imperialist agenda and not any other considerations. Hall is surfacing the historical-political in the coverage.

During the post-Earth Summit (September-December 2002) period, the range of concerns being generally raised in the debate was political (practical and economic, epistemic-political and political-judicial) but the scientific concerns about human health and safety carried on as a side argument. The sources that dominated coverage include but are not limited to top American officials, pro-GM scientists (for example, South African biotechnologist Webster), environmentalists, a representative of the South African grain industry, a South African biotechnologist, a SADC-based Zimbabwean scientist, and a UN WFP official. During this particular period, Mugabe and Mwanawasa were accused of committing "crimes against humanity" by rejecting the offer. In spite of the fact that Hall laid serious charges on them, the coverage omitted the voices of the two state leaders on this particular charge, especially to respond to the charge. The coverage also omitted the voice of the biotech multinationals that Nkomo accused of biopiracy. In Section 5.2 below, I return to the matter of omitted voices in media coverage.

As regards the key features of the coverage in the post-Earth Summit period, the Zimbabwean debate in the media, this time around conducted outside Zimbabwe, is very intense. There is one instance of 'real' debate. The coverage presents the Zimbabwean debate as an integral part of the regional debate and hence the reference to the Zambian debate in all the reports. De Villiers hints at some sort of 'truth-interest' relationship,

arguing that the region ought to have considered GM technology in agriculture as a way of achieving food security and sustainable agriculture a long time ago. For him, South Africa would not be food secure today if, two to three decades ago, it had not adopted improved hybrid maize varieties of which GM maize is an exemplar. Thus, for him and on scientific grounds alone, GM technology in agriculture is capable of turning the region from a food importer (food insecurity) to a food exporter (food security) – that could be the truth. For a hunger-prone region, an interest in GM technology in agriculture is discernible in the Southern African state leaders but the interest is problematic in the sense they, at the same time, see it as a western science, leading to colonial legacy anxieties. Eventually, it is important to note that non-Zimbabweans are dominant in the Zimbabwean debate during this particular period. It can be seen that after a mildly-intense Earth Summit debate on the Zimbabwean debate, the post-Earth Summit Zimbabwean debate gains intensity, more or less showing the coverage features of the pre-Earth Summit period. Interestingly, perhaps due to the domination of non-Zimbabweans such as the American Hall and South Africans, de Villiers and Webster, the land reforms are not interpenetrating with the GM debate in the post-Earth Summit period.

5.2 Slippage at work in the coverage of the Zimbabwean debate

This section presents selected examples of instances of rhetorical moves of reframing, sidestepping and silencing during the three periods of the Zimbabwean debate, pre-Earth Summit, Earth Summit and post-Earth Summit. During the pre-Earth Summit period, six examples of instances of the rhetorical moves of reframing and sidestepping were selected – two of which are illustrative of reframing and three seen to be illustrative of sidestepping, respectively. The two rhetorical moves were made both within articles and across coverage. During the Earth Summit, one example of an instance of the rhetorical move of sidestepping within an article was selected. During the post-Earth Summit, two examples of instances of the rhetorical move of sidestepping within articles were selected. Lastly, an example of an instance of the rhetorical move of silencing within an article in a local newspaper was selected.

Reframing

In Zimbabwe, the GM debate in the media emerged at a very low ebb in the country's souring international relations with the West, especially with Great Britain and the US. When the UN WFP offered GM maize wholegrain to the region, the Zimbabwean state initially decided to reject the offer. According to sources referred to as "Zimbabwean authorities" and "agricultural experts," the Zimbabwean state's decision to reject the offer was based on concerns about the loss of export trade due to GM contamination. (*The Guardian (UK),* June 1, 2002) However, other sources referred to as "Mugabe's critics" viewed the state's rejection of the offer differently; the "critics" viewed the rejection as "another example of President Robert Mugabe protesting at western imperialism" and as "a petulant act by the Mugabe government." (June 1, 2002) The state's decision was now viewed from a different frame. The "critics" set up the state's decision in terms of the person of Mugabe whom they reconstructed as anti-imperialist and bad-tempered. In this article, what is reframed is the state's initial rejection of the offer; it goes from something seen from the practical and economic (export trade) perspective to something seen from the perspective of anti-imperialism and bad-temperedness of the person of Mugabe. This shift in perspective is an example of an instance of the rhetorical move of reframing within an article.

In *The Washington Post* article of July 31, 2002, IFPR director Per Pinstrup-Andersen was quoted as having said,

> I think the Zimbabwe government is using this to show its muscle against the United States and other Western countries because of the criticism the president has been receiving from outside. (July 31, 2002)

In this quotation, the phrase "using this" refers to the event of the offer of GM maize to Zimbabwe and her five neighbours, all of them hunger-stricken. Importantly, in this quotation, IFPR director Pinstrup-Andersen - one of the "biotech advocates" referred to in the article - is holding the view that Mugabe was reluctant to accept the offer of GM maize in order to prove a point; that he is a leader of sovereign nation-state, not to be

dictated upon by the US or any other superpower. This portrayal of the state president amounts to a criticism to the effect that Mugabe cared more about being seen to be a sovereign state leader than about the well-being of the 6 million hunger-ravaged Zimbabweans desperately and impatiently waiting basically for any relief food regardless of whether it was GM or non-GM. However, the charge of anti-westernism is not sustained in the same article; this is more so for the fact that there are other sources or participants cited in the article and they are looking at the event of the offer of the US-produced GM maize to the region from a different perspective. Mugabe is re-framed as an anti-imperialist. The article went further, thus:

> But other scientists and economists say the troubled African nation has good reason to reject the engineered kernels. If some of the corn seeds are sown instead of eaten, the resulting plants will produce gene-altered pollen that will blow about and contaminate surrounding fields. That could render much of the corn grown in Zimbabwe - a nation that in most years is a major exporter - unshippable to nations in Europe and elsewhere that restrict imports of bioengineered food, because of environmental and health concerns (July 31, 2002)

In this quotation, the issue is no longer Mugabe and sovereignty but GM contamination leading to the loss of the European markets in non-GM produce and products. Additionally, there is a shift in topic of debate from Mugabe and the matter of independence to GM contamination and international trade.

Sidestepping

Like in Malawi, in Zimbabwe there was a prospect of the GM maize wholegrain leaking to farmers who would plant it as seed, an act that would lead to GM contamination. This prospect was worrisome because it meant loss of the European markets where commercialisation of GM products was banned. The challenge was to ensure that the wholegrain maize did not leak to farmers before it was milled. In *The Zimbabwe Independent* article of June 7, 2002, Albert Jaure (ZFU) reportedly said that GM cropping

was a threat to Zimbabwe as it posed the danger of contaminating local seed varieties, leading to the loss of export trade. For Jaure, Zimbabwe would lose its "competitive edge" on the European markets. The issues of GM contamination of local seed and international trade can be located in what could broadly be described as *logos* for they deal with the practical and economic challenge posed by the introduction of GM crops in Zimbabwe and the region. However, in the same article, sources referred to as "the crops technical team" (CFU) were reported as having been concerned about the safety of GM foods for human health, saying that pro-GM countries were trying their best to feed their people on non-GM foods. Just like the two closely related issues discussed immediately above, the issue of safety can be located in the broad frame of *logos*. Nevertheless, the issue of safety especially human health and safety belongs to a different dimension from that of the two issues. Thus, by not addressing the two practical and economic issues, going on a parallel path, addressing the issue of safety, the CFU experts sidestepped the practical and economic challenge, did not offer any solutions to the problem of leaking, and instead they went on a parallel path, addressing the issue of human health and safety. In introducing safety, following a practical and economic challenge, the focus of the coverage moves away, rather abruptly, from the practical and economic to human health even if both of them are located within the broad frame of *logos*.

Likewise, a representative of the UN WFP sidestepped the above-cited challenge – the practical and economic challenge. In *The Zimbabwe Independent* article of June 28, 2002, sources referred to as "government" reportedly said that the state rejected the offer because GM crops "threatened beef exports and local maize seed varieties." The recurrent and primary concerns of the state were about GM contamination and the subsequent loss of export trade. However, in the same article, Makena Walker (UN WFP) sidestepped the practical and economic challenge, ignored the problem of leaking, and went on a parallel path to address the issue of human health and safety. On the parallel path, Walker cited the Codex Alimentarius, the guiding document of the UN WFP and FAO on the subject matter of the trans-boundary movement of GM foods; for him, the document did not require a recipient country to certify the safety of GM food aid. In

Walker's hands, the focus of the coverage continues to move away from the practical and economic to the scientific issue of safety.

GM contamination and the subsequent loss of export trade with Europe were the primary concerns of the state in the pre-Earth Summit (June 1-August 18, 2002) period of the Zimbabwean debate. In spite of sidestepping instances in two of the eight articles (as shown above), these two major concerns were raised in all but one article during this period. In the article of *The Daily Telegraph* of August 2, 2002, all the three sources were engaged in a safety argument –the American official, scientists (as cited in *The New Scientist*) and the Zimbabwean High Commission in London. The American official assured Zimbabweans that GM maize was safe for consumption because it had "been eaten by Americans for years with no apparent ill-effects." The article did not cover the scientists' views on the link between issues of GM contamination and the subsequent loss of export trade, given the EU ban on the commercialisation of GM foods and crops, and that Zimbabwe had a "competitive edge" on the European markets. By viewing the debate singularly in terms of safety, the Zimbabwe High Commission in London sidestepped the two primary concerns of various state leaders and officials back at home. Thus, in contrast to the mother office at home, the embassy sidestepped the practical and economic challenge, went on a parallel path, raising the issue of safety. In this article, the thread of direction towards the practical and economic that has hitherto been set up by the (previous articles') inclusion of the twin issues of GM contamination and export trade fails to be developed when the American official, the scientists and the Zimbabwean ambassador evade the practical and economic challenge and treat the debate exclusively in terms of safety. It can be seen that it is not enough for issues to be located within the same broad frame for engagement to happen; for example, it can be seen here that issues located within the broad frame of *logos* are leading to sidestepping in the communication exchange due to their belonging to different dimensions of *logos*.

During the Earth Summit, one example of an instance of the rhetorical move of sidestepping was selected. In *The Sunday Times* article of September 1, 2002, Dr. Diouf (UN FAO) was reported as having urged state leaders in the Southern African region to

make “scientifically valid arguments” in their decisions as to whether to accept or reject the offer. Dr. Diouf was operating within the broad frame of *logos*. A day before Dr. Diouf made his plea for a rigorous scientific approach to the matter of GM maize, Zimbabwean state minister Dr. Made had made concerns about genetic experimentation and environmental safety. (*Reuters*, August 31, 2002) Moreover, on the same day, the editorial of *The Ottawa Citizen* reported Gyetko as having raised such issues as the loss of export trade with Europe, the extinction of local seed varieties due to GM contamination, and biopiracy through the IPR and patents of the biotech multinationals upon the introduction of GM crops in Zimbabwe. (*The Ottawa Citizen,* September 1, 2002) The thread set up by the inclusion of Gyetko’s voice that raises region-specific practical and economic issues fails to be developed when Dr. Diouf is reported as having thought that the debate was all about science, thereby evading the political challenge the adoption of GM crops would pose for Zimbabwe and the region. In consideration of the practical and economic concerns and the rather heavy presence of social activists at the Earth Summit, Dr. Diouf’s view appears rather incongruous; especially that it sidesteps the practical economic concerns. This is an example of an instance of the rhetorical move of sidestepping across coverage, during this particular period. Thus, Dr. Diouf sidesteps all the above-cited challenges, does not tackle the complex problem, and goes on a parallel path, treating the GM maize debate, as if it is a debate internal to science, of course, a different dimension of the broad frame of *logos*.

In the post-Earth Summit period of the Zimbabwean debate, two examples of instances of the rhetorical move of sidestepping were selected. In both examples, the challenge was GM contamination and the corresponding problem was the leakage of the maize wholegrain to farmers before milling was done. In the *Reuters* article of September 9, 2002, various sources were referred to as having been concerned about GM contamination; they raised specific concerns about milling as an anti-dote to the poor farmers’ planting of the GM maize wholegrain as seed. For them, the problem was the leakage of the GM maize wholegrain prior to milling. Milling posed a practical and economic challenge to Zimbabwe and her similarly hungry neighbours. However, in the same article, Secretary of State Colin Powell did not address the primary concern about

GM contamination; neither did he tackle the problem of leakage. Instead, Powell was reported as having assured Zimbabweans in particular and Southern Africans in general about the safety of GM maize, saying, "[B]iotech corn … has been eaten safely around the world since 1995." (*The Reuters* September 9, 2002) Powell sidestepped the challenge of GM contamination, which had serious implications for Zimbabwe's export trade in livestock with Europe. Likewise, in the same article, South African biotechnologist Jocelyn Webster (AfricaBio) sidestepped the practical and economic challenge; instead, she advised Zimbabwean scientists to seek scientific knowledge and information on safety, thereby going on a parallel path, addressing the issue of safety. Both Powell and Webster sidestepped the challenge of GM contamination resulting from the problem of the leaking of GM maize wholegrain to farmers before milling was done. The unfolding of the overtly practical and economic major theme around the twin issues of GM contamination and export trade falls away at this point in the coverage in that the top American official and the South African biotechnologist dwell on human health and safety, albeit a different dimension of the broad frame of *logos*.

In the *Reuters* article of December 9, 2002, Senior American Ambassador Hall was reported as having urged "the EU to do more to persuade Southern African countries that GM food was safe." For Zimbabwe, Hall sidestepped the primary concerns about GM contamination and the consequent loss of export trade with Europe. Hall took a parallel path, addressing the issue of safety. Moreover, Hall viewed the Southern African resistance as a ripple of the EU's anti-GM stance.

In both examples of sidestepping during the post-Earth Summit period, the thread of direction set up by the inclusion of primary concerns of GM contamination and export trade fails to be developed when at various points in the coverage the participants -the protagonists-evade the political challenge. Instead, they go on parallel paths and dwell on safety, a different dimension of *logos*, broadly speaking.

Silencing

The issue of the Codex Alimentarius

The issue of the United Nations Codex Alimentarius, or the set of ethical codes concerned with the trans-boundary or cross-border movement of GMOs, was raised early in the coverage of the Zimbabwean debate. As will be indicated below, this issue - or more precisely that of the absence of an adequate code governing the cross-border movement of GM maize - was raised in 2002 but did not re-emerge in the media thereafter.

The silencing of this issue must be understood in the light of a set of wider concerns around GM maize in Southern Africa but this particular example relates to the fact the port of entry for GM maize destined for Zimbabwe was Durban, South Africa and the Southern African Development Community had not established any regulations concerning the cross-border movement of GM maize. The issues of concern included human health and environmental safety, the possibility of wholegrain maize 'leaking' into the environment and very important the resulting potential contamination of livestock. The implications for the export of beef to Europe surfaced as of particular concern.

On June 28, 2002, in *The Zimbabwe Independent* article entitled "Govt approves GM maize imports", UN WFP public affairs officer in Zimbabwe Makena Walker was quoted as having said:

> There are no restrictions placed on GM foods under the Codex Alimentarius, which is the joint World Health Organization and Food and Agriculture Organization body dealing with safety and other standards for trade in foods. The UN WFP neither tests nor labels for GM content since that is not called for by the Codex and there are no nationally-accepted standards for such tests.(June 28, 2002)

The point quoted above was, interestingly, made after the Zimbabwean state had accepted the offer of GM maize when Walker had previously supported the anti-GM maize stance taken by Zimbabwe. Walker is now saying that it is "there are no restrictions" in the trans-boundary movement between countries on GMOs under the Codex Alimentarius.

Here she seems to be pointing to a paradox or limitation in the codes produced by the relevant UN agencies and appears to be inviting Zimbabweans to debate the Codex Alimentarius as pertinent to Zimbabwe in that GMOs could not be admitted into the country without first debating these international rules and regulations.

At the time the country's agronomy faced the challenge of GM contamination potentially leading to significant losses especially in terms of beef exports to Europe where livestock fed on GM foods and cereal imports were being rejected. Moreover, the absence of trade restrictions from the Codex Alimentarius posed a direct challenge to Zimbabwe in that government lacked the necessary scientific and research capacity to generate its own codes or tests in order to protect itself from cross border trade. However, the issue of the inadequacies of the UN codes and the implications thereof, fell silent in the media after it had been raised by Makena Walker and it appeared to no longer be worthy of debate.

5.3 **Consolidation**

Coverage shows both slippage and engagement. Engagement manifests as moments of 'real' debate. Slippage manifests as rhetorical moves –in this specific case, reframing, sidestepping and silencing. The slippage occurs in at least three ways; first, the Zimbabwean state's initial decision to reject the offer of the American GM maize is tendentiously read in terms of the land reforms, which had severely damaged the international relations between Zimbabwe and the West. Operating as a new frame for the state's initial decision, the issue of the land reforms threatens to eclipse the two primary concerns and others.

Second, some sources – oftentimes non-Zimbabwean sources- think the debate is all about the lack of safety of GM maize for human health in particular and the damage resulting from GM cropping to the ecological environment in general. These sources drive a side argument, addressing the issue of human health and safety, thereby sidestepping the practical and economic challenge of adopting GM crops in Zimbabwe and the region. Moreover, in one instance, the debate is read as a ripple of the Euro-

American GM debate, and as a result, the European resistance to the commercialization of GM products is viewed as the single dominant force fuelling the Southern African resistance to the same. However, this reading – the Euro-Americanisation of the Southern African resistance - misses the specificity of the Zimbabwean debate in particular and the regional debate as a whole. Here, the debate does not show any reverberations of the US-EU trade disagreements. Thirdly, some sources that are addressed directly, or provoked explicitly, do not respond, keeping silent, and hence the slippage in the debate.

Overall, there are more instances of sidestepping than those of reframing in the Zimbabwean debate. Sidestepping occurs as a result of a source or sources changing the direction of the debate, for example, by switching between different dimensions of the broad frame of *logos*. Oftentimes, the safety argument tends to provide instances of sidestepping. Specifically on reframing, the issue of the land reforms operates as a new or alternative frame for the event of the hunger rather than bad weather, or an economy weakened by a barrage of sanctions and trade embargos. Such instances of reframing amount to the coverage presenting both the state president and the person of Mugabe negatively and in these instances both are silent. Reframing and sidestepping occur both internal to certain texts and across particular periods of the coverage whereas silencing occurs across coverage. Finally, across the three periods, the primary concerns about GM contamination and the loss of export trade together make a point of sustained focus in the coverage. The coverage explores directly the points for and against the food-need argument (the here-and-now) as well as GM contamination and the loss of export trade upon the introduction of GM crops in Zimbabwe (the future). Political (historical-political, practical and economic, epistemic-political, ethical-political, political-judicial, political-militaristic) concerns are predominant and overt in the coverage - giving the coverage energy and vitality. Therefore, like in the previous two national debates, in the Zimbabwean GM debate, coverage shows three key features, rhetorical moves and the slippage, moments of engagement, and the energy and vitality of the political.

Chapter 6 "Solidarity and self-reliance within Africa" [116]

6.0 Introduction to the South African debate

This chapter explores the media debate that revolved around GM maize in South Africa in 2002 and afterwards, up until 2004. Like the Zambian and Zimbabwean debates but unlike the Malawian debate, the South African debate has an Earth Summit period, and it remains relatively intense in the post-2002 period. Media coverage of the debate can be divided into four periods, (I) pre-Earth Summit (January 8-August 18, 2002), (II) Earth Summit (August 26-September 4, 2002), (III) post-Earth Summit (September 18-December 2, 2002), and (IV) post-2002 (March 2, 2003 - July 28, 2004). As in the previous three cases, the chapter gives a description of the coverage and key features, including some examples of instances of 'real' debate and debate-like exchange, in the South African debate during these four periods, followed by a presentation of selected examples of rhetorical moves, followed finally by a consolidating account.

6.1 Coverage and key features of the South African debate

(I) The pre-Earth Summit South African debate and the safety argument

From the pre-Earth Summit (January 8 - August 18, 2002) period, ten articles concerning the South African debate were selected for analysis, all of them in the local press. Seven articles were reports and the other three were opinions. In the ten articles, the events generally being reported are the hunger in the Southern African region, the offer of GM maize to South Africa's hunger-stricken neighbours, and the social activists' lobby against the South African GM policy, which they viewed as too lax against the background of the regional resistance to GM foods and crops. The key issues raised in the debate include those broadly described as human health and safety, environmental safety, international trade, biodiversity, IPR and patents, GM seed, and inflationary trends in food prices on the local market. Representatives of environmental and consumer lobby groups, scientists, representatives of trade unions, an agricultural economist, a

[116] The African Civil Society Groups, *PANA*, September 9, 2002

representative of the grain industry, an agricultural journalist, a representative of a biotech multinational, and a parliamentarian are the sources that dominated the coverage in the pre-Earth Summit South African debate.

Key features of the coverage

On January 8, 2002, in *The Business Day* article entitled "SA adds Soya to list of modified crops," South Africa, in sharp contrast to its neighbours, was reported to have added GM Soya to its list of GM crops, making a total of four GM crops: yellow maize, white maize, cotton, and Soya. The article referred to GM technology in agriculture as "the controversial genetic engineering of crops." Sources referred to as "critics" were reportedly concerned about the lack of safety of GM foods for human health and about the negative impact of GM crops on the environment. Noteworthy is the point that the safety argument emerges at the onset of the coverage of the South African debate. However, Monsanto Africa spokesperson Kinyua Mbijjewe reportedly talked of economic and environmental mutual benefits between the biotech industry and farmers. Thus, it is important to note that alongside the safety argument, a practical and economic appraisal of GM crops emerges also at the onset of the coverage. Mbijjewe said that in GM Soya farming, the biotech industry and farmers would

> … share in the economic and environmental benefits of the engineered beans. Where they are grown commercially, the beans have proved their ability to improve yields and increase growers' incomes. (January 8, 2002)

Here, Monsanto's Mbijjewe is raising the issue of the potential benefits of GM cropping, and hence the emergence of the argument about the merits and demerits of GM crops in the coverage. Necessarily, Mbijjewe is making a case for the merits of GM crops, thereby developing his practical and economic appraisal.

Sources referred to as "scientists who support modified crops" expressed another positive view about GM crops; they said that GM Soya has higher yields and is environmentally friendly, inasmuch as it is pest-resistant. With the addition of GM Soya to its list of GM

crops, South Africa was reportedly "making giant strides in pushing up its commercial plantings" of GM crops in a region in which they were resisted. Implicit here is that the South African state viewed GM crops positively, thereby reinforcing Monsanto's and pro-GM science experts' views that GM crops have potential benefits.

On January 9, 2002, in *The Business Day* article entitled "Genetic food battle may be on summit table," the Johannesburg Earth Summit was reportedly expected to be a 'battleground' for pro-GM and anti-GM lobby groups due to the controversy around biotechnology and its most notable products. The newspaper anticipated a "big battle" between these two camps. Environmental lobby group South African Freeze Alliance on Genetic Engineering (SAFEAGE) was reportedly opposed to GM technology in agriculture; its representative, Glen Ashton, raised issues of human health and safety and environmental safety. Later that year, at the Earth Summit, SAFEAGE would reportedly lobby for a ban of GM crops in South Africa. However, AfricaBio biotech consultant Dr. Waynand van der Walt said he expected the Earth Summit to provide a "major platform" to take stock of and examine the role that GM technology in agriculture plays in sustainable human development. Dr. Van der Walt said,

> It [the Johannesburg Earth Summit] will be an opportunity to map out the way ahead to ensure that sustainable development is taken further and improved. (January 9, 2002)

In this quotation, Dr. Van der Walt is suggesting that GM cropping is a suitable candidate for sustainable agriculture. By treating GM cropping as a candidate for sustainable agriculture, Dr. Van der Walt is making a case for the merits of GM crops, thereby reinforcing Monsanto's view expressed in the same newspaper the previous day.

On January 10, 2002, in *The Business Day* article entitled "SA should ban genetically changed foods," a representative of consumer lobby group Safe Food Coalition (SFC), Andrew Taynton, reportedly called for a ban of GM foods in South Africa. In Taynton's opinion, the safety of all GM foods was uncertain. For him, little wonder, "European

Union consumers [had] rejected most genetically modified foods" and that majority of US Food and Drugs Administration scientists had warned against commercializing GM foods without further health safety testing. Moreover, for Taynton, Monsanto's own chemical analysis of its GM Soya showed that beans had an anti-nutrient and allergen; British top scientist Professor Richard Lacey reportedly believed health safety testing was virtually impossible once GM foods entered the human food chain. In the hands of SFC's Taynton, the safety argument recurs.

In the three articles of January 2002, the issue of human health and safety is predominant and GM crops are generally being promoted –the merits of Gm crops are being emphasised. Taking a pro-GM stance that is incongruous with its neighbours, South Africa went full throttle with the adoption of GM cropping; by January 2002, the country's farmers had been growing four GM crops, including GM white maize meant for human consumption. It is important to note the protest voice of the social activists early on in the coverage. Importantly, at this early stage of the coverage, the safety issue is a point of consideration. Similarly noteworthy is a 'merits and demerits' (of GM crops) argument that is emerging as well.

On February 10, 2002, in *The Business Report* article entitled "SA maize crop can't feed SADC countries," Southern Africa was reportedly experiencing severe hunger and for the first time in history, the region had run out of white maize, the staple food for its 120 million people. South Africa did not have enough white maize in its reserve to cater to the food need of its neighbours. There was famine in the SADC and the member states were reported to be under "severe pressure" to procure relief food from outside the region. Of note also is that early on the coverage, the event of the regional hunger is reported.

In the same article, agricultural economist Johan Willemse reportedly said that maize production had decreased in South Africa due to the deregulation of the market (presumably, due to pressure from the neo-liberal agenda), leading to soaring maize prices. Nevertheless, Grain industry group South Africa Cereals and Oilseeds Trade

Association Chair, John Gordon, disagreed with Willemse; Gordon attributed the decrease in maize production to market supply and demand, a situation worsened by a weak rand, as export and import commodity prices were US dollar-based.

Thus, for relief food, the region had to import white maize from outside the region and white maize could be sourced only from Mexico, Argentina and the US. However, importing white maize from these three countries meant importing GM white maize; after all, "all white maize from these countries [had] a far higher GM component." In general, South Africa's decreased white maize production contributed to the pressure on the region to consider buying the American GM maize wholegrain as relief food. Apart from reporting the event of the regional famine, the article drove a food-need argument, in the process subtly laying the blame on South Africa for being largely responsible for the situation in which the region was faced with the stark choice of either consuming GM maize or starving. The article is important because it places the South African debate manifestly in the context of the regional debate.

On February 12, 2002, in *The Business Day* article entitled "Strike looms on genetically modified food," the Food and Allied Workers Union (FAWU) reportedly threatened to go on strike demanding that GM foods and crops be banned for 5 years in South Africa. FAWU was reportedly engaged in talks with the National Economic, Development and Labour Council (NEDLAC). The trade union would go on strike if the state did not accede to its demand for the ban. FAWU Deputy Secretary-General William Thomas said if their talks with NEDLAC failed then FAWU would go on strike. However, NEDLAC representative Jennifer Wilson said she was not aware of FAWU's planned "debate on food safety issues;" she was only aware of FAWU's talks with NEDLAC on international subsidies around the South Africa-EU Free Trade Agreement. A representative of AfricaBio was reportedly said to have "slammed the planned talks," saying that FAWU's information on GM food was "based on misinformation." It is important to note that at this slightly advanced stage of the coverage the safety issue continues to be a point of focus, in that the trade union (FAWU) reportedly planned to stage debate on it. FAWU was the second anti-GM lobby group to call for a ban of GM foods and crops –the first

was SFC on January 10, 2002 in *The Business Day*. It is equally important to note the predominant visibility of the social activists and their protest voice, so far, in the coverage.

The social activists intensified their call for a ban of GM foods and crops in South Africa. On March 15, 2002, in *The Mail and Guardian* article entitled "South Africa split over IP, GM labelling", sources referred to as "environment and labour organizations" were reported to having been disappointed that the state continued to ignore their call for a ban of GM foods and crops. Environment lobby groups and trade unions were also referred to as "those who are unconvinced." The social activists were reportedly stunned that production of GMOs was being "stepped up" in South Africa; at the time, the only country in Africa committed to commercial GM cropping. They raised several issues including human health and safety, loss of biodiversity, lowering yields, high labour requirements, ineffective pest control, IPR and patents ("ethics of companies patenting seed"), and loss of export trade with non-GM markets such as Europe. Here I see in the coverage a marked shift from safety to practical and economic issues, namely, IPR and patents, biodiversity and international trade, all of them appearing for the first time in the coverage.

In the same article, sources referred to as "proponents of the technology" said GM foods were safe for human health; moreover, for them, GM crops were environmentally friendly, pest-resistant, and had higher yields than conventional crops. Here I see these particular sources trying to narrow the coverage down to safety issues. Crucially, in their hands, the 'merits and demerits' argument recurs in the coverage. The coverage continues to explore directly the points for and against GM crops. Thus, protagonists are citing the merits whereas antagonists are citing the demerits of GM crops.

In May 2002, social activists argued the presence of GM foods was leading to rising food prices in the country. On May 3, 2002, in *The Mail and Guardian* article entitled "GM products raise food costs," at a food and beverage safety compliance conference in

Rosebank (Johannesburg), Ashton (SAFEAGE) reportedly said that GM foods contributed to the inflationary trend in the cost of food in South Africa. Ashton accused the South African state of exposing consumers to an "unprecedented dietary experiment." For him, the majority of South Africans were both uninformed and unwilling participants in the "unprecedented dietary experiment." He was quoted as having said,

> Our government allows the poorest, least informed majority of our nation to be involuntarily involved in an unprecedented dietary experiment by multinational corporations. (May 3, 2002)

Ashton is hereby criticising the South African state of having lax GM policy and regulation. Ashton is raising the issue of informed consent –South Africans had not consented to the consumption of GM foods. Here I see the ethical-political issue of informed consent emerging in the coverage of the South African debate.[117] This issue is central in the consumer rights discourse and Ashton drew on such a discourse; he referred to the lack of consultation on GM foods in South Africa as a defiance of "all the democratic principles enshrined in the Constitution."

The conference criticised the state for the lack of consultation over the introduction of GM foods and crops in the country. Moreover, Ashton's use of the phrase "dietary experiment" signals not only his uncertainty about the safety of GM foods but an apartheid legacy anxiety; after all, state-sponsored lethal experimentation with weapons of mass destruction was not unusual in apartheid South Africa. The article is important because apart from maintaining the focus on the practical and economic (for example, GM foods affecting food pricing negatively), it surfaces an ethical-political concern as well as the historical-political circumstance of apartheid science.

[117] NB. It will be recalled that the issue of informed consent appeared first in the coverage of the Earth Summit episode of the Zambian debate. See *Chapter 3* above

After May 2002, social activists continued to be a dominant voice in the South African debate. On August 8, 2002, in *The Mail and Guardian* article entitled "Stop genetic engineering in its tracks," Taynton (SFC) was reported as having called on the state to stop GM technology in agriculture. In his opinion, the biotech industry had reached a point where it could not promote GM crops because of "global rejection" of GM technology in agriculture. Taynton's call amounts to a GM ban. For Taynton, GM cropping could not be used to improve food security because it would lead to lowering yields and farmers would not afford to buy GM seed of the biotech multinationals every season. For him, of equal concern were the IPR and patents of these foreign corporations; Taynton said,

> Genetically engineered food is promoted to gain control of the food supply through patents and intellectual property rights ... There are far better methods for increasing food security and food production than genetically engineered crops. [P]atented genetically engineered seeds merely transfer another slice of farm income from the farmer to the biotech industry. (August 8, 2002)

In this quotation, Taynton is addressing the issue of IPR and patents –which first appeared in the article of *The Mail and Guardian* of March 15, 2002. He is criticising the biotech industry for its monopoly control over GM seed –a new issue, so far. He has two other new issues, food security and sustainable agriculture. Since all the four issues are overtly practical and economic, the shift of focus from safety to practical and economic issues in particular and political concerns in general is maintained in the coverage and the controversy continues to centre on the 'merits and demerits' argument –whether South Africa stands to gain or lose as it steams ahead with GM crops, adopting a lone stance in a region that resists such crops. Noteworthy here is South Africa's lone stance as an emerging issue in the coverage.

The social activists' repeated (so far, four) calls for the banning of GM foods and crops amounted to criticism of South Africa's GM policy, the GMO Act (1997). On August 14, 2002, in *The Business Day* article entitled "Anti-genetically modified farming groups to

advise state on concerns," ANC Parliamentary Portfolio Committee on Agriculture and Land Chair, Neo Masithela, reportedly said that parliament had decided to include anti-GM lobby groups in deliberations over human health and environmental safety concerns surrounding GM technology in agriculture. For Masithela, parliament would set up a ten-member sub-committee comprising both pro- and anti-GM lobby groups to give advice to the state on "the possible environmental and health dangers of modified production." Interestingly, the parliamentarian, as a statesperson, narrowed down the agenda of the social activists to the safety argument. Noteworthy is that eclipsed - by the predominant political concerns- since February 2002, safety issues only re-surfaced at this point in the coverage, mid August 2002. For him, the inclusion of the two camps of GM lobbyists in the state decision-making machinery did not imply that the state was "softening" its stance on GM foods and crops; neither did it suggest "reversing" its GMO Act (1997). Backing the GM policy in place, Masithela said,

> There is no way we would change the act. Our responsibility is to ensure that the laws passed are implemented to the letter… I am convinced that genetic modification is here to stay. The issue is how to monitor and regulate it. (August 14, 2002)

In this quotation, the parliamentarian is portraying the South African state as having adopted a resolute pro-GM stance. Thus, for him, the state is not going to take heed of the social activists' call to ban GM foods and crops just as it is not going to consider amending the existing laws on GMOs. South Africa will continue growing GM crops. Notably, Masithela's pro-GM view was the first response from the state to the social activists. Importantly, statesperson Masithela narrows the domain of the coverage down to safety issues, without considering the variety of practical and economic concerns that have been the point of focus up until now.

Also in August 2002, a journalist went as far as praising GM technology in agriculture. On August 18, 2002, in *The Business Report* article entitled "The natural splice of life", agricultural journalist Justine Nofal reportedly said that any technology, including GM

technology, is neutral; scientific advances are necessary for human progress. For her, the media's alarm about the "dangers" of GM foods had "no basis in reality." In Nofal's opinion, GM technology in agriculture is as old as humankind's adoption of agriculture itself (about 10,000 years ago); until recently, human beings have been modifying genes of plants and animals through the laborious methods of crossbreeding. For Nofal, "The amazing advances in the science of genetics in the 1970s" have made it possible to do away with crossbreeding by un-laboriously modifying the genes themselves directly; giving plants such characteristics as pest-resistance, drought-tolerance, and salt-tolerance. Nofal's praise of GM technology in agriculture echoes that of Dr. Mumba in the Zambian case; like his, hers is a 'science-as-saviour' perspective. However, Nofal acknowledged other people's uncertainty about the science and technology. She attributed the uncertainty about the safety GM foods to the activism of what she referred to as "lobby groups and bandwagon protesters" and "alarmists" who presented GM foods negatively as "mutant meals," "manna from hell," or "Frankenfoods." She was further quoted as having said,

> I find it perverse that while most of the world's population still go to bed hungry, there are people who persist in their demands that GM food be scrapped or labelled as dangerous.(August 18, 2002)

In this quotation, as is implied in her use of the word "perverse," Nofal is adopting an activist voice much like that of Monbiot in both the Malawian and Zimbabwean debates. She is enchanted with GM technology in agriculture and strongly supports South Africa's adoption of the technology. Moreover, like statesperson Masithela, Nofal narrows the domain of the coverage down to safety issues, as if what is at play is a debate internal to science.[118]

Overall, in the ten articles discussed above, it can be seen that in the pre-Earth Summit period of the coverage of the South African debate, the range of concerns being generally raised is practical and economic, ethical-political and to an extent historical-political.

[118] I consider further the matter of narrowing the domain of the coverage in the section on rhetorical moves below

Unlike in the coverage of the previous three cases, there are no epistemic-political concerns in the coverage of the South African debate. In stark contrast to those of its neighbours, South Africa's science bases are relatively strong. South Africa has considerably good scientific research capacity and infrastructure. Thus, epistemic-politically, in the region the South African science community is the least vulnerable to metropolitan science.

Safety issues are prevalent in January and February 2002 only. From March 2002 onwards, the coverage shifts its register from safety issues to political concerns and maintains the focus on the latter. However, there is a rather sudden narrowing of the domain of the coverage down to safety issues towards the end of this particular period. The biotech multinationals are presented negatively, in spite of their being given a voice early on in the coverage. Criticisms of the state and the biotech multinationals are also evident in the coverage during this particular period.

The coverage happens in the local press. Due to the dominance of the social activists (environment lobby groups and trade unions) in the coverage, the debate is intense in the sense of having an overt activist tone. The sources quoted or referred to in the texts are elite-official. The state's interest in and commitment towards GM cropping is in serious question. The social activists are raising lingering doubts about GM technology in agriculture in a Southern African country that has an exceptionally strong science drive as evidenced by the fact that it is the only state in the region that has adopted commercial GM cropping, growing at least five GM crops to date.

(II) State President Thabo Mbeki at the Earth Summit and the issue of global inequality underlying GM technology in agriculture

From the Earth Summit period, two articles concerning the South African debate were selected for analysis, one in the foreign (Canadian) press and another in the local press. The article in the Canadian press (*The National Post*, August 28, 2002) was an opinion piece whereas the one in the local press (*The Business Day*, August 29, 2002) was a report.

The event generally being reported is the regional hunger and the US's intervention as well as its role in the spread of GM technology in agriculture to the poor parts of the world including Southern Africa. The sources that dominate the coverage are environment lobby groups, a journalist, State President Thabo Mbeki and the Earth Summit leader. Overall, the Earth Summit episode of the South African debate shows an upsurge of the political. It is an episode because it is essentially part of a global debate but having a South African imprimatur.

First example of an instance of a debate-like exchange

On August 28, 2002, in *The National Post* article entitled "In Johannesburg, activists sow false fears," editorials editor Jonathan Kay was reported as having summarily dismissed the Earth Summit as a meeting that was influenced heavily by an anti-western agenda. For Kay, the Earth Summit would likely produce "nothing except the same tiresome effusion of anti-Western rhetoric." Manifestly, the journalist adopted an activist voice. Kay cited State President Mbeki and the Earth Summit's Secretary-General as having accused western leaders of presiding over a system of "global apartheid." In a similar vein, Kay cited environment lobby group Friends of the Earth International as having declared Canada, the United States and Australia as part of an "axis of environmental evil."

At the Earth Summit, Mbeki accused the superpowers of presiding over a system of "global apartheid." (*The National Post*, August 28, 2002) For Mbeki, GM technology in agriculture is a tool for separatist development between global regions and hence it would entrench the global inequality between Africa and the West. In response, overseas journalist Jonathan Kay accused Mbeki of fuelling an anti-GM lobby that promoted "class warfare" between global regions. Kay summarily dismissed Mbeki's point as both "shallow" and "deceptive." [119] (*The National Post*, August 28, 2002) Here I see

[119] Kay diagnosed the anti-Western rhetoric at the Earth Summit thus, "Why do Western activists fly halfway around the world to prevent the world's poor from building a better life with the same tools - technology and capitalism - that are the source of our own wealth? Mr. Mbeki's accusation of "global apartheid" gives us a clue. Opposition to colonialism and its alleged modern reincarnations is a bedrock component of the modern Western worldview. Thus do our universities pump out a steady stream of activists who see

engagement; Mbeki and Kay are addressing the same topic, GM crops. For both of them, the issue is the same - whether GM crops are a suitable candidate for sustainable agriculture. They are presented in the article as speaking to each other directly on this issue, and from the same perspective –which is historical-political as well as practical and economic. Kay is disagreeing with Mbeki, attributing the African state leader's view to the western social activists' "anti-western rhetoric," which, for Kay, was predominant at the Earth Summit. However, Kay appears to lose track of the issue under discussion; he summarily dismisses Mbeki's point: that GM crops would benefit the rich North, for example, North America, and disadvantage the poor South, for example, Africa. He went off tangent, leaving the issue under discussion, talking about GM foods as "perfectly safe genetically modified food," as if the issue between them was that of human health and safety. Thus, as a moment of engagement, the Mbeki-Kay exchange is debate-like; it depicts weak engagement.

The global inequality that allegedly underlay biotechnology in general was a primary concern of the social activists at the Earth Summit. On August 29, 2002, in *The Business Day* article entitled "Activists say plans are afoot to promote GM food to poor," sources referred to as "environmental activists" reportedly said they were opposed to the private-public partnerships proposed at the Earth Summit because the US would collude with the biotech multinationals and then use such partnerships to promote GM food and crops in Southern Africa. For the social activists, the "partnerships [were going to be] between governments, civil society, and the private sector." For the social activists, in the proposed partnerships, the collusion was going to be between the superpowers and the biotech industry. The biotech multinationals such as Monsanto, as players of global capital and big business, could operate freely, in the process roping in weak, or failed, postcolonial states, privatising their agronomic agriculture, leading to a pathetic scenario that Mbembe (2001) refers to as "private indirect governments." (Mbembe, 2001)

On the proposed partnerships, American environment lobby group Groundwork director, Bobby Peek, said, "There is a strong possibility major US firms will forge links to ship

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neo-colonial plots meant to perpetuate racial disparities behind every western initiative, trade deal and investment in the Third World."(*The National Post*, August 28, 2002)

GM food to Southern Africa." A representative of Friends of the Earth International was also reported as having said that the public-private partnerships would promote GM crops as if it is sustainable agriculture. Sources referred to as "critics" said that the partnerships would offer western states a convenient way out of commitments made at the Earth Summit, and they summarily dismissed the partnerships as "mere window dressing." The "critics" added that these initiatives were "often an ill-disguised attempt to privatise government functions." Michael Dorsey of the Sierra Club, an environment lobby group based in Washington, DC, said that he wanted corporations to be held accountable for "corporate crimes" at the international level; for Dorsey, in these partnerships, western superpowers were liable to shield corporations from criminal investigation and litigation.

In sum, it is evident in the foregoing that the Johannesburg Earth Summit does not specifically address any aspect of the South African debate on GM maize but it has a South African imprimatur. The Earth Summit treats precipitates the issues that have so far been treated in the coverage of the South African debate. The Earth Summit has no distinctive coverage features. The Earth Summit coverage has a global scope and it highlights the global inequality that underlies GM technology in agriculture.

(III) The post-Earth Summit South African Debate in 2002 and the issue of international trade

From the post-Earth Summit period, twelve articles concerning the South African debate in 2002 were selected for analysis. Nine of the articles were in the local press, two were in *Reuters* and the remaining one article was in *The Angola Press*. One article was a feature and the rest were reports. The events generally being reported were the disagreement between the social activists and the state on GM policy that the former claimed was too lax, the regional hunger and the offer of the American GM maize. The key issues raised in the debate include those broadly described as human health and safety, environmental safety, GM seed, GM contamination, international trade, foreign aid, and food security.

Representatives of environment lobby groups, SADC officials, a biotech consultant, a representative of biotech industry group AfricaBio, an EU official, representatives of the grain industry, a top American official, an organic farmer, representatives of consumer rights lobby groups, the South African state president, a state minister, state officials, a parliamentarian, a USAID administrator, representatives of biotech multinationals, a bioethicist, and a representative of an international NGO dominated the coverage during this period.

Key features of the coverage

Social activists continued to pressurise the state on the issue of GM policy. One anti-GM lobby group took legal action against the state. On September 18, 2002, in *The Cape Times* article entitled "GM food crops up in court after 3-year battle," environment lobby group Biowatch SA reportedly took legal action in the Pretoria High Court against Minister of Agriculture Thoko Didiza, the Registrar of Genetic Resources and the Executive Council for GMOs for withholding information about GMOs in South Africa. For Biowatch, GM crops had been shown to be "disastrously harmful" in some parts of the world and that "like war or nuclear accidents," these crops were not insurable. Other risks were that genetic engineering could result in super weeds, the development of new viruses and antibiotic-resistant bacteria in the human and animal alimentary canal. The "environment watchdog" claimed that since 1999 it had sought in vain information from the state on the number and types of GM crops grown in South Africa, the location of GM field trials as well as local risk assessments. Biowatch's court papers partly read, "Genetic engineers inserting genes at a random, unknown location in the cell's DNA has been described as doing heart surgery with a shovel." In the court application, Biowatch was calling for a ban of GM cropping in South Africa due to "extremely serious and potentially irreparable health risks." Biowatch said it was seeking the information "in the public interest." Biowatch won the case and the high court ordered the state to give Biowatch the requested information. Importantly, in the legal action, Biowatch's concern is about GM contamination –a new issue, so far.

In what appears as a reaction to Biowatch's suing of the state, a biotech multinational put public notices in the newspapers about its activities. On October 2, 2002, in *The Business Day* article entitled "Public notice - cultivation of genetically modified maize," biotech multinational Syngenta SeedCo reportedly gave a public notice to "inform the public of the proposed general release [commercial cultivation] of genetically improved maize" in South Africa.[120] The article reported Syngenta as assuring South Africans about the safety of GM foods for human and animal health and that of GM crops for the environment. Social activists' criticism of the state (culminating in Biowatch's legal suit in September 2002) about the lack of consultation on GM trials and release prompted the public notice of October 2, 2002. Here the issue is GM legislation, which the social activists had previously criticised as lax.

On the following day, the same biotech multinational placed another public notice in *The Star*. On October 3, 2002, in *The Star* article entitled "Public notice - testing of genetically modified maize," Syngenta gave another public notice, but this time around, the notice was intended "to inform the public of the proposed field trials of genetically improved maize" in four South African provinces, Gauteng, North West Province, KwaZulu-Natal and Mpumalanga. As on the previous day, on this day, Syngenta was acting in accordance with safety concerns, it reproduced the previous day's public notice, about the commercial release of GM crops. In their reading of the South African 'publics,' both the biotech multinational and the social activists identified human and animal health safety as well as environmental safety as the key issues in the debate. Once again, in the second public notice, the issue being raised is GM legislation.

Up until this point in the post-Earth Summit period, coverage has concentrated on the issue of GM policy, keeping somewhat quiet about the event of the regional famine. On October 12, 2002, in *The Sunday Independent* article entitled "Bungles fuel food crisis," it was reported that Southern African states were uncertain about and reluctant to accept

[120] In part, the public notice read, "Genetically modified maize (also called Bt11) has been extensively tested for any negative impact to humans, animals and the environment. No such negative impact has been recorded. Bt11 maize has therefore received approvals for commercial cultivation in the US, Canada, Argentina, Japan, Switzerland and Australia/New Zealand. Authorities in South Africa have also approved Bt11 for use as food and feed. The safety to humans, animals and the environment has been comprehensively tested and the results presented to the responsible authorities."(*The Business Day*, October 2, 2002)

the offer of the American GM maize wholegrain. The uncertainty led to lengthy delays in the transportation of the relief food to its destinations, thereby turning the hunger into a food crisis in the region. An additional factor to the lengthy delays at the Durban port was the "red tape."

On the region's food need, UN WFP Representative Richard Lee said, "The number of people in need is increasing every week. There are 700 000 to 800 000 orphans here at the moment." Lee is driving a food-need argument, which is appearing for the first time during this particular period. State President Mbeki reportedly said that having the food sitting uncollected at the port was sending "mixed signals." For Mbeki, whereas the region was seeking food aid, it looked like it did not need it. South Africa donated 100, 000 metric tons of white maize to the UN WFP for its hungry neighbours and it offered to mill the GM maize that was stored at its ports. Agriculture minister Didiza said that South Africa was planning to address the problem of food insecurity not only in the country (erratic food prices) but also in the SADC region. Here I see the issue of food security appearing for the first time during this particular period.

Having shown how South Africa was going to intervene in the regional famine, coverage of the debate returned to the issue of GM policy. On October 15, 2002, in the *Reuters* article entitled "S. African parliament to review law on GM foods," parliamentary committee on environmental affairs Chair, Gwen Mahlangu, was reported as having said that parliament was planning to have "an urgent discussion" on whether South Africa had been rushed into accepting GM foods and crops and if it needed to amend its GMO Act (1997), which was proposed by the apartheid regime pre-1994 but was passed by a newly-elected democratic regime in 1997.[121] Mahlangu raised issues of human health and safety and international trade, and she was the first to raise the latter issue. She said, "We are concerned both about the health and safety aspects of using GM products and about the consequences for our international trade." For her, there was need to amend the laws on GMOs. Here I see that the safety argument carries on and a new practical and

[121] Mahlangu said, "In 1994 it was just too soon for the new government to be able to apply their minds adequately to the new legislation. If we feel the legislation was rushed, we need to bring back public participation and amend the laws." (*Reuters*, October 15, 2002)

economic concern -international trade - emerges in the coverage. Citing submissions at a hearing of her committee, Mahlangu disclosed the state's uncertainty about GMOs:

> What came out very sharply is that there is no certainty about what the future holds for us if we go the route of GMOs. We don't have the controls in place ... It is a very dicey situation when you can't say to people what they should expect in 10 years time if they allow GMOs now. (October 15, 2002)

Thus, for her, as a result of the lack of GM policy and regulation and GMOs being unpredictable ("dicey") there was uncertainty at state level. A Ministry of Trade and Industry official reportedly told the committee that GM maize grain was being used as cattle feed and not for human consumption. Referring to the civil servant's ignorance of the uses of GM maize grain in South Africa, Mahlangu said that such ignorance meant that the state was facing "a very serious situation."[122] The issue of GM legislation continues to be a point of focus, in that state minister Mahlangu, in contrast to parliamentarian Masithela earlier, is expressing uncertainty about GMO Act's effectiveness in regulating efforts involving GMOs.

In the same article, coverage was registering a shift in the social activists' position concerning GMOs; since early 2002, they had been calling for a ban of GM foods and crops, maintaining a rigid and uncompromising anti-GM stance. However, this time around, their position concerning GMOs was somewhat softening; for example, after the court case, Biowatch appears to have suspended its call to have GM foods and crops banned. Biowatch's Haidee Swanby said, "It's not that we think genetic engineering is something evil that must be banned, but it is such a potentially explosive technology that we need to go more slowly." Swanby was reportedly delighted with the parliamentary committee's plan to recommend a revision of the act. The article finally referred to some SADC member states as criticizing South Africa "for breaking ranks with the regional opposition to GM crops" and for steaming ahead with the controversial technology. Here

[122] On the Ministry of Trade and Industry official's ignorance, Mahlangu said, "If we have trade and industry as one of the parties to the monitoring of this thing, not knowing what the crops are being used for, we face a very serious situation."
(*Reuters,* October 15, 2002)

the coverage continues to explore the points for and against the issue of GM legislation – whether it is tight or lax.

On the following day, *Reuters* picked up the issue of South Africa's lone stance in the Southern African region. On October 16, 2002, in the *Reuters* feature article entitled "South Africa ploughs lonely furrow for GM crops," South Africa was featured as taking a lone stance concerning GM technology in agriculture in the region. According to the feature article, what exposed South Africa's "lonely but unwavering policy" was "an emotive regional debate on the safety of genetically modified food aid." Notably, the article narrows the domain of the coverage down to the issue of human health and safety. On South Africa's lone stance in the region, the feature article disclosed thus:

> While Malawi, Mozambique, Zimbabwe, and most prominently Zambia have all expressed great concern over even accepting GM crops, regional economic powerhouse South Africa is steaming ahead with an agenda of strong support for agricultural biotechnology that insiders say is here to stay. South Africa is the only country in the 14-nation Southern Africa Development Community (SADC) to licence the production of transgenic crops. (October 16, 2002)

In this quotation, South Africa's lone stance is more affirmatively stated than it was previously. As an issue, it is appearing for the second time in the coverage, so far. Even the social activists conceded the irreversibility of South Africa's lone stance. For example, Gillian Kerchoff (SAFEAGE) said, "South Africa's stance in this regard has been so out of step with the rest of Africa, and I see it continuing." Concurring with Kerchoff, a grain industry "source" was referred to as having said, "GM products are here to stay. It is getting to be increasingly difficult to get GM-free products." For its part, the state reassured the social activists and the grain industry about the safety of GM foods. Driving a safety argument, Head of South Africa's Directorate of Genetic Resources Shadrack Moephuli said,

> We have a regulatory process that examines genetically modified foods from a safety perspective. The other countries in SADC do not have the regulatory system to be able to determine whether the food is safe or not. (October 16, 2002)

In this quotation, Moephuli's use of the term "safety perspective" signals the continued narrowing of the domain of the coverage to the issue of human health and safety. Thus, the safety argument carries on in the coverage. However, Kerchoff was apparently unconvinced with Moephuli's view:

> South Africa has always been in a position of a launch pad for the rest of Africa. That has just been made a lot more critical because of the crisis over food aid. South Africa similarly does not know... And yet they blithely go ahead with crops and imports. (October 16, 2002)

Here, Kerchoff is saying that South Africa has embraced GM technology in agriculture fully in a region that is resisting it. She is accusing the state of colluding with the biotech industry by allowing the country to be used as a launch pad for the controversial technology and gateway into the rest of the region. Importantly, South Africa's lone stance is becoming a point of consideration in the coverage.

Contra social activists such as Kerchoff, a representative of grain industry giant Senwes, Christo Booyens, argued that the farmers welcomed GM technology in agriculture and that the detractors could not say anything substantial against GMOs. Monsanto (South Africa) Chair Gert Pretorius concurred with Booyens. Pretorius said that in spite of his being concerned about the loss of export trade with Europe and that the price of GM seed was higher than that of non-GM seed, he was better off with GM cropping eventually. The issue of GM seed emerges and that of international trade recurs in the coverage during this particular period. However, Kerchoff was undeterred by the praises for GM crops, and she buttressed her view, thus:

> The danger is that once genetically engineered seeds are in the agricultural system there would be cross-pollination and other crops would be found with traces of the genetic modifications. Then the companies would claim ownership. (October 16, 2002)

In this quotation, adopting the role of science expert, Kerchoff is asserting that contamination of local seed varieties will most likely result from GM cropping and the only type of seed will be the patented and intellectually-protected GM seed of the biotech multinationals. Two issues, GM contamination, and IPR and patents, emerge and the GM seed issue recurs in the coverage during this particular period. In this article, practical and economic issues - food security, international trade, GM contamination, GM seed, IPR and patents - are overt. Overall, in the five articles of October 2002, the issue of human health safety carries on as a side argument that is narrowing down the domain of the coverage.

Up until now, apart from South Africa's lone (pro-GM) stance, the regional resistance to GM crops has not been countered in the debate. On November 4, 2002, in *The Financial Times* article entitled "Starving Africa Resists GM Corn," a senior member of the South African Institute of International Relations (SAIIR), John Stremlau, reportedly criticized Southern African countries resisting GM maize of using the food aid to cover up their mismanagement and incompetence. Stremlau said,

> These objections are completely misguided and clearly political. The drought may be a natural phenomenon but the famine is entirely man-made … The suspicions regarding the West run deep in this region. Together with bad management, this distrust mixes up a devil's brew of problems for anyone wanting to come in and provide assistance. (November 4, 2002)

In this quotation, the phrase "the famine is entirely man-made" is used to signal accusation of the region's state leadership. For Stremlau, the regional resistance was political. Like Canadian journalist Kay at the Earth Summit (who had sensed an anti-

Western rhetoric), Stremlau sensed that the region distrusted the West. For him, the regional famine required a different explanation from the historically-problematic Africa-West relations. Specifically, for him, "corruption and inefficiency" had destroyed food self-sufficiency in Zambia and Malawi. In Zimbabwe, the leading factor was "ruinous economic policies." Wits bioethicist Jason Lott concurred with Stremlau on the issues of corruption and mismanagement in the Southern African nation-states-as leading factors to food insecurity. Driving a food-need argument, Lott criticised them, saying, "These countries are rife with corruption and are trying to push the blame for their own inadequacies onto the WFP and USAID." Noteworthy in Stremlau and Lott's countering of the regional resistance to GM foods is the issue of rampant corruption in the region. This is an instance of direct criticism of Southern African states. The issue of corruption emerges and the food-need issue recurs in the coverage during this particular period.

In the same article, at a press briefing in Washington, DC, Andrew Natsios (USAID) reportedly said that his organization had made every effort to calm the fears of the affected countries. For Natsios, the fears were rooted in the issue of human health and safety:

> My children and my wife and I have been eating genetically modified maize for the last seven years, and so have most Americans, and, I might add, most Canadians and Brazilians and Argentineans and Chinese and Indians.(November 4, 2002)

In this quotation, Natsios is saying that everyone is easting GM maize and so its safety is guaranteed by virtue of the fact that the consumption of GM maize has become a global phenomenon. Like in the Zambian and Malawian debates, Natsios narrows the domain of the coverage down to the issue of human health and safety. It is important to note the trend towards the narrowing down of the domain of the coverage down to safety, that is, in spite of the overt-ness of political (for example, practical and economic) issues in the coverage.

In what appears as a response to Stremlau and Lott's laying of the charge of corruption, social activist Ashton (SAFEAGE) came to the defence of the countries being accused of corruption. For Ashton, there was the issue of the IPR and patents of the biotech multinationals. Ashton termed the entry of the biotech multinationals into the region "biological imperialism,"[123] which implies that the regional resistance to GM foods and crops was historical-political.

It will be recalled that early October 2002, biotech industry group Syngenta SeedCo placed public notices in the newspapers.[124] Early November 2002, social activists reacted to the public notices. On November 5, 2002, in *The Business Day* article entitled "Groups oppose the sale of modified maize seed," environment lobby groups Biowatch and SAFEAGE were reportedly opposed to Syngenta SeedCo's first application to sell such maize seed in South Africa. The two social activist groups also criticized Syngenta's application for both the field trials and the commercial release of the GM maize seed as being irregular and that it "nullified the purpose of running field trials." Biowatch and SAFEAGE complained that Syngenta had not followed "basic practice" in launching a double application for the field trials and the commercial release of the seed. In particular, SAFEAGE was concerned about the loss of export trade if South Africa continued to grow GM crops. The issue of international trade recurs. Importantly, here the coverage continues to explore directly the points for and against South Africa's lone stance.

In response to Biowatch and SAFEAGE, Syngenta Managing Director Vincent Volckaert said the corporation had applied for both the field trials and the commercial release of its modified maize called Bt11 because it did not expect to be granted the commercial clearance permit immediately. The imports of food and animal feed containing a strain of the gene used by Syngenta had already been approved in South Africa, but that would have been the first time for the gene to be approved for planting. The issue here is GM policy and regulation; the social activists are saying that the regulatory and monitoring

[123] Ashton said, "These countries were right to reflect deeply as to whether they should accept these products. If genetically engineered grains get planted, then the patent-holders of these plants can go into Africa and claim the crops. It would be biological imperialism." (*The Financial Times*, November 4, 2002)
[124] See *The Business Day*, October 2, 2002; *The Star*, October 3, 2002

controls are too lax and hence open to abuse by the unscrupulous biotech industry. Volckaert is assuring the social activists that there is nothing really to worry about because GMOs are at an experimental stage. However, Volckaert does not respond to SAFEAGE's concern about the loss of export trade.

The issue of South Africa's GM policy was pursued further at a continental level in Zambia. On November 21, 2002, in *The Angola Press* article entitled "African consumers demand South Africa label GM foods," labelling at a biotechnology and food security conference in Lusaka, African consumers reportedly called on South Africa to undertake mandatory GM labelling. At a press briefing, The Consumer International (Africa) Director and Conference Chair, Amadou Kanoute, said that CI (Africa) was "fighting for the right to information." Kanoute said,

> Unfortunately, South Africa which is producing GM food in the region is not labelling the food. The consumers' movement will start lobbying various groups including regional economic groupings and the African Union to make it mandatory for South Africa to label all GM food. (November 21, 2002)

In this quotation, the issue being raised is that of human health and safety. It can be seen that the safety argument carries on in the coverage.

In addition to safety, Kanoute raised issues of international trade, GM contamination and foreign aid. On the issue of foreign aid, Kanoute said his organization would lobby to de-link food aid from money lending by the western donor community so that recipient countries are given a choice of where to buy relief food. He described US foreign aid as "unethical aid" because the American GM maize was imposed on Southern African countries. It is important to note the emergence of the ethical-political issue of foreign aid as well as the recurrence of practical and economic issues of GM contamination and international trade in the coverage.

On the following day, a Consumer International (CI) (Africa) conference was reported as "a stormy three-day conference." On November 22, 2002, in *The Business Day* article entitled "Time for Africa to audit effects of biotechnology," the CI (Africa) conference delegates reportedly resolved that the African Union commission conduct an independent audit of the "socioeconomic" effects of biotechnology in Africa. At one stage of the conference, pro-GM South African delegates, Professor Webster (AfricaBio) and biotech consultant, Dr. Van der Walt (AfricaBio and South Africa National Seed), as well as Professor Diran Makinde (Venda University agricultural biotechnologist and AfricaBio Board member) walked out in protest, claiming that the biotech information circulated by their "opponents" at the conference was "outdated." The three South Africans' antagonists included Institute for Science in Society (London) Director Mae Wan Ho and Consumers Union (US) Michael Hansen who reportedly said GM food "was being foisted on Africa by countries or companies with commercial interests" and that Africa's interests were sidelined in biotechnological development.

Concerning the alleged sidelining of Africa's interests, Kanoute said, "Africa's objections [to biotechnology] are tossed aside." Noteworthy here is that the media did not bring the three South African protesters to respond to the opponents' concerns and to the allegation about the sidelining of Africa's interests. Their act of protest at the African consumers' conference in Lusaka is indicative of South Africa's lone stance in the region. Thus, though implicitly, in this article, the coverage continues to explore directly the points for and against South Africa's lone stance.

The social activists had raised the issue of the loss of export trade mid October and early November 2002. They raised it again in December 2002. On December 1, 2002, in *The Business Report* article entitled "State's silence over GM crop data may backfire," it was reported that the state's guarded stance in regard to information on GM crops was in danger of backfiring in the face of likely rejection of South Africa's GM products at the world market. The EU – "South Africa's largest trading partner" – was lobbying strongly against accepting GM imports. The state had refused to provide information on the GM crops grown in the country, GM trials, and risk assessments on GM crops. In proceeding

with the same article, it will be recalled that in September 2002, Biowatch had sued the state for withholding information about GM crops in South Africa.

In retrospect, in December 2002, Biowatch felt justified in its legal action against the state because the latter was continuing to be silent, even in the face of growing concerns about South Africa's GM imports being rejected in the European markets. Biowatch Media and Resources Officer Nicci van Noordwyk said, "We believe it is the public's right to know." Organic farmer Raymond Auerbach was reportedly concerned about the implication of the state's continued silence over GM crops for export trade. Auerbach said, "We are systematically damaging our export market if we persist with GM crops. The EU does not want GM foods." The issue of international trade continues to be a point of focus, in that South Africa's future in connection with GM crops is being seen in the light of this issue.

Up until then, the EU had not said anything about its alleged influence in the regional resistance to GM foods and crops. At the end of the 2002 post-Earth Summit period, an EU voice was reported in the local press. On December 2, 2002, in *The Business Report* article entitled "Lamy backs African stance on GM aid," EU Trade Commissioner Pascal Lamy was reported as having said that the EU was not going to persuade African states to accept the offer. In November 2002, US Deputy Secretary for International Trade Grant Aldonas had reportedly requested the EU to do the persuading, fearing that more people were going to die of hunger if the EU continued to fuel the regional resistance to GM foods and crops. Lamy said,

> Our policy is very different from US policy. There is no way we are going to change it just for the sake of being nice to the Americans… We understand their policy and they have to understand ours. (December 2, 2002)

In this quotation, Lamy is saying that the EU and the US have different foreign aid policies. Further, he is saying that as regards food aid, the EU buys food for aid on local markets and does not donate from its own stocks. For Lamy, the EU does better than the

US when it comes to foreign aid. Importantly, Lamy is casting the regional resistance in terms of the EU-US trade disagreements, which are historical in their portion of the globe. By implication, the EU was opposed to the commercialisation of GM products, a position that would affect South Africa's GM exports negatively. In quoting Lamy, the focus on international trade is maintained and the controversy continues to centre on South Africa's future vis-à-vis GM crops –the potential benefits and risks thereof.

In the twelve articles discussed above, the range of concerns being generally raised in the post-Earth Summit debate in 2002 is political. The safety issue tends to be used to narrow down the domain of the coverage that, otherwise, has many political issues. The safety argument carries on in the coverage as a side argument. The social activists start with the call for an outright ban of GM foods and crops but they eventually relax their position. In spite of its apparent shift in position, from certainty to uncertainty, the South African state presses on with GM cropping, taking a lone, pro-GM, stance in the region. Its solitary positioning comes under spotlight in the debate and the social activists incessantly criticise the South African state's GM policy and regulation as being too lax to protect the biotech multinationals. International trade is the point of focus of the coverage, and South Africa's lone stance in relation to GM crops hinges on this issue.

(IV) The South African debate after 2002 and the topic of GM policy

From the post-2002 period (March 2, 2003-July 28, 2004), fifteen articles concerning the South African debate were selected for analysis. Thirteen of the articles were in the local press and the remaining two were in global news agency *Reuters*. Thirteen were reports and the remaining two were opinions. In all the articles, the event being generally reported is the social activists-led contention over South Africa's GM policy in the light of the country's lone stance.

The key issues being raised in the debate include human health and safety, environmental safety, international trade, IPR and patents, biodiversity, GM seed, and food security. The sources that dominate the coverage of the debate during this period include but are not limited to science experts, representatives of various environment and consumer lobby

groups, a confederation of trade unions source, a development expert, a biotech promoter, opposition politicians, parliamentarians, a representative of Monsanto, a representative of the grain industry, a state official, and an agricultural economist.

Key features of the coverage

It will be recalled that early August 2002, social activist Taynton had argued that GM cropping could not guarantee food security in the region. (*The Mail and Guardian*, August 8, 2002). Early March 2003, a development expert took up Taynton's argument. On March 2, 2003, in *The Sunday Times* article entitled "There are better ways to feed Africa than with GM crops," South African development expert Dulcie Krige was reportedly of the view that the persistent hunger in Southern Africa and in the rest of Africa was attributable to logistical problems of accessibility of food rather than to the production and availability of food. For Krige, food security entailed making food accessible to areas that needed it and that the region and the continent did not require GM technology to improve food production because enough food was already produced using conventional agronomic methods. Krige said at length,

> The problem is not a lack of food. It is that areas of surplus are often deficient in infrastructure (roads, railways) to convey food to the places where crops have failed … Food shortages in Africa are a complex interplay of drought, poverty, lack of transport and storage infrastructure, shortages of agricultural extension officers and political instability. It is simplistic to contend that the biotechnology industry can alleviate these shortages by selling more of its expensive seed to the small farmers who produce more than 70% of Africa's food crops. (March 2, 2003)

In this quotation, the issue being raised is that of food security. (Agriculture minister Didiza had raised it earlier, in October 2002). Here Krige is saying that Africa always has enough food to feed itself; for Krige, in most of Africa, there are areas that have surplus food and other areas that have food shortages. For him, given the two extremes of overabundance and scarcity of food on the continent, the challenge is how to distribute

the surplus food to make it accessible to areas that have food shortages. For him, Southern Africa produces enough food but it lacks the infrastructural capacity for countering the skewed distribution of food. The region does not need GM technology in its agriculture.

Moreover, Krige saw GM technology in agriculture as an elite farming technique that excluded the majority of the staple food producers, subsistence and small-scale farmers. GM technology in agriculture could not improve yields even if GM crops were herbicide-resistant. The fact that the technology reduced labour requirements for crop production was "a distinct disadvantage" in a region that had high unemployment. Krige also raised the issue of GM seed arguing that small-scale farmers could not afford to buy the exorbitant GM seed of the biotech multinationals every season. For him, the problem with GM seed was the IPR and patents of the biotech multinationals. Krige was also of the view that the EU did not fuel the regional resistance to GM foods and crops; for example, the science experts sent by the Zambian state on a fact-finding mission visited not only European countries but also the US and South Africa, both of them pro-GM countries. Here I see a new issue, farm employment and GM crops, emerging in the coverage. Recurring issues are food security, sustainable agriculture, GM seed, and IPR and patents. All these issues are overtly practical and economic.

Similarly, early March 2003, the matter of the EU's influence on the regional resistance came under consideration again in the coverage. On March 6, 2003, in *The Business Day* article entitled "Modified food-aid fears slammed" sources referred to as "a delegation of African scientists" who had just returned from an EU conference on the theme "Agriculture in the Developing World" were reported to have said that they supported the US government's complaint that EU policies had put pressure on Southern African nation-states to reject the offer of GM food maize in 2002. Professors Webster (AfricaBio) and James Ochanda (University of Kenya biochemistry) led the delegation of the African scientists. The EU had reportedly used its funds to get the support of international charity NGOs such as Oxfam, Christian Aid and Save the Children (UK).

The Europeans were reported as having "frightened African governments into rejecting food aid" and "alarmed starving populations." Webster said, "Some groups have told people that genetically modified products are dangerous and could cause cancer." Webster talked of "European anxieties" about GM crops were hampering efforts to introduce GM technology in agriculture in Africa because Europe was a major export market for the continent. Having raised the issue of human health and safety, Webster also raised the issue of international trade, thereby keeping the domain of the coverage wide enough to accommodate the practical and economic concern. Further, the African scientists reportedly concurred that GM crops "boosted yields" and could "make Africa less dependent on foreign food aid." Here I see practical and economic issues of sustainable agriculture and foreign aid[125] becoming recurrent in the coverage, so far.

It will be recalled that mid August 2002, Masithela had said that parliament was going to set up a sub-committee comprising pro-GM and anti-GM lobby groups to discuss, to resolve, issues pertaining to GMOs in South Africa. Masithela had said that in spite of staging such an ideally all-inclusive deliberative forum, the state was not going to soften its stance; neither was it going to reverse the laws on GMOs as stipulated in the GMO Act (1997). On April 22, 2003, in the *Reuters* article entitled "South Africa affirms guarded stance on gene crops," addressing a conference of "GM advocates and opponents" in Johannesburg, Masithela reportedly said South Africa could not afford to be left behind over GM crops. However, the state would proceed with the accession to the Cartagena Protocol that restricted international trade in GM products. Masithela reiterated South Africa's guarded pro-GM stance that was in sharp contrast to those of its neighbours. In reiterating the stance of South Africa, Masithela said,

> South Africa cannot afford not to be on board...GM technology is one of the tools that can assist South Africa in meeting food security… We must use very serious precautions in ensuring that international trade is not being hampered. (April 22, 2003)

[125] See "African consumers demand South Africa label GM foods," *Angola Press*, November 21, 2002

In this quotation, Masithela is seeing GM technology as a tool not only for achieving food security but also for improving export earnings of South Africa.[126] Crucially, in quoting Masithela thus, the focus on international trade is maintained and the controversy continues to centre on whether South Africa stands to gain or lose in its drive towards GM technology in agriculture.

Since their November 2002 criticism of Syngenta's public notices in the press, the South African social activists had until now been somewhat quiet. They returned to the scene of the debate in May 2003. On May 28, 2003, in *The Business Day* article entitled "Anti-GM protest at biotech conference," two environment lobby groups, SAFEAGE and Environmental Justice Networking Forum (EJNF), who formed "a small group of protesters," reportedly picketed a biotechnology conference in Johannesburg, claiming that GM foods were not safe for human health. The safety issue carries on in the post-2002 coverage. Sr. Angelica Loub (EJNF) cited environmental, social and economic about GM foods, claiming that GM technology had not been tested and that it damaged people's health, and, worse, it destroyed the livelihood of subsistence and small-scale farmers by making them dependent on "US seed." Apart from the issue of human heath and safety, Sr. Loub raised two practical and economic issues, sustainable agriculture and GM seed – both of them recurring in the coverage.

The protesters also decried the lack of "public consultation" by the state and the exclusion of wider society in public deliberations on GM foods and crops. For example, for them, the biotechnology conference they picketed excluded "the public" by charging a high attendance fee.[127] To be noticed at all, they made an appeal to 'public consultation' based on the democratic ideal of all-inclusiveness. EJNF issued an ultimatum to the biotech multinationals demanding the suspension of all field trials on GM crops in South Africa "until adequate research [had] been done on the impact on

[126] At the time, South Africa was the only country in the world growing white GM maize and hence its anticipated competitive edge at the world markets

[127] SAFEAGE's Peter Komane complained thus, "The cost of over R5, 000 per person effectively excludes the public and this sort of exclusion has epitomised the introduction of GE crops and biotechnology in South Africa. There has been no public consultation or input on the need or desirability of the technology and these types of conferences only serve to further this exclusivity." (*The Business Day*, May 28, 2003)

health and the Environment;" that the biotech multinationals "allow the public access to information about their technology and the location of their field trials;" and that they allow for independent risk assessments and monitoring of the trials. In its ultimatum, EJNF traced the footsteps of Biowatch, a 'public interest'-motivated pursuit that had culminated into the opening of a court trial against the state and the biotech multinationals in September 2002. Noteworthy are the re-intensifying of the social activists' pressure on the state concerning GM policy as well as the predominance and overt-ness of political concerns during this particular period of the coverage.

On the following day, the re-intensification of such pressure was exemplified in connection with the biotech industry's public notices in the press–the social activists renewed their (pre-Earth Summit) call for a GM ban in South Africa. On May 29, 2003, in *The Business Day* article entitled "SA lobbyists fight US genetic crop plans," an application for a clearance permit to plant GM cotton to the state from Stoneville Pedigree SeedCo, Monsanto's local licensee, reportedly provoked "fierce criticism" from environment lobby groups that were campaigning for a moratorium on all GM crops (white maize, yellow maize, Soya, cotton). Within this article, two sets of exchange ensued involving Elfrieda Pschorn-Strauss (Biowatch), Wally Green (Monsanto's biotechnology regulatory manager for Africa), and Glen Ashton (SAFEAGE). The first exchange went as follows.

First example of an instance of 'real' debate

Pschorn-Strauss: "An advertisement was placed in the *Zoutpansberger*, a small Afrikaans newspaper based in Louis Trichardt."

Green: "The company [Stoneville] had complied with the requirements of the GMO Act; … notices had been placed in six newspapers, including *Beeld*."

Pschorn-Strauss triggered the exchange between the two participants; Pschorn-Strauss's trigger was in a form of a direct criticism of Stoneville to the effect that the latter had not placed enough public notices about its intention to run field trials of GM cotton in certain

areas of South Africa. The South African GMO Act (1997) stipulates that public notices be placed in at least three newspapers circulating in a region in which GM crops are to be trial-planted 30 days before an application is submitted to the Department of Agriculture. Green's response to Pschorn-Strauss is that his company had placed more than enough public notices in the newspapers circulating in the relevant region (Limpopo Province) including *Beeld*, an Afrikaans newspaper that has the widest circulation in that region. Pschorn-Strauss and Green are looking at the same issue –public notices of GM trials - and they have the same perspective –GM trials must comply with GM policy. Pschorn-Strauss is disagreeing with Green. Contradicting Green, she is saying that the biotech company did not place enough public notices in the region. This looks as though it is a disagreement in fact, which Green could have helped to resolve by showing Pschorn-Strauss copies of all the adverts containing the public notices. However, the article does not say anything about this arrangement being made between them. This is an example of an instance of 'real' debate. The second exchange went as follows.

Second example of an instance of debate-like exchange

Ashton: "We haven't found information on the (use of this) cotton anywhere else in the world."

Green:

> [T]he triple-gene cotton [has] in effect been approved by the regulatory authorities in the US … This type of cotton is produced by crossing Bollgard II cotton, which [contains] two insect-resistant genes (Cry 1 Ac and Cry 2 Ab), with Roundup Ready cotton, which [contains] a gene conferring resistance to Monsanto's Roundup Ready herbicide. Both Bollgard II and Roundup Ready cotton have received full US regulatory clearance.

Ashton:

> Given the flawed regulatory regime in SA, this application should be refused out of hand. We cannot afford to further subsidize the interests of this industry at potentially incalculable cost. We insist that a conservative and precautionary

> approach be taken, rather than the present cavalier and opaque system that facilitates the introduction of these novel and untested crops.

Ashton's point is that Stoneville's GM cotton has not be tested anywhere before. For him, Stoneville was planning to introduce into South Africa a variety of cotton containing an untested combination of modified genes. Green's response is that prior to the proposed South African trials, the GM cotton was tested and approved back in the US. Nevertheless, Ashton is undeterred; in his counter response, he insists that Stoneville's GM cotton is untested. Ashton criticizes the South African GM policy and regulation as being "flawed." Ashton and Green are looking at the same issue, environmental safety, and they have the same perspective –untested GMOs are potentially harmful for South Africa.

Interestingly, Ashton does not maintain the focus on the issue at stake. He goes off tangent, saying that if GM cotton were to be grown in South Africa it will "further subsidize the interests" of the biotech industry, implying that the chief beneficiaries of the South African GM cotton will be Monsanto and Stoneville themselves. This is an example of an instance of debate-like exchange, as weak engagement.

Up until then, coverage of the South African debate had not presented the voice of any local consumer rights lobby group; in June 2003, such a voice was presented. On June 3, 2003, in the *SAPA/Daily News* article entitled "GM food: SA public still knows 'nothing'," consumer rights lobby group National Consumer Forum (NCF) reportedly released the results of its survey that showed that South Africans were ignorant of GM foods; that in spite of their ignorance they had concerns about safety; and that they wanted the GM policy to reinforce GM labelling. NCF Chair Thami Bolani said,

> There are two main issues. The first is that the overwhelming majority of people in the country know nothing about GM foods, despite the government investing about R250 million in this technology. The second major finding is that the

> majority of people are concerned about the health effects of GM foods, and want labelling, for example, to be enforced by legislation. (June 3, 2003)

In this quotation, Bolani is accusing the state of committing itself to investing in a technology that was largely unknown in South Africa as is implied in the cited amount of "R250 million." It will be recalled that at a conference in November 2002 in Lusaka, the continental consumer rights lobby group CI (Africa) had called on South Africa to undertake GM labelling; in June 2003, NCF echoed CI (Africa)'s call. Bolani attributed the people's ignorance to lack of consultation by the state with the people, referring to them as "the masses."[128] Biowatch's Haidee Swanby concurred with Bolani. Swanby reiterated Biowatch's position that GM food was being introduced into the South African food chain without participation by wider society and that the state lacked vigorous legislation to control and monitor the safety of GM food. Importantly, the social activists continue to re-intensify pressure on the state to revise its GM policy. Notably, the safety argument carries on in the coverage.

The court trial between Biowatch and the state continued long after September 2002. In July 2003, the biotech multinationals unified, garnering support for the state against Biowatch. On July 8, 2003, in *The Business Day* article entitled "Battle over modified crops data takes root," two local biotech companies were reported to have joined ranks with biotech industry giant, Monsanto, which was now supporting the state in a "long-running battle" against Biowatch. The two companies supporting Monsanto and the state in opposition to Biowatch were GM seed manufacturers Pannar SeedCo and Delta and Pineland.

Biowatch's lawyer Cormac Cullinan said that the court case was intended to resolve the conflict between 'the public interest'-motivated claim for the people's right to information on GMOs and a biotech company's' right to commercially-sensitive

[128] Bolani said, "It is a serious indictment on the government. People expect a democratic government will ensure all important information reaches the masses." (*SAPA/Daily News*, June 3, 2003)

information.[129] Cullinan clarified further that Biowatch's requests for the information prior to its suing the state were made before the Promotion of Access to Information Act came into effect, and so the legal suit rested principally on Biowatch's "constitutional right to information." Here I see that the social activists' concern about the laxity of the GM policy and regulation has hitherto[130] become a new point of focus for the coverage, momentarily de-centring the issue of international trade.

It will be recalled that in April 2003, Parliamentary Portfolio Committee on Agriculture and Land Chair Neo Masithela was reported as having said that South Africa was going to accede to the Cartagena Protocol of the United Nations, in spite of the concern about the protocol's restrictions on international trade in GM products.(*Reuters*, April 22, 2003) On August 6, 2003, in *The Business Day* article entitled "Concern that SA could be biosafety guinea pig," parliament was reportedly considering delaying the South African state's accession to the Cartagena Protocol. Parliamentarian Masithela said that parliament was concerned not only about the implications of the protocol's restrictions on the international trade leading to job losses in the agricultural sector. For Masithela, the casualties of the protocol would be South African farmers and farm workers, and so, it was the responsibility of the relevant parliamentary committee to protect their interests. Here, the issue of farm employment and GM crops recurs, occurring for the second time, in the coverage.

In the same article, Moephuli (GMOs Registrar, DoA) [131] reportedly said that the protocol required exporters to declare that their products contained GMOs but, for him, such declarations could run the danger of violating the IPR of exporters. Moephuli observed that none of the world's major GM grain exporters, for example, the US, was prepared to accede to the protocol. He warned South Africa against being "the first guinea pig."

[129] Cormac Cullinan said, "The case centred on the balance between the public's constitutional right to information and a company's right to protect commercially sensitive information". (*The Business Day*, July 8, 2003)
[130] Since *The Business Day* article of May 29, 2003
[131] NB. Previously, in October 2002, Shadrack Moephuli was referred to as Head of South Africa's Directorate of Genetic Resources, which is probably the same position as DoA GMOs Registrar in the South African civil service. (*Reuters*, October 16, 2002)

The issue of genetic experimentation surfaces in the coverage, resonating with a previous concern about GM foods as a "dietary experiment."[132] Both Masithela and Moephuli were implying that South Africa was beginning to change its mind about the Cartagena Protocol, especially considering that its accession to the protocol would adversely affect its international trade and raise unemployment figures to an all-time high in the farming sector, eventually slowing down GM cropping. Importantly, after being momentarily de-centred by the issue of GM policy and regulation, the issue of international trade takes centre stage again in the in the coverage.

FAWU's call for the banning of GM foods and crops in February 2002 was ignored, as it were. One and half years later, the South African state was steaming ahead with GM technology in agriculture. In September 2003, FAWU renewed its call, and this time around, it solicited the support of the confederation of trade unions, The Congress of South African Trade Unions (COSATU). On September 18, 2003, in *The Business Day* article entitled "Gene foods fuel divide in alliance," at its eighth congress, COSATU was reportedly planning to discuss FAWU's resolution calling for a moratorium on the introduction of GMOs.

The article reported that the resolution would lead to "tension" between COSATU and the ANC since the ANC-led state had already approved the commercial release of GM white maize, GM yellow maize, and GM Soya, and in progress were various trials on other GM crops such as GM potato and GM canola. Lending its support[133] to FAWU's resolution, COSATU called on the state to convene a summit "to debate food safety and genetically modified organisms." COSATU was reportedly concerned about three issues, human health and safety, genetic experimentation, and IPR and patents. While the safety issue carries on, the latter two practical and economic issues are both recurrent during this particular period.

[132]See "GM foods raise food costs," *The Mail and Guardian*, May 3, 2002

[133] Lending its support to FAWU, COSATU said, "Cosatu notes the continued disagreement on the safety of genetically modified organisms between the US and the European Union, the continued donation of genetically modified maize and other food products by the US to some famine-stricken African countries, and the accompanying blackmail by the pro-camp and accusations of guinea pigs experiment by the anti-group. The masses of famine-stricken people should not be pushed to utilising genetically modified organisms. Reasonable time needs to be set aside for research on perceived or actual after-effects and benefits of genetically modified organisms." (*The Business Day*, September 18, 2003)

Also in September 2003, the social activists' renewed call for the banning of GM foods and crops in South Africa bothered a pro-GM thinker who up until then had been quiet. On September 23, 2003, in *The Cape Argus* article entitled "No GM food for thought," biotech promoter Hans Lombard was reportedly of the view that an opposition politician was ignorant of GMOs. Lombard had heard that African Christian Democratic Party (ACDP) parliamentarian Kent Durr had requested parliament to place a moratorium on GMOs in South Africa. Lombard said that Durr's request displayed "the most shocking example of ignorance." Lombard regarded GM technology in agriculture as "the most advanced scientific research ever done on food production." Lombard asked Durr to "resign forthwith" because "[t]axpayers [could not] afford to pay for dumbfounded ignorance." In proceeding, citing various sources such as science academies of the West, Lombard argued that GM food had been given "a 100% clean bill of health" and that there was "no evidence of …potential health or environmental risks" arising from GM cropping.

It can be seen that as he was continuing to praise the technology, Lombard was also summarily dismissing Durr's claim that South Africa could lose its trade links with Europe if it continued to grow GM crops as "absolute rubbish." For Lombard, South Africa had not exported any grain to the EU for the previous three years. Safety issues carry on in the coverage and crucially, the issue of international trade continues to be a point of focus, in that South Africa's future in relation to GM crops continues to be seen in the light of its export trade with Europe. Notably, a member of the political opposition came under rather harsh criticism; Lombard's sharp tone of statements and activist voice are explicit in the article.

In March 2004, the political opposition helped to re-intensify the pressure on the state concerning GM policy. On March 11, 2004, in *The Business Day* article entitled "South Africa's regulatory shambles," Inkatha Freedom Party (IFP)'s Ruth Rabinowitz

reportedly summed up the arguments for and against GMOs in South Africa. Rabinowitz's summary of the GM debate was based on a Public Understanding of Biotechnology conference in Pretoria. In the summary, her primary concern was about the loss of biodiversity as South Africa steamed ahead with GM cropping. Here the issue of biodiversity recurs; it first appeared in the pre-Earth Summit period of the coverage.[134] For Rabinowitz, the South African policy meant to protect biodiversity was not effective. She argued that there were better ways of achieving sustainable agriculture than GM cropping:

> [A]dvantages of GMOs are all short-lived and could be attained in various other ways, such as by improved organic farming methods. The hazards are long-term and might be irreversible. The GMO Act, which regulates the research, production, importation and sale of such organisms, is inadequate as a shield against GMO fallout … Our laws are ineffectively enacted. (March 11, 2004)

In this quotation, the opposition politician is raising the issue of sustainable agriculture, which is becoming recurrent –now appearing for the fourth time during this particular period. She is going further, arguing that due to the laxity of the GMO Act (1997), unscrupulous entities were on the loose tampering with the biodiversity – Mother Nature - of South Africa. Rabinowitz referred to these entities as "humans tinkering with nature's genes." For her, the GM policy is lax, not transparent, and in effective,[135] a view that echoes of the social activists. Here I see that the issue of GM policy and regulation is pushing towards the centre of the coverage again, as if it were in competition with the issue of international trade.

Some South African social activists widened their geopolitical horizon and joined their counterparts beyond the borders of their nation-state as far as the matter of GM food aid was concerned. On May 4, 2004, in the *Reuters* article entitled "African groups criticise

[134] See "South Africa split over IP, GM labelling," *The Mail and Guardian*, March 15, 2002

[135] Rabinowitz said, "There must be a paper trail from seed to stomach for all modified foods, so that if something does go wrong it can be stopped and prevented in future. We also need unimpeded transparency concerning who has applied for and been given permits to do what, where and why. Only then can we keep a wary eye on humans tinkering with nature's genes and give meaning to our alleged desire to protect our magnificent variety of flora and fauna for future generations." (*The Business Day*, March 11, 2004)

U.S. over GMO food aid," two South African environment lobby groups, African Centre for Biosafety (ACB) and Biowatch, were reportedly part of the "60 African farm campaigners" that were criticizing the US for exerting pressure on civil war-ravaged Angola and Sudan to accept GM food aid. The campaigners - African social activists - were referred to as a composite of "farmer, consumer, environment and development groups." Angola had demanded milled GM maize and Sudan had imposed restrictions on GM food imports. The African social activists said,

> Both decisions were strongly criticised by USAID and WFP and constant pressure has been applied in both countries to remove the restrictions. The scenario presented by WFP and USAID to these African countries is either they accept GM food or face dire consequences. These actions are totally unacceptable. (May 4, 2004)

In this quotation, the South African social activists are joining their African counterparts, protesting against the conditions that came with the American food aid to Angola and Sudan. The issue of foreign aid recurs during this particular period. The protest is a gesture of solidarity akin to the one made previously, in the Malawian case by another composite protest voice of African social activists.

In what appears as a response to the solidarity protest above, a UN WFP representative in South Africa, Richard Lee, reportedly said the UN agency respected national policy regarding GM foods and had sought alternatives when Southern African states refused to accept GM food, as Zambia did in 2002. Lee insisted that the UN WFP did not force-feed any hungry Southern Africans:

> We abide by a country's legislation. We have sent milled grains to countries that demanded it such as Zimbabwe and sent GM-free food to Zambia when it banned GM maize. (May 4, 2004)

In this quotation, Lee is in responding not only to the African composite protest voice (of which ACB and Biowatch were integral) but also to an earlier allegation. It will be recalled that the UN agencies were criticised for being complicit in the controversial food aid; specifically, they were alleged to have entered into collusion with the US government and the biotech multinationals.

Second example of an instance of 'real' debate

After a momentary detour to Angola and Sudan, coverage moved back to the South African debate. In July 2004, South Africa's 'lone stance' came under spotlight again, this time around within the context of the issue of GM contamination. On July 7, 2004, in *The Business Day* article entitled "Grain SA opposes untested GMO maize," South African grain industry group, Grain SA (GSA), was reportedly opposed to Monsanto's application to the state for an import clearance permit, for GM maize for human and animal consumption. Monsanto's Wally Green came to the defence of his employer. An exchange ensued between Green and Grain SA Chair Bully Botma and it went as follows.

Green:

> The application to the South African Registrar for GMOs is for the approval of the import of maize that may contain the Cry3Bb1 gene, which has resistance to US corn rootworms, and Cry1Ab, which has resistance to European corn borer. (*The Business Day*, July 7, 2004)

Botma:

> GSA's concern centers on the fact that the imported maize could also be used for domestic production purposes, considering that the importers cannot guarantee that the prospective maize would be immediately milled and only be used for human and animal consumption, or fed as whole grain to animals. (*The Business Day*, July 7, 2004)

Green: “Monsanto has no intention of importing maize, but it is seeking to clear its GM maize products for import into South Africa, when the country needs to do so.” (*The Business Day*, July 7, 2004)

Botma:

> The GMO maize, to which the application refers, has not been locally evaluated in terms of the possible negative affects it may have on animal and human health, as well as the environment. Enormous pressure is currently being placed on local producers, who want to service the export market, to develop an identity preservation system and use it to produce, store and transport GMO and non-GMO maize separately. GSA has urgently requested the South African Registrar for GMOs not to approve a Goods Clearance Permit for importing consignments of yellow maize, which may originate from hybrids containing such untested BT maize, which may in any case not be produced domestically. (*The Business Day*, July 7, 2004)

In the above-cited Green-Botma exchange, the topic is GMOs in South Africa. Green and Botma are looking at the same issue – clearance permit for the importation of GM maize into South Africa. They have the same perspective; government (the Registrar for GMOs) should not approve the importation of untested GM maize. Both are keeping the focus on the issue. Green’s point is that the clearance permit that Monsanto is applying for is for the future importation of GM maize, not for now. However, Botma is responding to Green’s point, disagreeing with him. Botma is developing his point in the same direction, arguing that there are safety issues of human and animal health as well as the environment upon the introduction of the American GM maize wholegrain in South Africa, especially in that it is untested. The two sources are quoted as speaking to each other directly, on the same issue, from the same perspective, and along the same path. This is an example of an instance of ‘real’ debate.

Sensing the growing resistance to GMOs from various fronts including the grain industry, social activists and the political opposition, the state came to its defence, once more. On July 8, 2004, in *The Business Report* article entitled "Agriculture department moves to dispel GM food fear," DoA Director of Genetic Resources, Dr. Julian Jaftha, addressed the Agriculture Writers Association thus:

> All GMOs available have gone through the same process and we are confident that all concerns have been adequately addressed. Not everything is just approved and put out there… [The state puts] emphasis on access to sufficient, safe and nutritious food and the sustainable management of natural … agricultural resources. (July 8, 2004)

In this quotation, Dr. Jaftha is saying that the state is not only concerned about the issue of human health and safety but also the issue of sustainable agriculture –one of the most predominant practical and economic concerns during the post-2002 period of the coverage. The safety issue is still carrying on in the coverage during this particular period. Dr. Jaftha also addressed the contentious issue of GM clearance permit applications. For him, the appraisal of each application involved risk assessment (safety of GMOs for human and animal health and the ecological environment) and assessment of the socio-economic impact of GM crops in South Africa. Moreover, the state believed that GM technology in agriculture had great potential to play an important role in eliminating hunger and reducing poverty and but it recognised the risks and concerns.

In spite of the growing resistance to GMOs from various fronts, through the voices of its various representatives, the state maintained its pro-GM stance resolutely and it was determined to expand its list of GM crops. On July 28, 2004, in *The Cape Times* article entitled "Secret SA potato trials anger anti-GM groups who query benefits to farmers," the South African state was reportedly expanding its list of GM crops, which, by 2007, would include GM potato. USAID was reported to have partly funded the research into GM potato in South Africa. Preparations for GM potato field trials were reportedly under way "at six secret locations around the country. One of them will be in the Ceres district."

Sources referred to as “anti-GM groups” reportedly argued that the GM potato was similar to the one that had been withdrawn from the US market due to “consumer resistance.” Pschorn-Strauss Biowatch) said that her organisation was objecting to the field trials on GM potato because “the socio-economic impacts” on small-scale farmers had not been considered. Pschorn-Strauss said,

> We got scientists from the University of the Western Cape to analyse data from previous trials and they found it to be flawed. And if [GM maize] was rejected in the US by consumers, why do they think consumers in South Africa want it? (July 28, 2004)

Here, the social activist is drawing on the science expert authority of UWC to augment her socio-economic concern about GM crops. It is also interesting to note that this 2004 article is reporting American consumer resistance, something that was never reported in 2002 in the South African debate and in all the three previous national debates. Additionally, Pschorn-Strauss said that the issue of GM seed had been overlooked – the farmers would become dependent on the biotech multinationals. ACB’s Miriam Mayet said the GM field trials had not considered the impact of the GM potatoes on the South African environment and human health. On the issue of environmental safety, Mayet decried the lack of environmental impact assessment on GM crops in the country. Mayet accused the state of colluding with the biotech industry, saying, “[W]e're up against a multi-billion dollar industry and a government which is fully behind it." Mayet cast GM technology in agriculture negatively as the monopoly of global capital and big business. Notably, the safety argument carries on in the coverage all the way to the end of this particular period; it runs on the side of practical and economic issues of GM seed, collusion, and IPR and patents.

In response, Graham Thompson of Agricultural Research Council (ARC) confirmed that the locations of the field trials were kept secret because anti-GM lobby groups had threatened to destroy the GM crops. On Mayet’s concern about the lack of environmental risk assessment, Thompson assured her:

> Before we release the GM potatoes commercially, we will do research on the environmental impact on non-target insects. We are also busy with research on the health impacts of these potatoes on laboratory animals ... The big chains like McDonald's felt that consumers were not ready for it. (July 28, 2004)

In this quotation, Thompson is saying that the environmental risk assessment that Mayet was demanding had not yet been undertaken. Strangely, Thompson does not comment on Mayet's practical and economic concerns.

At the end of the post-2002 coverage, it is important to note that apparently unperturbed by the regional resistance and the local anti-GM social activists' criticisms, by 2004, the South African state had added potato to its list of GM crops, yielding a total of five GM crops: white maize, yellow maize, Soya, cotton and potato.

In the fifteen articles above, the range of concerns generally being raised in the South African debate after 2002 is more overtly and more predominantly practical and economic as implied by the recurrence of issues of international trade, GM policy and regulation, sustainable agriculture, GM contaminating, GM seed, IPR and patents, food security, foreign aid, biodiversity, farm employment and GM crops, collusion, and genetic experimentation. Safety issues are often sidelined but they carry on –or rather, persist – in the coverage throughout the period. Social activists re-intensify pressure on the South African state. They renew their call for the banning of GM foods and crops; they continue to pressurise the state to revise the laws on GMOs, to be strict in the granting of GM import clearance permits, and to improve upon the monitoring and regulation of commercial release, field trials and risk assessment of GM crops. While occasionally conceding the need for revision of the GM policy, the South African state is determined to proceed with GM cropping because it believes the technology is a powerful tool for combating hunger and poverty. South Africa adopts a lone, pro-GM stance in a region that resists GM foods and crops. There is plenty of activism in the coverage as evidenced by protest, booing and jeering, picketing and strike.

6.2 Slippage at work in the coverage of the South African debate

This section presents selected examples of instances of rhetorical moves, three of which are illustrative of what has been called reframing, three seen to be illustrative of sidestepping and two seen to be illustrative of telescoping. These are the most important rhetorical moves that were picked out from the coverage of the South African debate.

Reframing

On the rhetorical move of reframing, the first two examples involve reframing within articles and the third example involves reframing at the level of coverage. For example, South Africa-based participants to the regional debate, Stremlau and Lott, viewed the Southern African states' resistance to the offer differently from the standard version, which revolved around practical and economic concerns about GM contamination and the loss of export trade with Europe. Zambia was reportedly concerned about human health and safety. [136] (*CropChoice*, August 29, 2002) Malawi and Zimbabwe were reportedly concerned about GM contamination. For both Malawian[137] and Zimbabwean[138] governments, milling the GM maize wholegrain before distribution to the hungry people was seen as an antidote to famers' temptation to plant it as seed. This is the standard version (the original frame) of the reasons for these countries in resisting the offer of GM maize. However, contrary to the standard version, for John Stremlau (SAIIR), Zambia and Malawi resisted the offer in order to cover up for their "corruption and inefficiency" whereas Zimbabwe resisted the offer in order to cover up for its "ruinous economic policies." (*The Financial Times*, November 4, 2002) As for Jason Lott (Wits University), all hunger-stricken Southern African states were "rife with corruption" and their resistance to the offer was an attempt to shift the blame for "their own inadequacies" from themselves to the UN WFP and USAID. (November 4, 2002) For both Stremlau and Lott, the new frame for reading the regional resistance involved

[136] On August 28, State President Levy Mwanawasa addressed Sky News cable television and BBC News. He said, "We would rather starve than get something toxic." (Craig Winters, "Campaign to Label Genetically Engineered Foods." *CropChoice* guest commentary, August 29, 2002)

[137] In *The Independent (UK)* article of December 1, 2002 agriculture minister Aleke Banda was concerned about the possibility of farmers planting GM maize wholegrain as seed, leading to GM contamination of local varieties of maize and related cereals

[138] In the *Reuters* article of August 31, 2002, agriculture minister Dr. Joseph Made was concerned about GM contamination and he portrayed the country of Zimbabwe as a "very clean environment"

corruption and mismanagement.[139] This example of an instance of the rhetorical move of reframing is interesting because the participants shifted the blame for the hunger to the starving countries. In introducing the issue of corruption, the focus of blame moves away from the métropole (the zone of the former colonisers and their allies and agents) and the western donor community to the Southern African postcolonial states themselves.

An EU representative viewed the regional resistance differently from the standard version. In *The Business Report* article of December 2, 2002, EU Trade Commissioner Pascal Lamy reconstructed the regional resistance to GM maize in terms of the traditional US-EU trade disagreements. For Lamy, the regional resistance was a ripple of trade disagreements between western states –North America versus Great Britain and Europe. Reframing here works by putting a new frame –the US-EU trade disagreements- in the place of the standard frame- the loss of export trade due to GM contamination.

The two examples above involved reframing within articles; reframing also occurred across coverage. The topic of GM policy operated as a popular version especially for the social activists in their take on the South African debate. Even their calls for the banning of GM foods and crops in South Africa were couched and presented in terms of GM policy. (See *The Business Day,* February 12, 2002; *The Mail and Guardian*, August 8, 2002; *Reuters*, October 15, 2002) Importantly, the social activists' concerns about GM policy: that it was lax, and their complaints about its poor implementation revolved around the issue of human health and safety. This reconstruction of the debate in terms of the topic of GM policy, as it were, de-centred several issues, which were overtly practical and economic, such as those broadly described as international trade, biodiversity, IPR and patents, food security, sustainable agriculture, GM seed and environmental safety. The social activists' concentration on the topic of GM policy, centred as it was on a single topic, is an example of an instance of the rhetorical move of reframing by coverage. The debate is put in a new, narrow frame of GM policy and human health and safety. The key issues are blurred when coverage narrows down the domain to GM policy

[139] That is, in contrast to the standard frame of GM contamination and the consequent loss of export trade

and hence the falling away of the unfolding of the major theme around region-specific practical and economic concerns at various points in the coverage. [140]

Sidestepping

It will be recalled that Canadian journalist Kay complained about "the anti-western rhetoric" that, for him, was driving the 'sustainable human development' agenda of the Earth Summit. (*The National Post*, August 28, 2002) Kay accused western social activists of fuelling the region's rejection of "perfectly safe genetically modified food." However, Mbeki together with the Earth Summit leader pointed to the global inequality, or he designated as "global apartheid." Mbeki did not target the issue of safety, as is implied by Kay's use of the term "perfectly safe." Rather, Mbeki's criticism of biotechnology in general was historical-political primarily and to an extent practical and economic; for him, western technology (biotechnology) and capitalism were not viable tools for alleviating the hunger and poverty of the developing world such as Southern Africa. However, Kay sidestepped the practical and economic challenge posed by biotechnology in this part of the globe. Apart from being summarily dismissive of the global politics behind the controversial technology, Kay went on a parallel route, accusing the social activists present at the Earth Summit of mobilising an "anti-western rhetoric", which Kay used rather conveniently to evade the practical and economic challenge that Mbeki identified. The thread of direction towards the global practical and economic that is set up by the (South African state president's) inclusion of a 'global inequality' dimension to the Earth Summit agenda fails to be developed when Kay is involved in summary dismissal and accusation and is treating the debate as if it is all about anti-westernism, anti-colonialism, or anti-imperialism. This is an example of an instance of the rhetorical move of sidestepping within an article in that Kay steps aside the challenge referred to as above.

The second is an example of an instance of the rhetorical move of sidestepping also within an article. In *The Financial Times* article of November 4, 2002, Stremlau and Lott

[140] Here I see the rhetorical moves of reframing and telescoping mutually reinforcing each other

said that Southern African states' rejection of the offer was just a cover up for their corruption and mismanagement; they raised practical and economic objections. In effect, Stremlau and Lott were questioning the Southern African postcolonial states' practical and economic concerns by raising counter practical and economic objections. The concerns and the objections can be located within the broad frame of *logos*. However, in the same article, Natsios reverted to the safety argument, reassuring Southern Africans, thus:

> My children and my wife and I have been eating genetically modified maize for the last seven years, and so have most Americans, and, I might add, most Canadians and Brazilians and Argentineans and Chinese and Indians. (November 4, 2002)

In this quotation, contrary to what Stremlau and Lott are doing, Natsios is developing a safety argument, which amounts to the assurance that in terms of human health, there is nothing scientifically wrong with GM maize and other GM cereals like GM wheat and GM rice. For Natsios, Southern Africans have nothing to fear as regards their health and GM foods. It is important to note that Natsios's response can also be located with the same broad frame of *logos*. Natsios is hereby sidestepping the practical and economic challenge posed by GM technology in agriculture, going on a parallel path to address the issue of human health and safety. In the hands of Natsios, the unfolding of the major theme of corruption around the event of the regional hunger falls away at this point in the coverage, in that the American official dwells on safety, a different dimension of *logos*.

The third is an example of an instance of the rhetorical move of sidestepping also within an article. It will be recalled that in *The Cape Times* article of July 28, 2004, social activists Pschorn-Strauss (Biowatch) and Mayet (ACB) made a number of practical and economic concerns about GM crops. Pschorn-Strauss was quoted directly as having said, "We got scientists from the University of the Western Cape to analyse data from previous trials and they found it to be flawed." (*The Cape Times*, July 28, 2004) Thus, together they raised key issues of GM seed, collusion, and IPR and patents, that is, apart from

safety issues of human health and environmental safety. Thompson (ARC) sidestepped the practical and economic challenge posed by the two social activists; instead, he went on a parallel path, addressing the issue of environmental safety. Graham was quoted directly as having said, "Before we release the GM potatoes commercially, we will do research on the environmental impact on non-target insects." (*The Cape Times*, July 28, 2004) Thompson and Pschorn-Strauss are engaged; theirs is a debate-like exchange because both of them are addressing the issue of environmental safety, a dimension of the broad frame of *logos*. However, Thompson and Mayet are not engaged. Mayet was quoted directly as having said, "[W]e're up against a multi-billion dollar industry and a government which is fully behind it." (July 28, 2004) Thompson does not respond to Mayet's charge of the *collusion* of the biotech giant Monsanto with the South African government –a different dimension of the broad frame of *logos*. By evading this practical and economic issue (collusion), Thompson sidesteps the practical and economic challenge posed by social activist Mayet.

In all these examples of sidestepping, there is a parallel path taken by all the sidesteppers. The content (or issue) of the parallel path itself gives an impression of 'debate' but the sidestepper is travelling in a parallel path, on a different dimension from that the original path. Sometimes that science is overtly resisting the practical and economic; it as if science is 'ring fencing', barring the political from entering into an area of deliberation whose sole business is, for example, human health and safety, or environmental safety. The political is evidently predominant and overt throughout the coverage, but in these sidestepping instances within the coverage, threads of direction towards the political are not developed, key issues are blurred and major themes fall away.

Telescoping

Here is an example of telescoping, that is, a narrow focus of the South African debate for some time on the safety issue. In the pre-Earth Summit period of the debate, there were instances of telescoping in the coverage. During this particular period, at least eight issues were sidelined or eclipsed by the telescoping of the coverage on the safety issue, namely, hunger, international trade, GM seed, food security, IPR and patents, farm input

subsidies, biodiversity, and merits or economic and environmental benefits of GM crops. In *The Business Day* article of January 8, 2002, sources referred to as "critics" were concerned about the lack of safety of GM foods for human health and of GM crops for the environment. In *The Business Day* article of January 9, 2002, Ashton (SAFEAGE) raised issues of human health and safety and environmental safety. In *The Business Day* article of January 10, 2002, Taynton was of the view that the safety of all GM foods was uncertain. In *The Business Day* article of February 12, 2002, NEDLAC's Wilson said she was not aware of FAWU's planned "debate on food safety issues." In *The Mail and Guardian* article of March 15, 2002, environment lobby groups and trade unions raised the issue of human health and safety; and sources referred to as "proponents of the technology" said GM foods were safe for human health. In these five articles, the participants narrowed down the domain of the coverage to safety during this particular period, in the process blurring wider, complex issues that constitute the political challenge.

During the post-Earth Summit period of the South African debate, in 2002, there were other instances of telescoping in the coverage. During this particular period, at least eight issues were sidelined or eclipsed by the telescoping, namely, hunger, GM contamination, international trade, food security, consumer rights, GM seed, IPR and patents, and corruption. In *The Cape Times* article of September 18, 2002, Biowatch talked of "extremely serious and potentially irreparable health risks" of genetic engineering. In *The Business Day* article of October 2, 2002, Syngenta's public notice assured South Africans of the safety of GM crops to humans, animals and the environment and that these crops had been tested comprehensively. Syngenta placed another public notice in *The Star* on October 3, 2002, repeating the assurance. On October 12, 2002, in *The Sunday Independent* article parliamentarian Mahlangu raised the issue of safety, apart from that of export trade. On October 16, 2002, a feature article in *Reuters* reported of "an emotive regional debate on the safety of genetically modified food aid." In the same article, state official Moephuli said that that the state had GM policy and regulatory mechanisms that examined GM foods "from a safety perspective." In *The Financial Times* article of November 4, 2002, Natsios claims that the consumption of GM maize has become a

global phenomenon. In *The Angola Press* article of November 21, 2002, CI (Africa)'s Kanoute said consumers were demanding South Africa to undertake mandatory GM labelling of all foods. In these five articles, the participants narrowed down the domain of the coverage to safety and hence the rhetorical move of telescoping.

During these two periods[141] in the coverage of the South African debate, telescoping is blurring wider, complex issues.[142] The thread of direction of the coverage towards political concerns fails to be developed, and the unfolding of major themes, all of them political, falls away at the points where the coverage is telescoping. Importantly, in these instances of telescoping, science can be said to be 'ring fencing', being 'inhospitable' to the political, which, in turn, is indefatigably 'gate crashing' (as evidenced by its predominance and overt-ness throughout the coverage) into an apparent scientific controversy.

6.3 Consolidation

There is slippage in the coverage of the South African debate. There are also moments of engagement. The slippage occurs in at least three ways. First, when issues of international trade and GM policy compete for centre stage of the coverage, at the same time there is a rather narrow focus on safety issues and this explains the high prevalence of the rhetorical move of telescoping, identified in the pre-Earth Summit and post-Earth Summit (2002) periods. Second, oftentimes (but not always) safety tends to operate as a parallel path for sidesteppers evading the practical and economic challenge inasmuch as it also presents an opportunity for some respondents to reframe the topics, and for others to narrow down the domain of the coverage. In all these moves, the take up of practical and economic issues raised in previous instances is compromised severely, in that in these particular instances, threads of direction set up in previous instances fail to be developed, points of focus are lost, key issues are eclipsed, and major themes fall away. Social activism at the local level is florid and plentiful throughout the coverage but its concentration is on the topic of GM policy and regulation. Third, the Euro GM debate

[141] Post-2002, this trend continued; more or less the same issues were sidelined by the telescoping, namely, international trade, IPR and patents, GM seed, collusion, food security, sustainable agriculture(merits of GM cropping), and genetic experimentation

[142] In a way, telescoping can be seen as a particular kind of reframing of the coverage: a narrow and protracted perspective to a single issue, in this case, safety

and the US-EU trade disagreements operate as alternative perspectives to the South African and regional debate but these reconstructions miss the region-specific context of the debate. Like in the previous three cases, the key features in the coverage of the South African debate are the rhetorical moves and the resulting slippage, 'real' debate and debate-like exchange, and the energy and vitality of the political.

Part 3: Analysis of 'Babelisation' as a Distinctive Feature of the Coverage of the Regional Debate

In Part 2 of the study, I presented the four national debates, in each case providing a broad outline of coverage, the structure of selected texts, and a description of the direction and key features of the coverage. In the selected texts, I saw the debate unfolding in accordance with the characteristic rhetorical moves which I identified as leading to the slippage in the communication exchanges in the debate. In the process of analysis, I identified four main rhetorical moves; those named reframing, sidestepping, silencing and telescoping. Some of the rhetorical moves were internal to particular texts; others were characteristic of particular periods; and yet others emerged in stretches of coverage across particular periods. These moves, I argue, lead to slippage because in most case the issues raised as the debate unfolds are not consistently engaged with nor were they subject to in-depth probing.

However, it is important to note that the analysis also revealed the emergence of region-specific political concerns focusing on GM foods and crops that allowed for moments of engagement which enabled some stretches of the coverage to capture what could be described as `real' debate. Crucially, in certain aspects of the coverage, the energy and vitality of the political dimension of these apparentlyscientific questions allowed for the emergence of a dynamic political space important for public intellectual life and democracy. In other words, despite or perhaps because of, the multiplicity of voices represented, the media coverage enabled a wider space for the active and overt expression of substantial political issues to emerge around the GM debate.

Here in Part 3, the study articulates details of the slippage in a critical consideration of the impact of the other two coverage features (moments of sustained engagement with the key issues and a dynamic political space for public intellectual and democratic debate on apparently-scientific questions) on the Babel in general. *Chapter* 7 foregrounds public sphere theory, giving the discussion of the slippage a theoretical basis. Building on the identification and description of several selected examples of the four rhetorical moves as

well as the other two coverage features, I describe this coverage phenomenon 'babelisation,' a term that implies the effect of the rhetorical moves and the resulting slippage as well as moments of engagement and the energy and vitality of the political. With slippage at its core, but reinforced by the other two coverage features that obscure the slippage, I argue that babelisation is the distinctive feature of the coverage of the regional debate.

In this theoretical endeavour, I draw on public sphere theory and importantly make the shift that in this part of Africa debate arising from science does not approximate the Habermasian-based ideal of rational-critical debate, striving for resolution or consensus. Finally and yet importantly, *Chapter* 8 concludes the study, presenting and discussing succinctly the key findings of the study and reflecting critically on their implications.

Chapter 7: 'Babelisation' of debate on GM Maize *via* the media in Southern Africa in 2002[143]

7.0 Theoretical basis of 'babelisation'

The Habermasian *oeuvre* of public sphere theories provides a metric by which to examine certain public communication practices in the postcolonial nation-states of Southern Africa today. Such an inquiry can be directed at and focussed on the question of forms and modes of address and interaction - that is, how participants communicate with each other in "the public sphere."[144] The Habermasian conceptions of public sphere activity invoke ideas of "rational-critical debate" (Habermas, [1962] 1989) and "communicative action" (Habermas, 1984; 1987; 1990), both of which lead to mutual understanding and consensus-building on the way forward in public deliberation in a democracy. In this classical public sphere, through the genre of the speech act in a condition of controversy, mutual understanding is intended for the resolution of debate. Habermas also, at least initially, was sceptical about the capacity of modern communication media to enable this critical engagement in the public sphere. (Habermas, 1989) However, of late Habermas himself and other public sphere theorists have suggested that media can fulfil this role. (Habermas, 2006; Thompson, 2005)

Thus, the Habermasian *oeuvre* remains crucial for a better understanding of the forms, capabilities, limitations and constraints of public sphere activity in democratic politics, especially the shape, lineaments and operations of debate in the media, where such debate

[143] An abridged version of this chapter appeared as an article in the journal *Social Dynamics* in March 2010. See Mwale (2010) Moreover , an adaptation of the same chapter will appear in a special edition of the prestigious Stellenbosch University-based journalism and media communication journal *Ecquid Novi* in 2011.

[144] The public sphere is both an emergent concept and a social imaginary. It is not a real thing and neither is it a fixed concept. Jürgen Habermas (1989) deploys the concept to imagine, both retrospectively (historically) and normatively, the emergence, largely in Europe and Great Britain, of new spaces for public reasoning, or the emergence of what he terms a "culture-debating public" engaged in "rational-critical debate." (Habermas, 1989, Chapter 18) Now, for Charles Taylor (2004), a notable public sphere theorist himself, the ideal of the public sphere comes into being in the minds of ordinary people as well through "social imaginaries," by which Taylor implies "the ways in which people imagine their social existence, how they fit in with others, how things go on between them and their fellows, the expectations that are normally met, and the deeper normative notions and images that underlie these expectations." (Taylor, 2004, cited in Heikkilä, 2007, p. 431) For Taylor, the public sphere has three qualities; firstly, it is an *extrapolitical* space, because it is outside power, but it—in the form of public opinion-- addresses power in that public discussion is supposed to be listened to by power; secondly, it is *secular*, since, as an external force supervising and checking power, the public sphere is not based on divine order. Its laws and policies are human-made; and, thirdly, the public sphere is a *metatopical* space. It "knits together a plurality of spaces into one large space of non-assembly." The co-presence of public deliberators or face-to-face dialogue is not a requirement of constituting the public sphere. The public sphere transcends space and it extends over time. Importantly, the public sphere is "institutionalised" because those who imagine its emergence and enactments always expect a possibility for conversation and public action—that is, communicative action-- today and in future. (Taylor, 2004 cited in Heikkilä, 2007, p. 432)

is conceived of as a form of public communication. The media are seen as central players of the public sphere. Certainly, journalists think they can provide a public deliberative forum, a media sphere, which, for them, approximates closely, or actually is, the public sphere. (Berger, 2005)

This chapter explores the role of the media in facilitating critical engagement in the public sphere, through a focus on the shape of public debate centred on GM maize in the media in four Southern African countries. In Part 2 of the study, I realized that the debate was showing rhetorical moves as well as other coverage features surrounding the moves that were not the slippage but were progressively adding to the cacophony, rendering it florid and complex. This cacophony is a communication phenomenon that I hereby designate as 'babelisation'. The chapter argues that babelisation is a distinctive feature of the coverage of the regional debate in 2002. The concept of babelisation is my own designation deployed to make sense of the moves and the resulting slippage as well as impact of the other two coverage features concerning the shape of the Southern African debate. Thus, babelisation enables me to talk intelligibly to and understand better both the particular rhetoric of the regional debate and the cacophony that accompanied it. The chapter departs, theoretically, from the Habermasian *oeuvre* of public sphere theories in relation to the question of the role of the media in the democratic public sphere, where, ideally, both 'rational-critical debate' and 'communicative action' potentially lead to consensus-building in public opinion formation through debate and ultimately to resolution of debate.

In the youthful and infant democratic regimes of Southern Africa, such a political promise as consensus-building in public opinion formation through debate that is resolvable is understood to be crucial for the sake of peace, order, stability and progress. In these oft-fragile and rather wobbly democracies, sustained divergence of views, unresolved conflict, or protracted disagreement on issues at stake in society poses a serious threat to the nation-building agendas of the region. In the classical public sphere, the media have a double imperative of playing agent of public opinion and of

highlighting conflict as well as playing conflict fairly and in a balanced manner. In concepts of the public sphere that have arisen in the wake of the original Habermasian formulation, the media are understood to stage and conduct, or induce and manage, debate, over and above providing media space for conflict in debate to play out. (Berger, 2005) The media are key in public deliberation because they play a central role in constituting the democratic public sphere. Once more, in this orientation, some theorists consider the media to be the organ of the public sphere and others consider the media to be the public sphere itself. This is in spite of limitations and constraints of the media, rooted in journalistic practice itself and in the resource-poverty of media institutions in a postcolonial setting.

The chapter proceeds by providing a preliminary account of babelisation. The specific framework of babelisation is that of slippage in communication, slippage being at the core of babelisation. The broader framework has the four rhetorical moves, reframing, sidestepping, telescoping, and silencing as well as the other coverage features, taking into account moments of engagement and the energy and vitality of the political. In the four case chapters above, I identified and described various selected key examples of instances of all the four rhetorical moves and the multiplicity of the other coverage features. I explained *how* the moves led to the slippage in the communication exchanges. I also explained how the other coverage features progressively added to the cacophony, showing that they represented moments of engagement as in 'real' debate and debate-like exchange as well as energy and vitality or intensity due to the predominance and overt-ness of the political throughout the coverage of the national debates. Now, in this chapter, I take a step further and explain *why* the rhetorical moves led to the slippage, bearing in mind that the other two coverage features surround, or are surrounded by, these moves.

The chapter concludes with a general account of babelisation; the role of the media in the babelising debate; what the media did and did not do vis-à-vis the babelising debate; and what babelisation allows or facilitates. In all of these, there is need for taking into account limitations and constraints on journalistic practice and media

professional imperatives, the resource-poverty of the region's media as well as the epistemic–political vulnerabilities of postcolonial science, given its colonial and apartheid legacies. The chapter further argues that the media are sometimes apparently handicapped in their role as active mediators of public debate. Specifically, the chapter shows that if the media do not mediate actively, then debate babelises. However, babelisation is not inherently a bad communication phenomenon.

7. 1 Rhetorical moves and the slippage: the core of babelisation

In general, reframing and sidestepping were common rhetorical moves made within articles. Reframing and sidestepping can be seen as moves that are illustrative of restatements and evasions, respectively, and they occur as a result of an apparent handicap in the media professionals to mediate debate actively. The handicap is apparent because it is not evidently deliberate; rather, it seems to be ingrained in journalistic practice and in this study I consider the apparent handicap as part of the media's double bind - as discussed later below in the concluding chapter. By inadvertently eschewing active mediation in their reporting and representation of debate, this apparent handicap makes media professionals relay–mediate debate. With notable exceptions, media professionals take an apparently hands-off approach to the unfolding debate leading to relay mediation rather than active mediation of debate. Relay mediation, in contrast to active mediation, in news making has its basis or explanation in the journalistic practice of remaining neutral to and independent of the views expressed in the articles that journalists produce. On this reading, conceived of as 'gatekeepers,' the media professionals' role becomes limited to that of providing space for conflict in debate to play out. (Shoemaker, 1997) Therefore, within journalistic practice, the media professionals' task of handling debate is for a good part limited to selecting an issue or event and opening the news gates for various participants to enter into a debating space, leaving the dynamics of the debate largely to the participants themselves. Most journalists do not engage with any communication exchanges. Generally, this journalistic practice gives room to the rhetorical moves of reframing and sidestepping in the regional debate.

Specifically, reframing forestalls simple resolution of debate because participants view the same events and issues differently. For example, across the case chapters, it was seen that different participants viewed the event of the hunger and, subsequently, the event of the offer of the US-produced GM maize differently. On these two related events, the participants can be placed in two broad categories; those who are concerned about 'short-term' consequences of accepting the offer of GM maize and those who are concerned about 'long-term' consequences of the same. The two categories of participants have different perspectives to the same events. Since they read the events differently, in their communication exchanges they revise each other's views, reframing occurs and debate babelises in those instances. A non-babelising debate on hunger, for example, would have participants argue about desperation due to the hunger, the urgency, immediacy and scale of the hunger. Specifically, on the issue of the scale of the hunger, the protagonists and antagonists would produce concrete evidence to back up their responses, counter-responses, including, and especially, demographic statistics on the specific groups of hungry people and specific areas of a country affected by the hunger. They would also actively weigh up 'short-term' gains against' long-term' risks and losses and seek to justify one over the other. However, in the babelising debate, weakly-evident responses and counter-responses are reframed socio-politically and otherwise, leading to the slippage in communication between the two broad categories of participants.

The hunger issue is not only informed by the 'short-term' / 'long-term' binary opposition[145] but also importantly - and interestingly - by a major domain shift from the scientific to the political in the broad sense, and hence the babelisation of the debate. Specifically, reframing has the effect of the debating participants ignoring the binary opposition. Debate on hunger remains unresolved because participants reframe each communication exchange. If it were just the binary opposition at work in the hunger (food-need) argument then the entire regional debate would be resolved when one category of participants conceded that the long-term considerations were more important than the short-term ones, or *vice versa*. In other words, if the debate had occurred 'within'

[145] This occurs in the regional debate on hunger when one category of participants drives the food-need argument, emphasising the urgency, immediacy and immensity of the famine; the other category is concerned about the long-term consequences of eating GM foods and of growing GM crops in this part of Africa

hunger and urgency together then it would have remained as how hungry and how urgent. Yet, the fact that such resolution does not happen, and cannot be expected (because this is debate in the media)[146] on the exchange on the issue of hunger suggests that region-specific communication moves are at work here. Thus, debaters are not merely abandoning their positions in concession of the positions of abler debaters. The food-need argument involves more than just adroit manoeuvring between the participants. It is more than about who is the more adept at driving the better argument, outmanoeuvring the less adept participant. Thus, for the reason that participants are reframing each other's communication exchanges, reframing forestalls simple resolution of debate.

Specifically, sidestepping leads to babelisation because participants evade each other's primary concerns; sidesteppers evade the challenge placed in their paths and go on parallel paths, addressing non-primary concerns. For example, across the case chapters it was seen how certain participants sidestepped the practical and economic challenge posed by the issue of foreign aid. The GM maize offered to Southern Africa in 2002 falls in the category of foreign aid. Since the advent of the neo-liberal agenda and the SAPs, the issue of foreign aid has been at the centre of neo-colonialist, anti-colonialist and anti-imperialist discourses, throwing into sharp relief the question of conditions, forms and motives of foreign aid from the West to Africa and other regions of the so-called developing world. Ethical-political values of responsibility and global justice between aid donors and recipients inform and drive the discourses whereby the former are often accused of being dictatorial and unfair to the latter. Stringent conditions and sinister motives are the common complaints against aid donors.

In turn, aid recipients are often accused of being irresponsible - corrupt, fraudulent, abusive and wasteful - in their use of foreign aid. Corruption is the most rampant crime committed by state leaders of recipient countries of foreign aid. Yet, neither party concedes or contradicts the criticisms levelled against it. Both parties evade each other's

[146] Taking into considerations technical limitations of journalistic practice and media professional imperatives as well as the general condition of weak media in this part of Africa, it is unrealistic to expect resolution of (or consensus-building through) debate handled in and by the media; that is, even if the Habermasian orientation were to be stretched to accommodate modern communication media operating in post-repressive democratic regimes of Southern Africa. Rather, the diversity of opinions and the visibility of a multiplicity of voices seem to be realistic expectations concerning media debate in the public spheres of these regimes. (On the region's general condition of weak media, see Tomaselli and Dunn, 2002; Moyo, 2006

primary concerns. Thus, as regards engaged communication, the lack of the will (unwillingness) to concede or counter a criticism leads to a situation where the targets of the criticisms find it convenient and useful to sidestep primary concerns. Sidestepping led to the slippage in the communication exchanges because the sidesteppers avoided critical engagement.

In general, silencing and telescoping across coverage occur as a result of the way the debate is reported in the media; the specific way in which the debate is reported is for a good part due to the complex process involved in the selection of topics to produce news reports in journalistic practice. It ought to be borne in mind that within journalistic practice media professional decision-makers such as editors are responsible for deciding what information is to be selected for publication and what is to be left out. Hence, what was seen in the case chapters as silencing and telescoping can for a good part be attributed to the editorial power to decide and choose what issue or event is newsworthy - based not necessarily on the editor's personal preference but primarily due to media professional imperatives such as strict deadlines, technical factors, organizational influences, or professional ideologies. (Soloski, 1997) These media imperatives determine what issue or event becomes a news story or report and this is complex decision-making process has a direct bearing on the selection of news sources. (Manning, 2001)

Specifically on telescoping, across the case chapters it was seen that there were instances when media coverage of the debate had a rather narrow scope. For example, in some instances, coverage was focussed narrowly on safety issues, which fell in two broad categories: human health and the ecological environment. Other less frequently-occurring categories of the safety issues included GM legislation and the 'natural-ness' of GM foods (whether GM foods are 'natural' or 'artificial'). As an element of the rhetoric of the babelising debate, telescoping was at work much more manifestly in the Zambian debate than elsewhere in the regional debate in 2002. It was only in Zambia where state leaders claimed they were not ready to make any decision about the offer of GM maize until they had received an incontrovertible report of reliable scientific studies on the question of the

safety of GM foods and on the merits and demerits of GM cropping. Moreover, only the Zambian state sent a fact-finding mission of scientists - to investigate GM foods and crops - to South Africa and overseas. Most of all, the scientific framework as it applies to the question of safety was reportedly central to the Zambian state leaders' indecision about the offer of GM maize. The issues broadly described as safety belong, unambiguously, to the domain of debate internal to science, the scientific domain.

Thus, telescoping occurs because coverage narrows the scope of the debate down to the scientific domain and also because the participants dwell on safety concerns for a considerably-long time, repeatedly voicing safety concerns while blurring other wider, complex political concerns. In other words, telescoping of the debate entails a narrow focus on the scientific domain thereby keeping away the political from the coverage of the debate – and hence the inhospitability of science to the political. The slippage in communication between the scientific and the political domains occurs, as the two domains are worlds apart inasmuch as their issues are incommensurable. Moreover, due to telescoping, the media's apparent handicap, which is rooted in journalistic practice, allows the slippage to occur in the communication exchanges and hence the babelisation of the debate.

Henceforth, what was seen as telescoping could be attributed to journalistic practice. The media pursued, or allowed the participants to pursue, a circumscribed, single set of issues (a rather narrow and thin media agenda), for example, the issue of human health and safety, for some time, perhaps believing that such a set of issues amounted to their setting some sort of media agenda for the debate. Granted that the media professionals selected the news sources, the issue proponents, it is plausible to think that they set the agenda by selecting a single set of issues during those specific periods when the media coverage was telescoping – the narrowness and thinness of the agenda notwithstanding. Agenda setting through the media determines which issues or events enter the public domain for debate, and in what specific ways. (Dearing and Rogers, 1996; McCombs and Shaw, 1972)

Then what was seen as silencing could be as a result of an internalised practice within news journalism in which certain voices are given some media space while at the same time other voices are not given any media space. It was seen in the case chapters above that the media gave space to the addressers on the issues broadly described as GM seed, farm input subsidies, foreign aid, informed consent, genetic experimentation and suspicion of collusion but they did not give any space to potential addressees on the same issues. Interestingly and to make matters complicated, the concept of active mediation seems to allow for this kind of choice on the part of media professionals, a point to which I return later, below. On the other hand, the potential addressees kept silent even if they were provoked directly or indirectly. Some of them, such as the biotech multinationals and Southern African state presidents, could have responded to the provocations, in that they have ample communication media resources; theirs was self-silencing.

So far, my explanation as to why the slippage in communication resulted from the rhetorical moves, leading to the babelisation of the debate, suggests the following. If the *modus operandi* of the media is as Habermas imagines it, requiring that issues in debate are engaged, probed beneath the surface, or pursued to their logical conclusion, a high degree of complexity achieved, then the Southern African debate unfolded against the Habermasian-based ideal of rational-critical debate and/or communicative action. The debate does not approximate this ideal because there is little rational-critical debate, little direct engagement, little bearing the semblance of dialogical communication. Instead, there is slippage in communication due to the rhetorical moves of reframing, sidestepping, silencing and telescoping.

Moreover, moments of engagement as in real debate or debate-like exchange and the energy and vitality of the political obscure the slippage. They enrich the Babel, render it plentiful and hence make it florid and complex. Importantly, as a result of the energy and vitality of the political in the coverage of the debate, babelisation allows the entry of oft-repressed anxieties about colonial and apartheid legacies and other political issues into an apparent scientific controversy in the region.

The four rhetorical moves and the slippage as well as moments of engagement as in real debate or debate-like exchange and the energy and vitality of the political , have the overall effect of demonstrating how the political challenge is raised but not responded to in the debate. There is lack of critical engagement on issues at stake, in spite of the plentiful-ness - diversity - of discordant voices - the Babel. One of the professional requirements of journalism is to attempt to offer both the full range of what is going, which might include reporting and representing the Babel if necessary, and to impose some order and clarity that enables the newsreader to appreciate the range and extent of an unordered situation in the public sphere. This point leads me to the question of the role of the media in the public sphere of popular democracy.

7.2 The role of the media in the public sphere of popular democracy

The foregoing suggests that the role of the media in the public sphere of popular democracy can be understood as having at least two broad theoretical orientations. The first orientation is Habermasian, which is premised on the expectation of vibrant media as one of the ideals of democracy. The realization of this expectation of vibrant media suggests critically-engaging media –media that would enable what the thesis terms active mediation, handling debate in such a way as to achieve critical engagement. Active mediation in this study implies a degree of control, which can be expected in journalistic practice but is not well theorised in journalism and media studies. It involves a journalist who is handling debate taking control of the debate, staging and conducting the debate, actively mediating the voices in specific and conscious or deliberate ways. In journalistic practice, this might entail: asking the antagonists to enter into the frame of the protagonists - for the sake of engagement; identifying and calling out a sidestep; drawing the attention of respondents to wider issues and long-term consequences; repeating or rephrasing a question, noting if it is unanswered; pressing the interviewee to probe beneath the surface. In other words, the ideal public sphere is one constituted by media that enable debate as in argument in particular and as in dialogical communication in general.

However, the shape of the Southern African media debate centred on GM maize does not suggest this role of the media; here, the media relay-mediated the GM maize debate. Thus, the second way in which the media may operate in a public sphere of popular democracy is by means of relay mediation whereby the media play agent of public opinion by reporting and representing the opinions of players in a public communication practice such as debate in the public sphere. (Lippmann, 1922; Ettema and Glasser, 1998; McCombs and Shaw, 1972) In this second orientation, journalists are expected to provide space for conflict in debate to play out. Fair play of conflict and balance of representation of opinions in debate are expected of journalists. While keeping news interesting for their imagined readers, viewers, or listeners, journalists are also expected to be representative in their approach to newsgathering - which involves, minimally, gathering a diversity of opinions, by seeking the variety of points of view on any given issue.

The shape of the regional debate suggests this role of the media, in contradistinction to the Habermasian role of the media. Diversity, because it suggests all-inclusiveness, is also one of the ideals of democracy. In both orientations, the media are key in public deliberation. They play a central role in constituting the public sphere. They are also considered an organ of the public sphere (Thompson, 1995; 2005) and in fact, they are sometimes considered the public sphere itself. (Ettema and Glasser, 1998) Since the media are imagined as the public sphere or, as an organ of the public sphere, news journalism provides an area of critical inquiry for understanding better the rather complex intersection between science and technology, public communication practices, and democratic politics today.

7.3 Capabilities and limitations of the media

This study suggests that the media have at least two main capabilities as far as public communication practices such as public debate are concerned. First, in this study, the media gave voice to a diversity of views on GM maize, thereby providing media space for conflict in debate to play out. By giving voice to the diversity of views, the media satisfied the democratic requirement of all-inclusiveness, or at least representative-ness,

in debate in the democratic public sphere. However, generally, for the media, this requirement is not strictly adhered to in journalistic practice and as exemplified by the rhetorical move of silencing, some voices (potential addressees) are not heard (or they are inaudible) and are situated outside the media space. For example, in the Zambian debate, consumers, subsistence and small-scale farmers, and representatives of the biotech multinationals are not heard; in the Zimbabwean debate, the voice of Mugabe is for the most part not heard – he does not respond to the serious charges and the harsh criticism from the West. It appears that in the process of the media giving space to some participants (the addressers) they, inadvertently, left out potential addressees on certain issues. If the media are imagined as conductors of public debate, silencing can be attributed to the journalistic practice of the selection of news sources and selecting is a conscious and internalized news making process. Second, the media surfaced some sort of 'truth-interest' paradoxical relationship of the region to science and technology. That is, the African leaders' shared interest in GM technology in agriculture, to see to it that the region makes decisive advances in the agricultural sector as one sure way out of poverty and hunger while at the same time they are harbouring colonial and apartheid legacy anxieties of the western origins and political import of the science and technology. The media's reports surface the dependency argument, which is a 'note' that contributes to the slippage due to, in part, the Babel.

This study suggests that the media can operate as active mediators of a public communication practice but without necessarily enabling critical engagement of issues. This rendering of active mediation marks an important shift from the Habermasian-based ideal in which active mediation would have to be wedded to critical engagement, the achievement of high levels of complexity of issues, public opinion formation and resolution of debate. The Habermasian-based ideal expects journalistic control of debate to enable a kind of active mediation that involves argumentative debate and dialogical communication; but this study does not manifest such an expectation insofar as the rhetorical moves entail slippage in communication and forestall simple resolution of debate. In the delimitation of its regional specificity, the study goes as far as showing that active mediation could involve giving voice to some participants while not deliberately

denying voice to others. In this respect, insofar as silencing is a rhetorical element and journalistic practice allows it, active mediation can be seen as a companion to babelisation rather than its anti-thesis.

The media has other capabilities than the above-cited two capabilities that are manifest in this study. For example, it is not manifest in this study that the media can be the watchdog for the people, protecting the 'public interest,' giving voice and visibility to vulnerable, subaltern and minority groupings, curbing state absolutism and the excesses of popular democracy such as democratic centralism, elitism and majoritarianism, which are reinforced by hegemonic political party structures and practices. (Groteau and Hoynes, 2001) In the Malawian case, in spite of the media having given space to a few subsistence farmers, they (the media) did not criticise the state with the view to help curb the violence of the state in the uprooting of GM maize seedlings. Rather, in this study, the social activists rather than the media professionals operate as the protectors of the 'public interest,' and this is most evident in the specific case of South Africa. Ideally, in the classical public sphere, media can operate as watchdog and take on the role of "the fourth estate."(Habermas, 1989, p.60) Whether in the short or long term, the media-cum-the fourth estate can step in assuming some of the functions of a political opposition; or sometimes even operate as an organ of the political opposition, especially when the official political opposition is weak.

Further, it is also not manifest in the study that the region's media, in their present form, operate as educators and articulators of issues at stake in society. They are not straightforwardly positioning themselves as 'developmental media.' Rather, the study shows that they relay report *verbatim* scientific information gathered from science experts. However, some recent studies are optimistic that the media in the postcolony have the potential to operate as educators and articulators of the basic science to the latest advances in science and technology. (See DeSilva *et al*, 2004; Garreau, 2005; *HSRC Review*, 2005; Hansen, 2006)

The above-cited two examples on the media's capabilities that are not manifest in the study lead me to a consideration of the limitations of the media. The media have limitations, some intra-institutional and hence internal to journalistic practice, and others inter-institutional. Internally, the media are dissuaded by both journalistic (codes of professional) practice and democracy from being activist—advocating for an issue or position, especially from a mass-propagandist perspective. This justifies the apparent hands-off approach of relay mediation whereby the dynamics of the debate in question are left largely to the participants and most media professionals do not engage with any communication exchanges. *Overactive* mediation is discouraged by both journalistic practice– and democracy in spite of the conceptual fuzziness around 'overactive'. Moreover, the media as an institution cannot assume the roles of the other institutions of society such as the state and government, the judiciary, the legislature, the economy and the market, civil society, among others. Admittedly, some of the roles of the media overlap, complement, or intersect with those of other institutions.Yet,as this study shows, when the the media do not mediate actively, then debate babelises, with diverse effects.

These diverse effects partly speak to the condition of the media in Southern Africa - weak media. As public communication practitioners, enablers of publicly-mediated address and interaction, Southern African media display little commitment to covering issues arising from science. Few news media institutions have special desks dedicated to the coverage of science - science desks. Generally, politics, disaster, crime, corruption and scandal make saleable news for the politically-inclined news media. Most media operate more in the 'political' than the 'science' sphere (where they report on and analyse the activities of science communities). They are thus predisposed to reporting the political more easily and more regularly than the scientific. Perhaps the debate around GM maize was newsworthy for such media because it was politically and socially disturbing, and perhaps because it was reminiscent of the food scares and moral panics caused by GM foods in the Euro-American and Mesoamerican regions. The media's handling of scientific arguments - such as the argument around the safety of GM foods - give an impression of engagement because it is relatively easy to access a diversity of opinions on a safety issue from a range of science experts. Most science experts are physically

available to the media because they are institution-based. Yet, the media tend to take an apparently hands-off approach to scientific arguments. In newspapers, such arguments are reported *verbatim*. Understandably, translation of the scientific *lingua franca* is hard for most journalists, it being specialist language or technical jargon. (Walters and Walters, 2006)

7.4 Consolidation

Broadly, the term babelisation is used in this chapter to refer to the combined effects of the rhetorical moves and the resulting slippage in communication as well as moments of engagement and the energy and vitality of the political that obscure the slippage. The regional debate displayed babelisation, the Babel of voices not in dialogue, but which assumed an appearance of communication as in conversation. Dialogue is a form of critical engagement. (Bakhtin, 1981) The debate, in its babelising form, has a particular rhetoric. By rhetoric of debate, I understand a way of expressing something that is either apparently engaging or not engaging at all with an issue, which is characteristic of communication exchanges in debate internal to particular texts and due to the play out of coverage across particular periods. The four rhetorical moves identified and described in the four case chapters have the effect of disabling the debate, leading to the slippage. Due to moments of moments of engagement and the predominance and overt-ness of the political –or the energy and vitality of the political - throughout the coverage of the regional debate, babelisation is more than slippage but has slippage at its core.

Role of the media in how the debate played out

The media have a double imperative of playing conflict fairly and in a balanced manner. Yet, the media's imperative of focusing on conflict sometimes overrides the imperative of keeping the playing field level for all deliberators. The framework of active mediation allows us to see, in the media, a certain degree of control in their playing and highlighting conflict fairly and in a balanced manner. Established journalistic practice suggests that newsgathering, news sourcing and related news making processes should be geared towards the facilitation of public sphere deliberation. This study supports the notion that for this to happen, they must take control of debateto some degree. For Warner (2002),

mediation *per se* implies circulation of messages. (Warner, 2002, pp.90, 91, 95)[147] It involves reporting and representing issues through 'mediums' such as print and broadcast media. In this case, mediation is a form of circulation enabled by print news media texts. The media must take the next necessary step, a further intervention, which requires them to mediate debate actively. Both journalistic practice and democracy expect debate to be mediated actively.

Specifically, in journalistic practice, journalists are expected to act as interlocutors or provocateurs[148] of debate on issues at stake in society. (Berger, 2005, pp.20, 24) To do this, they have the double imperative of playing conflict well by observing news values of fairness and balance in the reporting and representation of issues. When they do this, journalists meet the normative-practical demand of being agents of public opinion and "custodians of public conscience." (Ettema and Glasser, 1998) They are expected to operate as articulators of issues, exploring to their maximal ability the highest complexity of issues. Media that merely "mediate" cannot play such a role in a public sphere of popular democracy. (*HSRC Review*, 2005)

Moreover, the journalistic practice of news sourcing, or newsgathering, is crucial for news making. (Manning, 2001; Berkowitz and Beach, 1993) Yet, the region is characterized by poor journalism training compounded by weak post-primary education systems; lack of knowledge and information about the latest advances in science and technology; and lack of commitment to science journalism in most news media institutions. Little wonder, most journalists are inept at covering issues arising from science, what with the specialist language and widely-shared lingering concerns about the media-shyness of scientists. (Weingart *et al*, 2000) Journalists resort to the relay-mode reporting of issues arising from debate on science mainly because they are faced with serious intra- and inter-institutional limitations. Resource-poverty creates conditions for relay mediation of issues in debate and this is a fertile ground for babelisation. If the media are seen as the public sphere of popular democracy, or an organ of it, they ought to

[147] For Warner (2002), "Anything that addresses a public is meant to undergo circulation." Circulation is "oriented towards the public sphere."(Warner, 2002, p.91)
[148] For Berger, "The journalist is an active referee, enforcing rules of debate in the media and reprimanding and countermanding players where appropriate." (Berger, 2005, p.24)

do more than just mediate debate. Even if by their very nature, the media mediate, there should be a more active understanding of that – and hence the need for active mediation. In the classical public sphere, journalists are expected to do more than just provide space for conflict in debate to play out.

What the media did and did not do

Except for some moments of engagement as well as activism, journalists generally reported the messages in relay-mode, taking an apparently hands-off approach to the debate. Since they were not fully attentive to the rhetoric of the debate, they did not detect some participants' tactics of non-engagement. They let the reframing and sidestepping go unchecked and they sometimes inadvertently allowed silencing and telescoping. The result was debate lacking in critical engagement. For example, at various points of the coverage, threads of direction set up in deliberation towards the political fail to be developed; focus tends to be lost on issues; key issues or topics are blurred; the unfolding of major themes around the political challenge posed by the introduction of GM crops in the region falls away. Diversity of opinions or visibility of participants in debate or any other genre of public deliberation is not enough for critical engagement. There is need for direct and detailed responses to the political challenge that is predominant and overt throughout the coverage of the regional debate. Yet, there is a double bind for the media both in journalistic practice and in democracy. By their very nature, the media are representative since they play agent of public opinion, which involves relay mediating the diversity of opinions on a given issue. Even if in journalistic practice journalists are expected to mediate debate actively and even if democracy expects vibrant media, overactive mediation is not encouraged.

Central to the normative conceptions of journalistic practice, the media are expected to provide space for the diversity of voices to play out, and so journalists are expected to remain neutral to and independent of differing opinions and positions, provide the protagonists with the right to reply, and exercise fairness and balance in the presentation of issues. Journalists adhere to these professional norms but strict adherence can lead to debate sliding into a stalemate, as the protagonists become opinionated, adopt fixed

positions, and are thus unable to engage with the issues raised by the antagonists and there is no possibility of making progress in the debate towards higher complexity. This development renders it impossible for the media to deliver on the Habermasian-based ideal of providing a deliberative forum in which debate contributes to public opinion formation. This is the basis of the double bind in journalistic practice. Active mediation requires 'active intervention'[149] in shaping debate, and yet such shaping raises the spectre of bias, framing, sensationalism and hype, which are judged as unprofessional within journalistic practice. This apparent handicap creates a condition for babelisation.

Generally, babelisation occurs in this case because journalists take an apparently hands-off approach to the debate as they relay-mediate the voices in the debate. Even then, one should not blame the journalists squarely for the occurrence of babelisation. Although journalists are expected to mediate debate actively, they are not trained to do so. Journalists are not trained to stage and conduct debate and they do not get any formal preparation to operate as conductors of debate.[150] Even if active mediation is a internalized news making process in journalistic practice, journalists are not equipped for it. Nevertheless, the lingering concern in this study is that debate babelises if journalists eschew active mediation. The question then is how far to actively mediate? There is an apparent handicap in the media, in how they handle debate. Relay mediation is inadequate for debate to play out to achieve complexity in the articulation of issues in a way that allows for critical engagement. It appears strongly that in certain cases, such as in the Southern African debate on GM maize, the media should mediate debate actively. They ought to do more than play the role of agent of public opinion that requires them to provide space for conflict in debate to play out. Yet, at the heart of journalistic practice, there is a contradiction about such a role. The contradiction is this: journalists are expected to check on active mediation. Active mediation must not be seen to be overactive.

[149] Different from what is the case in this study, this might elsewhere involve "orchestration"(Cowling and Hamilton, 2010)
[150] It appears that at the heart of the paradoxes of the young democracies of the African postcolony is the unusually, considerably-high expectation of journalists to mediate debate actively in spite of the low levels of literacy, poor science education and underdeveloped scientific research capacity and infrastructure, where, generally, scientific knowledge and information is out of the reach of most people in society

The study suggests the need to mediate debate actively, over and above the provision of space in the media – some kind of control that is beyond mediation. Mediating is what the media do and this cannot be gainsaid. Indeed, the media mediate issues, events, processes, public opinion, among others. They relay-mediate such stuff by reporting and representing them factually and impartially. This is expected of the media and it is axiomatic in both journalistic practice and democracy. However, the media are also expected in both journalistic practice and democracy to play and pursue conflict in debate - mediate actively- in order to achieve debate as in argument. Such staging and conducting - viz. active mediation- is implied in the form "good journalism" and in some specific practices of in-depth investigation. Active mediation is the other role of the media and hence it complements the media's mediating role. Yet, active mediation is unclear in academic research on journalism and the media. It is untheorised in journalism and media studies.

The axiomatic assumption of active mediation lies in the concept of the *rational-critical*,[151] which is the lynchpin idea in the Habermasian conception of debate in the classical public sphere, of which the media is an organ, if not the public sphere itself. On this reading, the terms and conditions of public debate should be rational. Public debate is rational when it is humanly-sensible. People participating fully and interactively in a rational debate can make sense of the communicative process. Full and interactive communication is in the form of dialogue, which is critical engagement. Participants in rational-critical debate are able to make sense of the issues raised, views expressed, or claims made in such a process. Much more importantly, they are able to make sense of the nature, form and mode of arguments and counter-arguments made. They are thus at liberty to raise issues for debate and initiate arguments as well as offer counter-arguments. They are at liberty to accept or reject the presuppositions, claims and direction of others' arguments, as well as seek clarification of the same in the course of debate. They are expected to be publicly-reasonable arguers and respondents who respect

[151] Indeed, depending on one's research question and data set, one may put an accent on the 'critical' in *rational-critical* debate in order to accommodate *affect* in public deliberation, especially in subliminal research areas of taste, desire, fantasy, emotion, psychic energy, illusion, idiosyncrasy, the poetic, among others. The affective approach is crucial and relevant in aesthetical artistic investigations, for example, in fine and performing arts and in the philosophy of art

each other as human persons and who abide by, and adhere to, the civic virtue of public reasonability, which is civility. Consensus building, even if the consensus is just procedural (that is, "overlapping consensus"), rather than comprehensive, is the expected endpoint of rational-critical or public reasoning activities. (Rawls, 1993)[152]

Ideally, as a vista for disagreement, public debate ends when disagreement is resolved, having probed the issues beneath the surface and pursued them to their highest level of complexity. In the Habermasian *oeuvre* of public sphere theories, resolution of disagreement in order to arrive at mutual understanding is the goal of public debate. (Habermas, 1984, 1987, 1990) Further, the *critical* aspect of the *rational-critical* entails that in public debate participants analyse issues, views, or claims of arguments. To be critical is to deal with a subject matter in such a way as to transcend the apparent and get to the bottom (find the underlying cause or substance) of the issues. In this study, active mediation is a communication process that would have enabled the journalists to push for the complexity of the issues raised in the debate. Active mediation transcends relay mediation. In the latter, diversity of opinions on a given issue is adequate but, in the former, it is inadequate. Public debate requires active mediation.

In sum, this chapter has shown relay mediation in the regional debate in 2002 because most journalists took an apparently hands-off approach to the debate, by resorting to relay-mediating messages, a practice that eventually led to babelisation. Some participants appear to have developed tactics of not responding to the political challenge. Journalists did not knock off balance these participants' tactics of non-engagement, causing the debate to flounder in the media when journalists are unable to address the missing links, by allowing some participants' ways of communicating to have an upper hand. All of this facilitated the communication slippage especially between the political and the scientific domains, leading to babelisation. Further, the context of the regional debate, which is postcolonial science, provides another general condition for babelisation.

[152] In Kantian parlance, the 'procedural' can be likened to the 'regulative' whereas the 'comprehensive' to the 'constitutive'. See his *A Critique of Pure Reason* (1781/1787)

Southern African media are versed in the epistemic-political and thus predisposed to the domain slippage from the scientific to the political. It transpires that in this part of Africa, the question of forms and modes of public communication practices such as public debate on the latest advances in science speaks to the region's conditions of weak media –that generally relay-mediate-, anxieties about colonial and apartheid legacies, as well as its epistemic-political vulnerabilities. However, relay mediating is one of the core aspects of babelisation. While babelisation might confound the deliberative aspirations of the Habermasian public sphere, for example, causing debate to flounder in the media, it also, productively, allows discussion to exceed and challenge the boundaries of the rational-critical, for example, philosophic and scientific argumentation.

Generally, in their relay mediating the debate, the media provided evidence of debate by surfacing the regional resistance to the re-installation of dependency. Anxieties about colonial and apartheid legacies are raised in babelisation, and, in this respect, the media did a useful thing. Moreover, there was a diversity of opinions in the babelising debate, diversity being the mark of representative-ness. Thus, the media were representative in their newsgathering. By being representative, the media did another useful thing; they made the space of deliberation wider.

Most of all, babelisation allows the political to enter into the same field as science where science tends to try and preclude the political as interfering in the business of science, portraying the political as an extra-field enterprise. Traditionally, science is inhospitable to politics. (See Whitley, 1985, cited in Shinn and Whitley, 1985) For example, in this study it is manifest in the rhetorical move of telescoping that science pushes the political away from the perimeter of the debate –by narrowing down the scope of discussion to the domain of the issue of safety. Yet, the political is interested in an apparent scientific controversy not only because it wants to control the programs and operations of science but also because it wants to seize the moment (opportunity) and try to express oft-repressed anxieties about colonial and apartheid legacies and other political issues. As it were, the political gate opens up otherwise ring-fencing science. Thus, the political forces its way into and fires up what, on the surface, looks like a scientific controversy. In

society, people in general and politicians in particular are concerned about the potential harms and risks of science programs – given the historical abuse and exploitation of colonial and apartheid science - and hence the present demand for direct socio-political control of science by the Southern African people and their political representatives in society. Babelisation destabilises, or inflects, the inhospitability of science to the political, thereby surfacing complex issues that arise at the intersection between science, politics, and history in the region. The chapter suggests that this intersection – the science-politics-history nexus - manifests a particular relationship between truth and interest in the coverage of the regional debate. Overall, it can be seen that babelisation – the effect of the rhetorical moves that lead to the slippage as well as moments of engagement and the energy and vitality of the political , both which obscure the slippage - is ingrained in journalistic practice itself. In this respect, it can be conceived of as a companion of a limited form of active mediation. Therefore, babelisation is not inherently a bad feature of public debate on science handled in and by the media.

Chapter 8: Conclusion

The region-specificity of the debate centred on GM maize in the media

The study embarked on an exploration of the shape, lineaments and operations of the debate centred on GM maize via the media in four Southern African countries, Zambia, Malawi, Zimbabwe and South Africa. Preliminarily, I found that the four national debates in the media had variegated periodisation. There were certain periods of intensity, or energy and vitality, during which the cacophony of voices in discord became excessively rich and plentiful, and hence florid and complex. However, in spite of the variegated periodisation, I observed that the regional debate had two phases, the early phase (1999-2001, or pre-2002) and the later phase (2002 and afterwards). In the early phase, the debate looked a lot like the global debates but with local inflections. During that period, coverage of the debate used GM debate in the Euro-American region, which had an explicit green consciousness voice, as a point of reference, for example, raising human health and environmental safety issues, albeit with much less emphasis on the latter. Local inflections to the debate included wide-ranging concerns, upon the introduction of GM crops in the region, especially about the damage of the region's rich biodiversity, the loss of export trade with Europe and the monopoly of the biotech multinationals in staple food cropping, production and distribution. Crucially, there was regional resistance to the view that GM crops would be panacea for the region's chronic hunger, and, in this study, the resistance is evidently political.[153]

In the later phase, the debate shifted its register and turned to concentrate on areas of the political and its historical past and was marked by the strength and sharp tone of statements about socio-political, practical and economic and ethical-political concerns

[153] On the issue of GM seed, that it is expensive and non-recyclable, Thomson (2002) responds to the detractors of GM cropping in Africa, (or "armchair experts imposing a 'victim mentality'"); for Thomson, African farmers are not forced to buy GM seeds; but rather, "farmers in Africa have benefited for years from using hybrid seed obtained from local and multinational companies. Transgenic seeds are simply a further improvement on these hybrids… If we ask Africans for their opinions on the advantages of GM crops for sustainable agriculture, their responses are overwhelmingly positive. While improved farming practices can go part of the way to enhancing productivity, GM crops resistant to diseases and pests, and able to grow in marginal lands due to increased drought tolerance, can play an enormous role." (Thomson, 2002, p.159) In the US, Robert Paarlberg (2008) holds a similar view; for Paarlberg, "Citizens and government officials in prosperous countries do not value agricultural; GMOs at home, so they presume to draw a similar conclusion for Africa. They either make little effort to bring this new science to Africa, or they work actively to keep it away. As a consequence, this new agricultural science is not yet available to most farmers in Africa. As of 2007, GMOs were being grown commercially in only one country on the continent –the Republic of South Africa. None of the other fifty-three countries had made it legal for farmers to plant any GM crops." (Paarlberg, 2008, p.111)

rooted in legacy effects of colonial and apartheid science and to some extent the epistemic-political vulnerabilities of the region's science communities in relation to metropolitan science.

Underdevelopment

Generally, these legacy effects and epistemic-political vulnerabilities entail that Africa enters the global debate and participates in it as potentially weak and vulnerable – and hence the regional resistance to GM technology in agriculture and its most notable products such as GM maize. The resistance is historical-political. The core of the regional debate is not the contestation over the scientific claims about the truth and evidence of GMOs - as often happens in debate internal to science, for example, in the West - but rather political considerations around the long-term consequences of adopting the science and technology in this part of Africa. Yet, the region has an interest in it– African leaders consider GM technology in agriculture as a tool for progress, especially for alleviating hunger and reducing poverty. Since in this New Millennium science connotes development, Africa finds itself at a historical crossroads where it must grapple with it or else risk sliding further into underdevelopment, and hence the interest in the otherwise controversial science.

Generally, Africa has a paradoxical relationship to western scientific knowledge. On the one hand, in its development policies, it generally follows western models of progress, for which science is central. On the other hand, it resists western scientific knowledge, fearing the re-colonisation of the continent by the métropole, the powerbase of the former colonisers, their allies as well as agents of global capital and big business. The fear is that GM crops would lead to dependency of the region's farmers on the biotech multinationals, the sole manufacturers of GM seed and the matching agro-chemicals required in GM cropping, it being a second cycle of dependency, following from colonialism, GM cropping was resisted because it was perceived widely as a neo-colonialist program that would lead to the reinstallation of dependency of the region on the métropole.

The study suggests that in resource-poor societies with much poverty, leaders and sometimes academics largely argue for long-term consequences of adopting the latest advances in science whereas the poor people tend to resort to instant relief –they have no alternative; subsistence and small-scale farmers seem to want immediate economic gains from the new science. Desperation and instant relief from hunger and ephemeral poverty alleviation are at odds with political considerations about the future of the region, if it adopts GM crops. All of this underscores the region's paradoxical relationship with science that has western origins and is led and driven by the West –revealing the Cinderella status and peripheral position of Southern African science communities. Thus, with some notable exceptions, the Southern African leaders and some academics operate paradoxically in the long term, trying to reach for an almost intangible idea of an 'African Modernity'[154].

To this effect, this study allows us to understand better complex issues that arise at the intersection between science as expert knowledge, politics, and history in the region. The debate on GM foods raises difficult questions arising at that intersection. Thus, Southern Africa, as an integral part of the African postcolony, has an interest in eliminating hunger and reducing poverty substantially, and progressing materially and economically, even if one of the drivers of such progress is this controversial science. Yet, the anxieties about colonial and apartheid legacies render the interest problematic, destabilising or inflecting it, and hence the paradoxical relationship the region has with western science as the propeller of progress. Due to this interest and the problematic legacy anxieties, the region does not preoccupy itself with contesting science experts' claims about the truth and evidence of the science and technology; it has several overriding concerns that are predominantly political. Coverage shows the energy and vitality of the political; it is as if

[154] For Habermas (1987), three movements are identified with the epochal concept of 'modernity,' viz. the European renaissance, the European religious reformation, and the European explorations ('voyages of discovery') of the rest of the world, leading to the discovery of the New World (America and Canada), all of which began to show most vividly around 1500. Á la Georg W.F. Hegel, these three developments in Europe mark the threshold between the medieval period (from c.5th to c.16th century) and the so-called modern times (from c. 16th century onwards). (Habermas, 1987, p.5) Generally, modernity is the idea of society as a progressive aggregate, that is, the socio-cultural organisation of life based on the Weberian social theoretical schematism of "instrumental rationality." Scientific and technological inventions; the systematization of individual and societal life as well as economic and political organization; massive industrialisation; aggressive international trade leading to globalisation; and the emergence and evolution of global communication networks are the exemplars of European modernity. The European conquest and the colonisation of non-European regions of the world necessarily imposed the logic of European modernity on the inhabitants of the other regions, coercively, manipulatively and deceptively converting them into 'modern' regions, and hence, for example, the problematic triptych 'African modern thinker'

the regional debate walked into volcanic lava with magnetic nodes that were in a constant swirl, whereby emerging issues were sucked into the swirl of both pre-existing and prevailing discourses, pulling the debate in all sorts of directions, in a rather turbulent vortex.

Thus, this study, which is an investigation of a particular form of public communication practice in a particular region and time, suggests that there is a truth-interest relationship in the region vis-à-vis the science and technology of GM technology in agriculture. The political challenge is surfaced in the debate handled in and by the media.[155] Journalists' observance of, or respect for, the journalistic professional and democratic requirement of fairness and balance in the reporting of the debate that on the surface looks like it is about science, predisposes journalists to the reporting of the diversity of the variety of views open to political concerns. The media handled the debate on GM maize in particular ways that show the predominance of interest over truth, and the interest factor is predominant and overt in the debate in 2002 and afterwards. The media debate surfaced the region's epistemic-political vulnerabilities in addition to its historical-political weakness.[156] Southern Africa's underdevelopment throws the coverage of the debate into sharp relief. It is therefore important to recognize that in certain regions such as the Southern African postcolonies, due to their general condition of underdevelopment, public debates on science are driven by political considerations around the long-term consequences of adopting any science. Public debates on science are informed and driven by their historical circumstances.

Maize and Southern African postcolonial economies

The media surfaced the political challenge in the regional debate around GM maize. Through the media, it has been learnt that in 2002, the hunger-ravaged region did not want any substitute foods such as wheat, rice, or cassava – it wanted maize, pure and simple. As the chief staple food for the region, maize is about the physical survival of

[155] There is some country variability concerning the status of the media in the region, but it seems to count for little. In general and with some exceptions obviously, the region is characterised by resource-poor media, poor journalism training, and generally poorly-managed newsrooms. Except for South Africa, the region has weak media

[156] However, perhaps due to the isolation of the apartheid regime ('colonialism from within'), South Africa's science signals attempts at innovation and initiative – it is the least unoriginal. Perhaps South Africa's apparent strength and invulnerability encourage it to take a lone, positive stance towards GM technology in agriculture in the region

Southern Africans; it is about the sustenance of human life itself. Importantly, maize is at the heart of the regional economies. The health of these economies is determined in important ways by the amounts of the maize grain produced annually. The current global inflationary trends in food prices - reportedly partly caused by the diversion of maize grain to the biofuels[157] industry - help to augment the noble status of maize, as the chief staple food for the region. To be food-secure is tantamount to having sufficient maize between farming seasons. Necessarily, any attempts that seemingly tamper with maize have the potential to spark off deep controversy in the region, and hence the debate centred on GM maize. Generally, in the region's popular imagination, there is uncertainty about GM maize food; 'GM' is likened to 'genetically manipulated'. 'Genetic manipulation' of maize, maize being the fountain of human life in Southern Africa, not only tampers with the principal diet but also poses the risk of destroying the people's life necessity. Seen in this particular light, maize is in itself a politically-charged crop. Thus, debate on maize in the region is bound to draw on a variety of complex political issues and interpenetrating (or intertwining) discourses. This is in spite of the fact that among the protagonists, for example, biotech advocates, agricultural biotechnologists and the biotech multinationals, GM maize is generally perceived as a better variety of maize, promising higher yields than the traditional maize varieties. For them, higher yields of maize imply eradication of hunger and improved nutrition in the region.

Science and its ring fencing: the preclusion of the political from the debate

In the region, print news media report events and developments, both political and scientific. They are significantly more predisposed to reporting political conflicts than debate centred on science such as the GM debate. Science in public runs the danger of being sucked in by the historical and into the political – albeit without necessarily always being politicised. Attempts at popularising advances in scientific research run the danger of misrepresenting science, a distinctive and highly-specialised body of expert knowledge. Programs around the popularisation[158] of science are fraught with problems,

[157] Biofuels are arguably the alternative type of fuel to crude oil (petroleum). (See Michael Grunwald, "The Clean Energy Myth,"*The Time*, April 7, 2008)

[158] For example, for the sake of what is referred to as the "democratisation of science" in post-Apartheid South Africa. (See Mwale, 2008)

most of which have their roots in the complex intersection between science, the media, and politics. Science remains out of the intellectual reach of many people - politicians, journalists and public servants included. (Whitley in Shinn and Whitley, 1985, p.4) This underscores the inhospitability of science to the political, the tendency of science to push away and seal off the political. Due to the inhospitability of science to the political, it is difficult to bring the political into an area where the issues seem to be scientific.

Overall, journalists seem to be handicapped in how they deal with the political challenge in the debate. Whether it is within articles or across coverage, journalists are also seemingly handicapped in detectingthe communication manoeuvres that some participants are using in order not to respond to political challenges. The protagonists do not respond to the pertinent question: What is the price to be paid by adopting GM crops in Southern Africa? The print news media allow various ways of not responding to the political challenge go unchecked in the coverage of the debate. In the face of the inhospitability of science to the political, and as a result of it, some participants make rhetorical moves. There are some moments of engagement as well. Together, the rhetorical moves, the moments of engagement and the energy and vitality of the political engender a distinctive communication phenomenon unfolding in the coverage of the debate.

The unfolding of the coverage of the regional debate: babelisation

In proceeding, I saw massive slippage in the communication exchanges in the debate. Slippage occurs in the exchanges as a result of participants making the four rhetorical moves that I identified and named as reframing, sidestepping, telescoping, and silencing. Moreover, I saw more than slippage in the exchanges:there were some moments of engagement. The combined effect of the moments of engagement and the energy and vitality of the political was the obscuring of the slippage. Henceforth, the debate as it unfolds in the media was not a classical debate. It was not amenable to Habermasian analysis and interpretation.

I saw that the debate displayed a particular rhetoric. I then realised the need to articulate the rhetoric in order to understand better the communication manoeuvres at work in the

debate. This enabled me to launch the concept of 'babelisation': by which I imply the effect of rhetorical moves leading to slippage as well as moments of engagement and the energy and vitality of the political in debate as a form of public communication practice. The four rhetorical moves and the slippage constitute the core of babelisation, and moments of engagement and the energy and vitality of the political render the Babel florid and complex. Babelisation is not just slippage. Babelisation is a distinctive communication phenomenon that is region-specific.

In all the rhetoric's four modes of expression, print news media operate as vehicles of babelisation. Print news media relay-mediate and sometimes actively contribute to the babelisation but they do not detect the rhetoric of the debate. There are at least three conditions for the occurrence of babelisation, viz. the media's double bind;[159] the status of science in public in this particular region; and the precipitating event of the Johannesburg Earth Summit as a site for the upsurge of the political.

The media's double bind

Babelisation occurs partly because of the double bind in journalistic practice; journalists operate under a double imperative, which requires fairness and balance in representation of conflict in debate. Fairness implies the media being representative, ensuring the inclusion of the diversity of opinions on a given issue. By their very nature, the media are representative since they play agent of public opinion, which sometimes involves relay-mediating diverse opinions on a given issue. Balance implies the inclusion of the variety of opinions on a given issue. Fairness and balance in representation entail factual and impartial journalism, eschewing bias, framing, sensationalism and hype because these are judged as unprofessional especially within journalistic practice. Generally, both journalistic practice and democracy expect journalists' fair and balanced reporting and representation of views in debate and hence the justification for relay mediation in order to provide space for conflict in debate to play out. At another level, both journalistic practice and democracy also expect vibrant media that play and pursue conflict and on

[159] Additionally, I show below that there are news making factors, especially news value, gate keeping and agenda-setting, that reinforced the double bind for the media in the regional debate

this reading, journalists are expected to do more than provide space for conflict in debate to play out. This is what the thesis terms 'active mediation.'

However, the problem with active mediation is that both journalistic practice and democracy discourage overactive mediation because it raises the spectre for bias, framing, sensationalism and hype. The double bind results from the lack of clarity within journalistic practice and democracy on how much media professionals are allowed to mediate actively to avoid relay-mode reporting, without raising the spectre of bias. The double bind operates subtly as an apparent handicap of the media in their covering of the debate, especially in 2002. This study shows the double bind – an apparent handicap - at work in the coverage because journalists took an apparently hands-off approach to the coverage of the debate, by resorting to relay-mediating messages, a practice that led to babelisation. Some sources appear to have developed tactics of evading the political challenge. Journalists did not knock off balance these sources' tactics. Journalists were unable to address the missing links, by allowing some sources' ways of talking to have an upper hand. All of this created the communication slippage, for example, between political concerns and scientific truth-claims, leading to babelisation. It appears that in journalists' pursuit of diversity, journalistic practice undercuts its double imperative, which entails that the media's provision of space for conflict in debate to play out is considered inadequate in journalistic practice but simultaneously, the same practice disallows overactive mediation of debate. Even if journalists are expected to mediate debate actively, overactive mediation is not encouraged. Active mediation requires intervention in shaping debate, but shaping leads to the double bind because it raises the spectre. The double bind creates a condition for babelisation. It transpires, in this case study, that the double imperative turns into a double bind for the media. This case shows a conundrum in that, apparently, the media make an inappropriate vehicle for the formation of considered public opinion on science in the region.

Additionally, some news making factors reinforced the double bind, leading to babelisation; they include news value, gate keeping and agenda setting. In this specific case, babelisation occurred partly because journalists –operating with respect to

professional standards and internalised sets of values and principles- slipped into these moves, especially as evidenced by the moves of silencing and telescoping across periods. Within journalistic practice, some issues, and not other issues, are considered as having news value at a point; journalists operate with a sense of the 'newsworthiness' of certain issues. Thus, as public communication institutions, the media operate as gatekeepers of news. (Shoemaker and Reese, 1991) The journalists' sense of newsworthiness of certain issues in the debate could have been reinforced by what in journalism and media studies is referred to as agenda setting, whereby some issues gain prominence and consequently some sources emerge as issue proponents in the coverage of certain issues over a particular period. (Dearing and Rogers, 1996)

News values and agenda setting, as news making factors, can help explain what looks like the concentration of media coverage on certain issues leading to the narrowing of the domain of the coverage down to a single issue a during particular period. For example, they can help explain what sometimes seems to be journalists' framing of the debate in terms of the safety argument, as if it is debate internal to science. These two factors also have an effect on the sources journalists select in news making and this can help explain the silencing of certain addressees, potential sources that are addressed, directly or indirectly, by other sources in the debate. By implication, silencing results from the journalistic practice of choosing some sources over others, as part of the gate keeping mechanism. Furthermore, babelisation occurs partly because the play out of coverage over time performs these moves. In varied and varying ways, all the four rhetorical moves lead to this mode of babelisation. However, telescoping is the most evident rhetorical move executed by coverage over time.

Science in public

Babelisation partly occurs due to the inhospitability of science to the political. Science makes it difficult to bring the political into an area where the issues seem to be scientific and as a result of it, the protagonists and antagonists in the debate make rhetorical moves. It appears this particular rhetoric of the debate has a specific purchase in this region because it enables the entry of political concerns into the same field as science even as

science tends to try to preclude the political as interfering in its business, portraying politics as an extra-field activity. Babelisation has an admitting effect of allowing participants to destabilise, or unbalance, the inhospitability or ring fencing of science, thereby enabling the political to enter into an area of apparent scientific controversy. Traditionally, science is inhospitable to politics. (See Whitley cited in Shinn and Whitley, 1985) For example, in this study it is manifest in the rhetorical move of telescoping that science pushes the political away from the perimeter of the debate – by narrowing down the domain of the coverage to safety. Yet, the political is interested in science because it wants to control the programs and operations of science. Thus, the political forces its way into and fires up an apparent scientific controversy. In society, people in general and politicians in particular are concerned about the potential harms and risks of science programs – given the historical abuse and exploitation of colonial and apartheid science - and hence the present demand for control of science by the Southern African people and their political representatives in society. The babelising debate destabilises or inflects the inhospitability of science to the political, thereby surfacing complex political issues that arise at the intersection between science, politics and history in the region.

The Johannesburg Earth Summit and the upsurge of the political

The Johannesburg Earth Summit is a significant precipitating event during the Southern African debate centred on GM maize because it reveals the upsurge of the political, especially given the predominance of the social activists from all over the world - Africa, the Pacific and the Caribbean, North America, South America, Europe, South East Asia, and the Australasia. At the Earth Summit, South African State President Thabo Mbeki[160] likened GM technology in agriculture to "global apartheid," the re-colonisation and the consequent partitioning of the region into disparate developmental zones. Mbeki brought up the ominous global inequality that informs the historic Africa-West relations. Soon thereafter, subsequent conferences of African social activists within the region (for example, in Zambia and Malawi) intensified the Earth Summit's upsurge of the political. The various social activists' vociferousness, as it were, in the global deliberative space,

[160] The ANC's National Executive Committee removed Sir Thabo Mbeki from the state presidency in September 2008. However, since the period of the study, 1997-2007, extends over a decade during which Mbeki served as Deputy State President(1994-1999), then as State President (1999-2008), I retain, unmodified, the honourable address and title 'state president' in this study

drew on what the thesis terms ‘interpenetrating discourses,’ some overtly anti-colonialist (see Fanon, 1967), and hence severely critical of the continued abuse and exploitation of the region by the former colonisers. At the global level, most social activist groupings - environmentalists in particular - view GM technology in agriculture as one of the latest rational instruments for the re-colonisation of the African postcolony as a whole. They resist it, not because they perceive it as bad science, but because of its political (especially, practical and economic) consequences for Africa.

For Mbeki, the dominant part of the ‘globe’, as is implied in his use of the term “global apartheid,” is the métropole, which, it seems from his comments and positioning, must be kept in check and under constant surveillance in its ‘development aid’ endeavours in the African postcolony. For Mbeki, left to their neo-colonialist and neo-imperialist devices, foreign investors from the métropole could restructure and thenceforth partition the world relationally into disparate economies, aggravating global inequality, a situation that would harm seriously the African postcolonial economies. For Mbeki, African postcolonial economies would not only be increasingly discriminated against but also eventually become more ‘bantustanised’ and ‘peripheralised’ at the global level. For him, GM technology in agriculture would widen further the socio-economic gap between the métropole and the African postcolony.

Mbeki’s invocation of the term “global apartheid” (or what the thesis terms ‘bantustanisation’ and ‘peripheralisation’ of Southern African postcolonial economies) is more of a distress signal, to help latter-day anti-colonialists – disciples of Frantz Fanon (1967) such as Mbeki himself - to be on guard, always, against the new neo-imperialism. These neo-Fanonians resist the surreptitious and subtle re-configuration in the global economy today –a ‘globalising’ schematisation that continues to advantage, socio-economically, the West at the expense of Africa. For Mbeki, the annexation of the Southern African postcolonial economies into “global apartheid” would result from the introduction of GM technology in agriculture into the region with little control and oversight by the governments and societies of the region. Crucially, Mbeki’s self-positioning concerning GM technology in agriculture is in sharp contrast with that of the

South African state itself. It appears that the Earth Summit accorded Mbeki an opportunity to insert his own voice into the regional debate.

The point in all of this is that I discern in the regional debate various discourses interpenetrating in interesting ways. These incidences of discursive interpenetration are an indication that the issues raised in the debate are not stand-alone issues, which participants in the debate could have treated in isolation from one another. For example, the issues broadly described as seed intertwine with those of IPR and patents, international trade, farm input subsidies, food security, foreign aid, and sustainable agriculture. Scarcity of seed in a nation-state inevitably leads to massive hunger. The problematic background to the seed-scarcity issue is the penetration of foreign investment and global capital and big business in a region-specific condition of poor local market production and limited access to the presumably-lucrative markets outside Africa. In such interplay of discourses, the Earth Summit is an exemplar of a precipitating event during the Southern African debate. Moreover, for this study, this particular precipitating event is a third condition for babelisation, resulting from the upsurge of the political, that is in this particular instance a moment of engagement between president Mbeki and overseas journalist Kay. Indeed, the upsurge of the political –as exemplified by Mbeki's input into the Earth Summit - is yet another condition of babelisation.

Finally, for this study, it turns out that in both journalistic practice and democracy babelisation is a positive concept and it is important because it allows for the political, or any complex issue for that matter, to enter into an area of deliberation that otherwise resists and precludes the political. *Qua* Africa's weaknesses and vulnerabilities in relation to global and metropolitan politics, economics and science, the rather forced entry of the political into an apparent scientific controversy attests to the region's lingering anxieties about colonial and apartheid legacies and related political issues. Babelisation allows for these oft-repressed anxieties and related issues to find space for expression, gaining sustained visibility and audibility. Thus, babelisation allows for a wider deliberative space, thereby constituting a potentially all-inclusive democracy. Babelisation is strongly suggestive of other examples of how debate as a form of public communication practice

ordinarily unfolds in postcolonial democratic public spheres. Hitherto, theorists of journalism and media studies, the public sphere, and deliberative democracy have not imagined the communication phenomenon of babelisation. The rich and complex concept of babelisation speaks distinctively to the particular concerns of our particular time in this particular region of Africa.

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[161] The writing of the thesis, situated as it is in the inter- and cross-disciplinary domain of 'public intellectual ideas' in the human and social sciences, is informed and driven by a diversity of much broader spectra of theoretical orientations , research and literature into things 'public intellectual life' than is actually herein cited. The analysis draws on a wide variety of sources and is informed and driven by extensive contemporary theoretical thought around "public sphere theory," "deliberative democracy," "science communication," "public understanding of science," "communication theory," "journalism and media studies," "media sociology," just to name but a few

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Appendix A: profiles of local and regional news media; lists of news media texts

Zambia

Ownership

In Zambia, the state dominates in terms of ownership of news media. In spite of the introduction of many private sector newspapers with the advent of economic and political liberalisation in the early 1990s, the majority of them have since folded. Zambia has six sustained newspapers that enjoy wide readership. The state owns two dailies *The Times of Zambia, The Daily Mail* and one weekly *The Sunday Mail.* The private sector owns the daily *The Post* and the weeklies *The National Mirror, The Monitor and Digest* and *The Weekly Angel.* Based on national literacy rates, *The Post* enjoys the widest readership (0.39%), followed by *The Times of Zambia* (0.26%), *The Daily Mail* (0.20%), *The Monitor and Digest* (0.07%), and *The National Mirror* (0.07%). (Banda, 2006, p.25) Additionally, there are state-backed news agencies such as *Zamnet* and *The Zambia News Agency* (ZANA). [162]

The Post is the only surviving privately-owned newspaper that came into being with the advent of economic and political liberalisation in Zambia. (*African Media Barometer Zambia*, 2006, p.8) *The Times of Zambia* came into being during the colonial era and so it antedates the reign of the first postcolonial Zambian leader, Dr. Kenneth Kaunda. *The Post* leads in terms of profiting from adspend among the print news media. It also attracts most of the state's adspend, reportedly because the state perceives *The Post* as its partner in the "anti-corruption struggle."(Banda, 2006, p.25)

Together, the three dailies, *The Post* (Lusaka), *The Times of Zambia* (Ndola), and *The Daily Mail* (Lusaka), profit considerably from adspend from public and private sectors in Zambia. (*African Media Barometer Zambia*, 2006, p.11) The owners of *The Post* can afford to keep the newspaper in sustained circulation in the urban and peri-urban centres

[162] *The Zambia News Agency* (ZANA) and *The Zambia Information Service* (ZIS) have since merged into *The Zambia News and Information Services* (ZANIS) (See Banda, 2006, p.26)

of Zambia, in spite of the rather harsh and unstable economic climate in the country. [163] The state-owned *The Times of Zambia* is the most established of print news media in Zambia. *The Times of Zambia* enjoys the state's political backing and financial support. Its 'local-context'-grounded economic strength need not be over-emphasised. Henceforth, if these two different ownership factors are calculated into the equation of news making in Zambia, it comes as no surprise that local newspapers had the highest coverage of the debate on GM maize in Zambia. The Zambia Daily Mail Ltd Company publishes *The Daily Mail*.[164]

Circulation, distribution and readership

Together, the two state-owned dailies, the one privately-owned daily, and a variety of weekly and fortnightly newspapers have a total circulation of about 100,000 in Zambia.[165] The target readership is English and based in urban and peri-urban centres such as Lusaka, Ndola, Kitwe, Livingstone, Chililabombwe, among others. Generally, for a variety of poverty-related reasons, newspapers are inaccessible to and unaffordable for the majority of Zambians. *The Post* reportedly tries hard to distribute some copies to road-accessible provinces, rural towns, and districts, by using its privately-arranged courier services. *The Post* has a circulation of about 40,000. *The Times of Zambia* and *The Daily Mail* use public service buses to distribute some copies to provinces and larger rural towns. *The Times of Zambia* and *The Daily Mail* have circulation figures of about 32,100 and 40,000, respectively. (*African Media Barometer Zambia,* 2006, pp.7-8)

Malawi

Ownership

Malawi has a mix of public and private sector news media ownership. Local news media ownership is largely entrepreneurial, in spite of the media's commitment to safeguarding and promoting the "public interest." The private sector dominates in terms of print media ownership in Malawi. Although commercial in its posture, private sector news media

[163] *The Post's* private ownership is traceable back to Zambia's former coloniser, Great Britain, which is a much stronger and more stable economy than Zambia

[164] Like almost all the newspapers in Southern Africa, in 1994, *The Daily Mail* became computerised, enabling its accessibility worldwide *via* the Internet

[165] In the absence of an audit circulation bureau, estimate figures on circulation, distribution and readership of the news media in Zambia, are unverified and unconfirmed

ownership is inclined towards powerful and influential socio-political figures, whose families, close friends, or proxies run media institutions, reportedly as pure business enterprises. Nations Publications Limited in Blantyre publishes *The Nation.* The family of politician-cum-businessman, Aleke Banda, owns Nations Publications Limited. Banda is a seasoned political figure in Malawi, being a long-time close-ally-turned-enemy of the first postcolonial Malawian leader, Dr. Hastings Kamuzu Banda. Nations Publications Limited also publishes *The Nation, The Weekend Nation,* and *The Nation on Sunday*. Jamieson Publications, a family business enterprise, publishes *The Chronicle* in capital city Lilongwe. Blantyre Newspapers Limited owns the daily *The Daily Times* and the weeklies *Malawi News* and *The Sunday Times*. Blantyre Newspapers Limited is the biggest private news media owner in Malawi. It is a family trust of Dr. Banda, Chayamba Trust. Proxies of the newly-formed (post-2004)

Democratic People's Party (DPP), whose leader is incumbent State President Dr. Bingu wa Mutharika own and publish the weekly *The Courier*. The daughter of the incumbent state president reportedly owns and publishes *The Guardian*. The state owns the glossy quarterly magazine *This is Malawi*, the weekly *The Weekly News*, and the monthly free print-run, *Boma Lathu* [Chichewa]. Apparently, *Boma Lathu*, dating back to Dr. Banda's incumbency, is the only publication that reaches almost all rural areas. Its vernacular-language pages contain reports, statements and announcements of government projects and programs as well as activities of the top brass of Malawi's political landscape. (*African Media Barometer Malawi*, 2006, p.8)

Circulation, distribution, and readership

The Nation has a circulation of about 15, 000 copies. *The Weekend Nation, the Nation* and *The Nation on Sunday* have a combined circulation of 30, 000 copies *The Chronicle* has a circulation of about 5,000 copies. *The Daily Times* has a circulation of about 20,000 copies while *Malawi News* and *The Sunday Times* have a combined circulation of about 40,000 copies. *The Courier* has a circulation of about 3000 copies. *The Guardian* has a circulation of about 5, 000 copies (*African Media Barometer Malawi*, 2006, p.9). As for the state-owned press, *This is Malawi* has a circulation of about 5000 copies; *The Weekly*

News, about 2000 copies; and *Boma Lathu*, about 50,000 copies. In the urban and peri-urban centres and the larger rural towns, print news media institutions have to compete fiercely for the few[166] affluent and English newsreaders who can afford to buy the otherwise expensive copy of a daily and/or a weekly. (*African Media Barometer Malawi*, 2006, pp.8-9) [167]

Zimbabwe

Ownership

Since the late 1990s, local news media have grown into three ownership categories in Zimbabwe. First, there is the state-owned news media, which is run by Zimbabwe Newspapers. Zimbabwe Newspapers publishes *The Herald* (Harare), *The Manica Post* (Mutare), *The Chronicle* (Bulawayo), *The Sunday News* (Bulawayo), *The Sunday Mail* (Harare), and *Kwayedza* [Shona] (Harare).[168] Second, there are state-owned rural newspapers, run by the Zimbabwe Mass Media Trust (ZMMT). The state also owns province-based newspapers, namely, *The Gweru Times*, *Indosankusa*, *Chaminuka*, *The Telegraph*, and *The Nehanda Guardian.* (*African Media Development Initiative: Zimbabwe Context*, 2006, p.26) Third, there are privately-owned news media of various corporate business entities. Zimbabwe Mirror Newspaper Group (Zimmirror) owns *The Daily Mirror* and *The Sunday Mirror*.

Zimbabwean entrepreneur Trevor Ncube's Newtrust Company Botswana Limited - in partnership with Clive Wilson and Clive Murphy - owns the daily *The Zimbabwe Independent* and the weekly *The Zimbabwe Standard*, also distributed in South Africa. The Associated Newspapers of Zimbabwe - a consortium of local and foreign[169] businesses - owns *The Daily News* and *The Business Daily News*. A local company called Octadew, which belongs to Zimbabwe's Reserve Bank Governor and Chief

[166] Like all Southern African countries, Malawi's rural population is much higher than its urban population. The latter population is not only the more affluent but also the more literate than the former. The question of affluence is important because it speaks to issues of access to, and affordability as well as readership of, news media, such as print news media. The question of literacy is crucial because the majority of the news media is in English, a medium of communication that marginalizes the bigger segment of the national population, which uses indigenous languages such as Chichewa

[167] See <http://www.misa.org/mediabarometer/malawiAMB2006.doc>. Retrieved in March 2007

[168] See <http://www.zimpapers.co.zw/site.aspx?sectId=13>. Retrieved in April 2007

[169] The Associated Newspapers of Zimbabwe was set up with 60% of shareholding under Africa Media Trust, which is a commercial conglomerate owned jointly by some British, South African, and New Zealand companies. (See <http://www.rjr.ru.ac.za/rjrpdf/rjr_no25/Taking_the_gap.pdf>. Retrieved in April 2007)

Executive of state-owned Jewel Bank, Dr. Gideon Gono, owns *The Financial Gazette.* Additionally, foreign newspapers are distributed in urban and peri-urban centres. They include the London-based weekly *The Zimbabwean* (of Zimbabwean economic and political exiles), the South Africa-based weeklies *The Mail and Guardian* (Newtrust Company Botswana Limited), and *The Sunday Times* (Johnnic Communications).

Circulation, distribution, and readership

In Zimbabwe, the local newspapers that covered the debate are urban and English-medium. Although state-owned news media dominate circulation and distribution, they do not necessarily enjoy the highest readership. Overall, by 1999, print news media had a combined circulation of 600, 000 copies, with an aggregate readership of about 3 million, representing about 25% of the population. (*AMPS Zimbabwe*, 2002)

Available circulation figures for Zimbabwe are as follows. As regards state-owned newspapers, *The Herald*, the oldest newspaper, has a circulation of about 85, 000 copies. *The Chronicle*, the second oldest newspaper in Zimbabwe, has a circulation of about 30,000 copies. *The Sunday Mail* has a circulation of about 90,000 copies. *The Sunday News* has a circulation of about 30,000 copies (*Rhodes Journalism Review*, 2005, p.32).[170] Circulation figures for *The Gweru Times*, *Indosankusa*, *Chaminuka*, *The Telegraph*, and *The Nehanda Guardian* were unavailable at the time of research material collection. (*African Media Development Initiative: Zimbabwe Context*, 2006, p.26) As regards privately-owned newspapers, *The Daily Mirror* and *The Sunday Mirror* have a circulation of about 10,000 copies each. *The Zimbabwe Independent* and *The Standard* have a circulation of about 25,000 copies each. *The Financial Gazette* has a circulation of about 31,000 copies. Of the foreign newspapers, *The Zimbabwean* has a circulation of about 10,000 copies in Zimbabwe alone. *The Mail and Guardian* and *The Sunday Times* have a circulation of about 4,500 and 5,000 copies, respectively.

[170] See <http://www.rjr.ru.ac.za/rjrpdf/rjr_no25/Taking_the_gap.pdf>. Retrieved in April 2007

South Africa

Ownership in general

Commercial conglomerates own most news media in South Africa. Ownership is concentrated in the hands of four major newspaper corporate business entities, namely, Independent News and Media (Independent Newspapers), Johnnic Communications, Naspers (or Nasionale) Media, and CTP/Caxton Publishers and Printers (wherein Johnnic Communications has 38% of the shares). Irish tycoon Tony O'Reilly owns Independent Newspapers. Independent Newspapers publishes eleven dailies and three weeklies. Its dailies are *The Star, Cape Argus, Isolezwe* [isiZulu], *The Daily News, The Cape Times, The Mercury, The Pretoria News, Diamond, The Field Advertiser, The Business Report,* and *The Daily Voice*. Its weeklies are *The Sunday Tribune, The Independent on Sunday*, and *The Sunday Independent*. Additionally, Independent Newspapers publishes *The Post* on Wednesdays and Fridays. The business focus of Independent Newspapers' print news media is on urban and peri-urban, consumer-oriented issues. (Gumede, 2006)

A coalition of black entrepreneurial groups and trade unions - known as the National Empowerment Consortium (NEC) - owns Johnnic Communications. Johnnic Communications publishes eleven dailies and weeklies, namely, *The Business Day, The Sowetan, The Daily Dispatch, The Herald, The Algoa Sun, Ilizwi* [isiXhosa], *Our Times, The Sunday Times, The Sunday World, The Weekend Post, and The Financial Mail*. An integral subsidiary of Naspers is Media24, which publishes five dailies, namely, mass tabloid *The Daily Sun* and *Die Burger* [Afrikaans], *Beeld* [Afrikaans], *Volksblad* [Afrikaans] as well as *The Witness* (formerly *The Natal Witness*). On Sundays, Media24 publishes *Rapport* [Afrikaans], *The City Press*, and *The Sunday Sun*. CTP/Caxton publishes the daily *The Citizen*. Johnnic Communications owns 38% CTP/Caxton Publishers and Printers. *The ANC Today* is a publication of the African National Congress (ANC), South Africa's ruling political party since 1994.

Ncube's Newtrust Company Botswana Limited has the majority share (about 87.5%) in the South Africa-based weekly *The Mail and Guardian,* formerly *The Weekly Mail*. Ncube bought *The Mail and Guardian* from the London-based Guardian Newspaper

Limited in 2002. He incorporated the newspaper into Newtrust. In South Africa, Newtrust also owns a quarterly free print-run *The Campus Times* (South Africa).[171]

Circulation, distribution, and readership

South Africa has a fair share of both broadsheet and tabloid newspapers. In spite of the availability of province- and community-based newspapers (the latter being the focus of Media24), readership is largely targeted at middle to upper income brackets and in urban and peri-urban centres, for example, Johannesburg, Tshwane, Durban, Cape Town, East London, Bloemfontein, Polokwane, among others. Thus, as regards production and distribution, print news media are urban and peri-urban in content, style, and tone. Their target readership is largely English and Afrikaans in the urban and peri-urban centres, with the exception of a few province- and community-based newspapers in IsiZulu and IsiXhosa.

Generally, print news media are inaccessible to and unaffordable for the majority of South Africans in urban and peri-urban centres and provinces as well as rural towns and districts. About 23% of all South Africans read dailies. About 31% of them read weeklies. About 40% read one or other newspapers, that is, not taking into account those who read free print-run smaller community-based newspapers or newsletters. Overall, however, the majority of South Africans do not buy or read newspapers, and this is in spite of the fact that all urban and peri-urban centres have nearly all the print news media in circulation. (AMPS,[172] 2005, cited in *African Media Barometer: South Africa*, 2006, p.9)

[171] See <http://www.bizcommunity.com/PressOffice.aspx?i=626>. Retrieved in March 2007

[172] In South Africa, the AMPS is a survey that measures consumer perception and media usage. It uses the South African Advertising Research Foundation (SAARF)'s Living Standards Measure (LSM) as a metric, which has become the most widely used marketing research tool in Southern Africa. It divides the population into eight LSM groups, 8 (highest) to 1 (lowest). LSM-7 and LSM-8 are divided into Low and High respectively. The SAARF LSM is a unique means of segmenting the South African market. It cuts across race and other outmoded techniques of categorizing people, and instead groups people according to their living standards using criteria such as degree of urbanization and ownership of cars and major appliances. See <http://www.capeargus.co.za/index.php?fSEctionId=378>. Retrieved in March 2007

Ownership, Circulation and Coverage in detail

South Africa has many newspapers. The newspapers that covered the debate were *The Business Day, The Mail and Guardian, The Sunday Times, The Witness, The Cape Times, The Mercury, The City Press, The Sunday Independent, The Star, Cape Argus, The Pretoria News, Financial Mail*, and the state-owned news service *The Bua News.* The three-channelled public television broadcaster, *The SABC,* also had a few slots on the debate. Although *The Business Day* had the highest coverage of the debate, *The Sunday Times* is the most read newspaper in South Africa. (See LSM categorisations cited in AMPS South Africa, 2006) Local news media had the highest coverage of the debate. *The Business Day* carried the highest number of articles, followed by the weeklies *The Mail and Guardian* and *The Sunday Times*, both of which are reportedly styled as productions of investigative journalism. (*African Media Barometer South Africa*, 2006, pp.8, 29)

The Business Day's circulation is about 42,000 copies, with a target readership of about 113, 000. It normally covers corporate reporting, black economic empowerment (BEE), economic policy, corporate governance, and financial markets.[173] The circulation of *The Mail and Guardian* is about 48,000.[174] It has a target readership of about 233,000.[175] It is also distributed in some Southern African countries such as Botswana, Lesotho, Malawi, Namibia, Swaziland, Zambia, and Zimbabwe. *The Sunday Times* is reportedly the biggest newspaper in South Africa. It is distributed all over South Africa as well as in neighbouring Botswana, Lesotho, and Swaziland. Its circulation is about 500, 000 copies, with a target readership of over 3.24 million.[176]

The Star (Independent Newspapers), formerly *The Eastern Star*, is distributed mostly in the Gauteng Province. It was targeted originally at white South Africans; but today over 50% of its readership is black South African. Its circulation is about 170,000. It has a target readership of 600,000. *The Sunday Independent* (Independent Newspapers) is a post-1994 weekly, aimed at the higher-income bracket. It sells mostly in three provinces,

[173] See <http://www.southafrica.info/ess_info/sa_glance/constitution/news.htm>. Retrieved in March 2007
[174] See <http://www.bizcommunity.com/PressOffice.aspx?i=626>. Retrieved in March 2007
[175] See <http://www.southafrica.info/ess_info/sa_glance/constitution/news.htm>. Retrieved in March 2007
[176] See <http://www.southafrica.info/ess_info/sa_glance/constitution/news.htm>. Retrieved in March 2007

KwaZulu-Natal, the Gauteng, and the Northern Cape. About 50% of its readership is black South African. Its circulation is about 42,000.It has a target readership of about 179,000.[177]

The Witness (Media24 of Naspers) is South Africa's oldest newspaper and is aimed at serving English readers in the province of KwaZulu-Natal, mostly in the greater Pietermaritzburg area and inland KwaZulu-Natal. Its circulation is about 24,000. Its target readership is about 167,000.[178] *The Cape Argus* (Independent Newspapers) is an afternoon daily. It is reportedly a dynamic (primarily Cape Town) city newspaper, aimed at middle to upper income urban population groups. Its circulation is about 374,000. It has a target readership of about 76,000. Independent Newspapers publishes the daily *The Mercury*. As of June 2006, its readership was 219, 000. Independent Newspapers also publishes the daily *The Cape Times*, circulation at about 60, 000.[179] CTP/Caxton publishes the daily *The Citizen*, circulation at about 140, 000. Johnnic Communications owns 38% of CTP/Caxton Publishers and Printers. Johnnic Communications are also the publishers of the daily *The Herald* (South Africa). On Sundays, Media24 publishes *The City Press*, circulation at about 1 million. [180] (See *AMPS South Africa*, 2006)

Other "Local" News Agencies

Agencia de Informacao de Mocambique, the Angola Press, and *The South African Press Association* (*SAPA*)[181] also covered the regional debate. *Agencia de Informacao de Mocambique* and *The Angola Press* [*Angop*] are state-owned news agencies of Mozambique and Angola, respectively. [182] *SAPA*[183] is a nongovernmental organisation, owned by major newspaper groups in South Africa. It positions itself as "the national"

[177] See <http://www.southafrica.info/ess_info/sa_glance/constitution/news.htm>. Retrieved in March 2007
[178] See <http://www.southafrica.info/ess_info/sa_glance/constitution/news.htm>. Retrieved in March 2007
[179] Independent Newspapers publishes eleven dailies and three weeklies. Its dailies are *The Star, Cape Argus, Isolezwe* [isiZulu], *The Daily News, The Cape Times, The Mercury, The Pretoria News, Diamond, The Field Advertiser, The Business Report,* and *The Daily Voice*. Its weeklies are *The Sunday Tribune, The Independent on Sunday*, and *The Sunday Independent*. Additionally, Independent Newspapers publishes *The Post* on Wednesdays and Fridays
[180] Together with *Rapport* [Afrikaans] and *The Sunday Sun*
[181] In conjunction with *Agence France-Presse,* leading the collaborative venture *(SAPA-AFP)*
[182] I was only able to access the English translations of the texts of the debate outside both of these two Lusophone Southern African countries
[183] *SAPA* was founded on July 1, 1938

news agency of South Africa.[184] *SAPA's* head office is in Johannesburg. It has bureaus in Cape Town, Durban, Bloemfontein and Tshwane. *SAPA* has exchange agreements with other major news agencies such as *Agence France-Presse (AFP)*, which is partly owned by the French state. *SAPA* provides all forms of media (newspapers, television, radio, and web-based media) with news and photographs.

A regional news agency

PANA[185] is a specialised news agency of the African Union (AU). Its headquarters is in Dakar (Senegal). Its regional offices are in Khartoum (Sudan[186]), Lusaka (Zambia), Kinshasa (the DRC), Lagos (Nigeria) and Tripoli (Libya). In the 2000s, *PANA* set up a development research website with the support of the International Development Research Centre (IDRC). The purpose of *PANA's* development research website is to provide information and data in Africa more visible and accessible. Information on the website centres essentially on five development research themes, which are also among ten priority areas adopted in the New Partnership for Africa's Development (NEPAD) of the AU. They include education, health, especially HIV/AIDS, new information and communication technologies, and agriculture. In this study, *PANA's* new focus on developing Africa's ICTs and agriculture is noteworthy.

Summary

Local news media ownership varies quite considerably in the four countries of the study. The state owns more news media than the private sector in Zambia. The economic climate is too harsh for private sector news media. Most of the privately-owned newspapers that came with the advent of economic and political liberalisation in the early 1990s have folded. However, Zambia's news media are much more established than those of neighbouring Malawi. Malawi's private news media are largely entrepreneurial, with strong links to politically-powerful and influential figures. The state-owned news media are weak. Like in Zambia, the state owns more news media than the private sector in Zimbabwe. Private-sector ownership of news media is largely entrepreneurial, with

[184] See <http://www.sapa.co.za/.> Retrieved in June 2006
[185] The Organisation of African Unity (OAU) founded *PANA* in 1979. *PANA* commenced news agency activities in 1983
[186] North Sudan, to be exact. A recent referendum , amidst a protracted civil war, has led to the secession of what was then southern Sudan into a new North African nation-state, namely, South Sudan

some links to high echelons of the ZANU-PF regime. Ownership of the local news media in Zimbabwe involves local entrepreneurship, the state and foreign commercial conglomerates. South Africa's news media are in the hands of a few commercial conglomerates, with some links to foreign or global capital. As such, they are not entrepreneurial in the sense of BEE-like initiatives.

In all the four countries of the study, local news media operate in politically-free environments, officially, at least. There is in all of the countries the constitutionally-guaranteed right to freedom of expression. However, freedom of the media is not fully guaranteed in any of them. There are laws and statutes that the states evoke to constrain the media. Zimbabwe's privately-owned news media are the most constrained. Specifically for Zimbabwe, whereas freedom of expression is guaranteed, freedom of the press is not guaranteed.[187] For example, the state has repeatedly been closing *The Daily News*, which enjoys a leading circulation of about 100,000 copies. The political repression that leads to *The Daily News'* intermittent closure affects its circulation adversely. For example, in 2002 its circulation dropped to about 70,000 from about 120,000 in 2000. There are pieces of legislation, and sections of laws and statutes that restrict news media significantly in Zimbabwe. (*African Media Barometer Zimbabwe*, 2006, p.1)[188]

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Appendix B: profiles of overseas news media; lists of news media texts

In Great Britain, *The Guardian* (UK), *The Daily Telegraph, The Independent, The Financial Times, Reuters News Agency,* and *Nature* covered the regional debate on GM maize. The daily (Monday to Saturday) *The Guardian* (UK) (formerly *The Manchester Guardian*) is owned by The Guardian Media Group. Its online version *Guardian Unlimited* is one of the most well-liked online news media as it has most resources on the Internet. *The Guardian Unlimited* is a multimedia publication. Compared to the other papers in Great Britain, *The Guardian* (UK) is third in rank in terms of circulation, at 378,618, as of November 2005.[189] *The Daily Telegraph* is a British daily broadsheet newspaper. Its owners are the Barclays Brothers, Sir David Barclay and Sir Frederick Barclay.[190] As of November 2006, *The Daily Telegraph* was the highest selling newspaper in Great Britain, with a circulation of 901,238.[191]

The Independent [Indie] is a British compact newspaper. Irish tycoon Tony O'Reilly's Independent News and Media owns *The Independent*. It is Great Britain's youngest newspaper. Its Sunday edition is called *The Independent on Sunday* [Sindie]. As of August 2007, its circulation was 240,116. *The Financial Times*[192] is a British international business daily owned by Pearson PLC, published in London. It has a strong influence on the policies of the British state. Local international circulations are about 140, 000 and 450,000, respectively. Thompson-Reuters own *Reuters News Agency*.[193] *Reuters* is a financial market data provider and a news service that provides reports from around the world to newspapers and broadcasters.

In the US, sources that covered the regional debate were the dailies, *The Washington Post,* and *The Chicago Tribune*, *The Washington Times*, and the news agency *The Associated Press (AP)*. The daily *The Washington Post* is the largest newspaper in

[189] During the same period, circulation figures for the other big papers were as follows. *The Daily Telegraph*: 904, 955; *The Times*: 692, 581; *The Independent:* 261,193

[190] Before January 2004, CanWest Global Communication owned it

[191] During the same period, circulation for the other top three newspapers were as follows; *The Times*: 653,780; *The Independent:* 253,737; *The Guardian* (UK): 382, 393

[192] Horatio Bottomly launched *The Financial Times* as *The London Financial Guide* on January 9, 1888. It was renamed *The Financial Times* on February 13, 1888. The circulation of *The Financial Times* is one of the world's highest among financial newspapers, second only to the New York-based *The Wall Street Journal*. The *Financial Times* reports daily on the London Stock Exchange and world market

[193] Paul Julius Reuter in Germany founded *Reuters News Agency* in 1850. Reuter moved to London in 1851. Following a merger between The Thompson Corporation and Reuters Group plc on May 15, 2007

Washington, DC. The Washington Post Company owns *The Washington Post*, together with *Newsweek* magazine. As of April 2007, its circulation was at 699,130 and its Sunday circulation was at 929,921, ranking it the seventh largest newspaper in the US. *The Chicago Tribune* is one of the ten largest dailies in the US. It is distributed in the Chicago metropolitan region and Midwestern US, in Illinois. The Tribune Company owns it.[194] *The Washington Times* is a daily. It is published in Washington, DC. News World Communications owns it. Its circulation is at 102, 258.[195] *The Associated Press* is an American news agency. As of April 2007, its circulation was 566, 827 daily and 940, 620 on Sunday. *AP's* contributing newspapers, radio, and television stations own it cooperatively. They feed stories to it. As of 2005, 1,700 newspapers used *AP* news. *AP* has 243 bureaus, serving in 121 countries globally. Its competitors outside the US include *Reuters* and *Agence France-Presse*.

In Canada, three dailies, *The National Post, The Ottawa Citizen* (Ottawa) and *The Toronto Star* covered the regional debate. *The Ottawa Citizen* CanWest Global Communications Corporation owns *The Ottawa Citizen* and *The National Post*. In 2003, *The National Post* and *The Ottawa Citizen* had a circulation of 1,502,649 and 990,783, respectively. The *Toronto Star* is Canada's highest-circulation daily, whose print edition circulates almost entirely in Ontario. Within the Toronto's Census Metropolitan Area, *The Toronto Star's* circulation is slightly over 2 million.

In Belgium, *ANB-BIA* (*African News Bulletin-Bulletin d'information Africaine, Brussels)* covered the regional debate. *ANB-BIA* is a fortnightly publication.[196] It covers events as they unfold on the African continent. It is published in English and French.

In Norway, *Afrol News* is a nongovernmental news agency in Norway. It covers events and topical issues on the African continent. It has an online news portal in English, Spanish, French and Portuguese. In Africa, its bureaus are in Dakar (Senegal) and Maseru (Lesotho).

[194] James Kelly, John Wheeler and Joseph Forrest founded *The Chicago Tribune* on June 10, 1847
[195] Moon and Bo Hi Pak of the Unification Church founded *The Washington Times* in 1982
[196] Free copies of *ANB-BIA* can be requested *via* email at anb-bia@village.uunet.be

In Russia, the English-language daily *The Moscow Times* covered the regional debate. As of 2005, its circulation was 3,500. Independent Newspapers owns *The Moscow Times*.[197]

In Australia, *The Weekend Australian* is Australia's only broadsheet newspaper for the weekend (Saturday), reaching the general and up-market population in Australia. Its circulation stands at 300,000.[198]

In China, *The Xinhua News Agency* covered the regional debate. *The Xinhua News Agency* is the official news agency of the People's Republic of China, the other being the *China News Service*. It is distributed in English in Asia, the Middle East, Latin America, and Africa.

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[197] In Russia, Independent Newspapers also owns a Russian-language daily *Vedomosti* and Russian-language versions of popular glossy magazines like *FHM*, *Men's Health* and *Cosmopolitan*

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Appendix C: profiles of other media; list of texts of other media

In Southern Africa, *The Malawi Standard* is an independent Pan African newsletter based in Blantyre, Malawi. *Independent Online* (*IOL*) is a "news and information" online daily newsletter, based in South Africa. Independent Newspapers owns *IOL*. The online newsletter picks up almost every latest news item published in Independent Newspapers' 14 national and regional newspapers. *The ANC Today* is a publication of the African National Congress (ANC), South Africa's leading political party since 1994.

In East Africa, *The African Church Information Service (ACIS)* is a newsletter of the umbrella Christian religious organisation, the ACIS,[199] whose headquarters is in Nairobi, Kenya. Apart from producing and distributing the newsletter *ACIS*, the ACIS is specialized in printing and has, over the years, offered its services to various groups and a broad spectrum of sectors, including churches, NGOs, state organs and UN agencies.

In Great Britain, *People's Earth Decade* is a newsletter of the environmentalist, anti-GM lobby People's Earth Decade, which claims to promote a "collective voice for change" in order to "Earth democracy." *Science Development* is a "free access" website-based newsletter of the Great Britain-based NGO Science and Development Network (*SciDev.Net*), which "aims to provide reliable and authoritative information about science and technology for the developing world." The *Norfolk Genetic Information Network (NGIN)* is a nongovernmental news and research service.[200] It reports on "the global campaign of the opposition to the imposition of genetic engineering."[201] *The Northeast Resistance against Genetic Engineering (NeRage)* is a biotech newswire affiliated with global anti-GM campaigner GM Watch and hence a significant medium for anti-GM social activism globally.

[199] The All Africa Conference of Churches founded the *ACIS* in 1969
[200] NGIN was founded in 1998 in Great Britain
[201] See <http://ngin.tripod.com/whois.htm>. Retrieved in June 2005

In addition, in Great Britain, *Nature* is a prominent, weekly scientific journal.[202] *Nature'*s appeal to public domains is that it has a journalistic style of writing and publication because it contains article summaries and accompanying articles, thereby making most of the articles accessible to non-science experts. Nature Publishing Group, a subsidiary of Macmillan Publishers, edits and publishes *Nature*. *Nature* has offices in London, New York City, San Francisco, Washington, DC, Boston, Tokyo, Paris, Munich, and Basingstoke.

In the US, Church of Christ, Scientist owns the daily *The Christian Science Monitor.*[203] Its content is international and US secular news. It has bureaux in about eleven countries around the world. *YaleGlobal* is Yale University's online newsmagazine run by the Yale Centre for the Study of Globalization. Although it is a "flagship publication" of Yale University globalist academics, it welcomes article contributions from across the globe. *The Southern African Regional Biotechnology Network (SARBN)* is USAID's newsletter on things biotechnological in the region. USAID launched the newsletter in 2000 to promote understanding of biotechnology and biosafety in the sub-continent of Southern Africa.

In Switzerland, the free newsletter of Genet, [204] *Genet*, covered the debate on GM maize in Southern Africa. Genet is a European network of nongovernmental organisations working on various aspects of genetic engineering and engaging in critical debates about it. It operates in 27 European countries. The easily-searchable archive of Genet contains views on the need for freedom from GMOs and concerns about IPR. It also contains what Genet perceives as the western biotech corporate industry's control of the global food chain. *Genet* contains news feeds on the debate from the region's newspapers.

In South East Asia, *Crop Biotech Update* is a free, online newsletter (weekly summary) of global developments in GM technology in agriculture for the so-called developing countries. The International Service for the Acquisition of Agri-biotech Applications

[202] *Nature* was founded in 1869 in Great Britain, originally focussing on topics in evolutionary theory and Darwinism
[203] Mary Baker Eddy, the founder of the church, began the daily in 1908
[204] Genet, the apex organisation, was founded in 1995 in Switzerland

(ISAAA) publishes *Crop Biotech Update*. ISAAA's Global Knowledge Centre for Crop Biotechnology distributes it *via* email.

In the trans-national, virtual space, OneWorld has a newsletter called *DebtChannel*. OneWorld is a consortium of 1500 NGOs from across the globe, purportedly aiming at "promoting sustainable development, social justice and human rights." *DebtChannel* is OneWorld's global portal on the issues of foreign aid and foreign debt. The global portal can be located in Canada. The newsletter, *DebtChannel*, calls for foreign debt cancellation for HIPCs across the world in order to alleviate chronic hunger and massive poverty.

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Appendix D: search engines and global and regional websites; list of web-based texts

Search engines

<http://www.googlescholar.com>

<http:// www.google.com>

<http://www.yahoo.com>

<Http://www.metacrwaler.com>

Global websites

<http://www.allafrica.com>

<http://www.gene.ch/genet.html>

<http://www.irinnews.org>

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Regional websites

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