

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/235659888>

Climate Change Vulnerability and Adaptation Preparedness in Southern Africa: Zimbabwe Country Report

Article · March 2010

CITATIONS

96

READS

3,011

1 author:



Tigere Chagutah

North-West University

12 PUBLICATIONS 133 CITATIONS

SEE PROFILE

Climate Change Vulnerability and Adaptation Preparedness in Southern Africa

Zimbabwe Country Report

2010

Prepared by Tigere Chagutah



This report presents the findings of one of three studies commissioned by the Heinrich Böll Stiftung Southern Africa (HBS) in Botswana , South Africa and Zimbabwe to evaluate the state of preparedness for climate change adaptation in the region.

The Heinrich Böll Stiftung, associated with the German Green Party, is a legally autonomous and intellectually open political foundation. Its foremost task is civic education in Germany and abroad with the aim of promoting informed democratic opinion, socio-political commitment and mutual understanding. In addition, the Heinrich Böll Stiftung supports artistic and cultural, as well as scholarly projects, and co-operation in the development field. The political values of ecology, democracy, gender democracy, solidarity and non-violence are the foundation's chief points of reference. Heinrich Böll's belief in, and promotion of citizen participation in politics is the model for the foundation's work.

Heinrich Böll Stiftung Southern Africa
The Avalon Building
123 Hope Street
Gardens, 8001
Cape Town
South Africa

Tel: +27 (0) 21 461 62 66
Fax: +27 (0) 462 71 87
Email: info@boell.org.za
<http://www.boell.org.za>



Contents

ACRONYMS	v
LIST OF FIGURES, TABLES AND BOXES	v
EXECUTIVE SUMMARY	vi
CHAPTER 1: Introduction	1
1.1 Structure of the report	2
1.2 Methodology	2
1.3 Limitations	2
CHAPTER 2: Background	3
2.1 Country profile	3
2.1.1 Biophysical setting	3
2.1.2 Demographic profile	4
2.1.3 Socio-economic and development profile	5
2.1.4 Contribution to global emissions	6
2.2 Vulnerability to climate change	6
2.2.1 Micro-level vulnerability	7
2.2.2 Macro-level vulnerability	7
2.2.2.1 Agriculture and food security	8
2.2.2.2 Water resources	9
2.2.2.3 Energy generation	9
2.2.2.4 Health	10
2.2.3 Zimbabwe's crisis and vulnerability to climate change	10
2.3 Gender aspects of vulnerability to climate change	11
CHAPTER 3: Climate Change Adaptation – Legislative and Policy Review	12
3.1 Adaptation response policy and legislative architecture	12
3.1.1 The Environmental Management Act No.13 of 2002	12
3.1.2 The National Water Act No.31 of 1998 and the Zimbabwe National Water Authority Act No.11 of 1998	12
3.1.3 The Civil Protection Act No.10 of 1989	13
3.1.4 The Meteorological Services Act of 1990	13
3.1.5 Agriculture policy framework	14
3.1.6 Drought mitigation policy	14
3.2 National communications under the UNFCCC	14
3.3 Policy development process	14
3.4 Appropriateness and quality of adaptation policy, plans and strategies	15



3.4.1	Generalist frameworks	15
3.4.2	Agricultural marketing and pricing policies	15
3.4.3	Water management and land policy	16
3.4.4	Disaster management policy	17
3.5	Climate change adaptation preparedness at policy level	17
3.6	Climate change adaptation projects in Zimbabwe	17
3.7	Gender analysis of adaptation policy frameworks	17
CHAPTER 4: Climate Change Adaptation – Institutional Review		19
4.1	Institutional capacity for climate change adaptation	19
4.1.1	National Climate Change Committee	19
4.1.2	National Climate Change Office	19
4.1.3	Early warning institutions	19
4.1.4	Water and agricultural sector institutions	20
4.1.5	Disaster management institutions	20
4.1.6	Non-governmental organisations	20
4.2	Institutional deficiencies in government	22
4.3	Organisational constraints among NGOs	22
4.4	Mainstreaming gender in adaptation institutions	23
CHAPTER 5: Public Awareness of Climate Change		24
5.1	Climate change awareness	24
5.1.1	Role of the media	25
5.2	Public awareness initiatives	25
5.3	‘Gendering’ public awareness of climate change	25
CHAPTER 6: Regional and International Actions		27
6.1	Zimbabwe and the UNFCCC	27
6.2	Role of state and non-state actors	27
6.3	Zimbabwe’s position	27
6.4	Relationships with regional groupings	28
6.5	Constraints to effective involvement at negotiations	28
6.6	Gender in climate change negotiations	28
CHAPTER 7: Conclusions and Recommendations		29
REFERENCES		31
ENDNOTES		34



ACRONYMS

AMCEN	African Ministerial Conference on the Environment
AREX	Department of Agricultural Research and Extension
CCA	Climate Change Adaptation
CDM	Clean Development Mechanism
COP	Conference of Parties
DMC	Drought Monitoring Centre
EMA	Environmental Management Agency
ENSO	El Niño-Southern Oscillation
FAO	Food and Agriculture Organisation of the United Nations
FEWSNET	Famine Early Warning System of the United States Agency for International Development
FTLRP	Fast Track Land Reform Programme
GEF	Global Environment Facility
GHG	Greenhouse Gas
GPA	Global Political Agreement
GoZ	Government of Zimbabwe
IDRC	International Development Research Centre
INC	Initial National Communication on Climate Change
IPCC	Intergovernmental Panel on Climate Change
ITCZ	Inter-Tropical Convergence Zone
MENRM	Ministry of Environment and Natural Resources Management
NAMA	Nationally Appropriate Mitigation Action
NAPA	National Adaptation Plan of Action
NGO	Non-Governmental Organisation
SADC	Southern African Development Community
SARCOF	Southern African Regional Climate Outlook Forum
SNC	Second National Communication on Climate Change
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
ZIMVAC	Zimbabwe Vulnerability Assessment Committee
ZINWA	Zimbabwe National Water Authority

LIST OF FIGURES, TABLES AND BOXES

Figure 1:	Map of Zimbabwe	3
Figure 2:	Average annual precipitation in Zimbabwe	3
Figure 3:	Topographical map of Zimbabwe	4
Figure 4:	Average annual temperature in Zimbabwe	4
Figure 5:	Evolution of the number of cold and warm days in Zimbabwe	4
Figure 6:	National rainfall deviation	4
Figure 7:	Zimbabwe maize production, 1993–2008	5
Figure 8:	Rainfall variability and economic growth in Zimbabwe	6
Figure 9:	Zimbabwe agro-ecological regions	8
Figure 10:	Water withdrawals, 2002	9
Figure 11:	Discharge rate (000 m ³ /s) of the Zambezi River, 1924–1989, upstream of Lake Kariba	10
Table 1:	Area of natural regions	8
Table 2:	selection of mini-hydro power generation sites	10
Box 1:	Stakeholder consultation for the Zimbabwe Second National Communication on Climate Change	15



Executive Summary

This report is the result of an initiative by the Heinrich Böll Foundation (HBF). It is aimed at supporting the demands of state and non-state southern African actors for climate change adaptation finance and the efficient administration of such funds. The report details the findings of a desk study evaluating the state of knowledge on climate change vulnerability and adaptation preparedness in Zimbabwe.

Zimbabwe has a total population of 11.63 million. The country has suffered political upheaval coupled with extraordinary economic collapse since the year 2000, leaving a significant proportion of the population largely dependent on exploitation of environmental resources for their livelihoods. This period has also coincided with pronounced increases in temperature, recurrent droughts and unpredictable rainfall patterns, all of which have exacerbated suffering among the people of Zimbabwe—especially in the rural areas, where 65 percent of the population resides.

Zimbabwe currently has no specific policy response to climate change. Instead, fragmented responses are implied in a battery of sectoral policies, including those relating to environment and natural resources management, water resources management, agriculture and food security, and disaster management. There exists a need for the definition of a specific policy response to climate change. There is also a need to mainstream climate change adaptation in the policies and work programmes of various government ministries, and to harmonise existing uncoordinated and fragmented pieces of legislation and strategies aimed at enabling and enhancing an adaptive response to climate change in the various sectors of the economy.

The established institutional scenario is characterised by weak capacity to implement policies and strategies related to climate change adaptation. Specialist skills in climate change research across the key sectors of health, water and natural resources management are

The reliance of the vast majority of Zimbabweans on rain-fed agriculture and the sensitivity of major sectors of the economy to the climate makes Zimbabwe particularly susceptible to climate change.

The reliance of the vast majority of Zimbabweans on rain-fed agriculture and the sensitivity of major sectors of the economy to the climate make Zimbabwe particularly susceptible to climate change. Despite this, very little research has been carried out on climate change, particularly adaptation, in Zimbabwe over the past five years. Although past studies have yielded significant information on sectoral vulnerability to climate change in Zimbabwe, there is a paucity of data relating to vulnerability at community and household levels. Considerable knowledge about sectoral vulnerability is not matched by efforts towards adaptation, and very little is available in the way of sectoral adaptation response plans. Additionally, while communities have developed many varied ways of coping with perennial droughts, very few studies have systematically recorded these coping strategies so as to map existing community adaptation strategies. Data here are currently available only from isolated studies.

lacking, as is the capacity to generate same through the national tertiary education system. As with other sectors of government, skills flight and inadequate funding mechanisms have impacted heavily on the capacity of various institutions to implement policies, plans and strategies relating to climate change adaptation in Zimbabwe. Vital institutions in need of such support include the Climate Change Office; institutions involved in early warning, such as the National Early Warning Unit; the Zimbabwe Vulnerability Assessment Committee; and the Meteorological Services Department. Other vital institutions in need of capacity-related support are the Zimbabwe National Water Authority, the Department of Agricultural Research and Extension, and the Department of Civil Protection. Although the non-governmental organisations are also affected by skills flight, their capacity constraints are less crippling. However, NGOs continue to work individually and without coordination, resulting in duplication of



interventions, among other problems. There is a need to bring together NGOs under a coordination mechanism dedicated solely to climate change issues.

Public awareness, especially as it relates to adaptation, is sorely lacking in Zimbabwe. Chief among the constituencies in need of increased awareness-raising efforts are the legislators, whom evidence has shown have very little knowledge of climate change and the need for an urgent policy response to it. In addition, very little information is available through the country's media on long-term climate change. Media practitioners still view reporting on climate change as a specialty area, and many do not make necessary connections to climate change in their day-to-day reporting, even on environment-related issues. In addition to increased professional training on reporting climate change issues, a bigger challenge and need exists within journalism training schools to encourage and develop curricula on climate and environmental reporting.

Many farmers are aware of climate change, although many still view its effects in the light of normal seasonal climatic variability. There is need for a concerted effort to raise awareness of climate change among farmers, with an emphasis on its implications for their choice of farming methods, timing, and crop and seed varieties.

Zimbabwe's participation at regional and international climate change forums has suffered because resources to build a stronger and larger negotiating team for the country have been unavailable. Also, there is limited participation of civil society in crafting the country's position on climate change. This excludes the views of a large section of Zimbabwe's population, leaving this task to government bureaucrats and a small section of the research community. Members of civil society active in climate change issues need to form a strong coalition, and to create space for their views and participation in crafting the country's position and policy on climate change. Civil society must also have a voice in the actual negotiations.

A deliberate and extensive effort is needed to integrate gender issues into Zimbabwe's response to climate change. Gender disaggregated data on vulnerabilities is needed at both micro and macro levels. The accentuated vulnerability of women to climate change should be acknowledged, researched and integrated in planning and strategy building. Policy making in response to climate change must ensure the participation of women, children, the elderly, the disabled and other vulnerable groups. Gender parity should

be mainstreamed in the institutional frameworks and programmes of all organisations and bodies involved in responding to climate change in Zimbabwe. Likewise, institutions involved in public awareness raising should ensure that communities are informed of the implications of climate change on gender relations, and are aware of restorative alternatives.



CHAPTER 1: Introduction

The people of Africa will bear the brunt of global climate change, with severe impacts already affecting their varied livelihoods systems and the unique biodiversity of African ecosystems. Disproportionately, no significant contribution by Africa to global warming can be established. Africa has contributed less than 3 percent of the world's total emissions of greenhouse gases.¹

The global response to climate change has focused on *mitigation* of greenhouse gas emissions and *adaptation* to the changing climatic conditions and consequent environmental changes. In this response, coordinated mainly through the ongoing United Nations Framework Convention on Climate Change (UNFCCC) process, Africa's contribution to the *mitigation* of greenhouse gas emissions will play a significant role. However, Africa's major focus is on issues of *adaptation*. Successful adaptation depends upon technological advances, institutional arrangements, availability of financing, and information exchange.² The UNFCCC recognises the need to adapt to climate change and to assist those countries least able to adapt.³

According to Article 4.1 of the UNFCCC, parties are committed to:

Formulate, implement, publish and regularly update national and, where appropriate, regional programmes containing measures ... to facilitate adequate adaptation to climate change [Art.4.1. (b)]; and

Cooperate in preparing for adaptation to the impacts of climate change; develop and elaborate appropriate and integrated plans for coastal zone management, water resources and agriculture, and for the protection and rehabilitation of areas, *particularly in Africa*,⁴ affected by drought and desertification, as well as floods [Art.4.1 (e)].

Article 4.4 states that:

The developed country Parties and other developed Parties included in Annex II shall also assist the

developing country Parties that are particularly vulnerable to the adverse effects of climate change in meeting the costs of adaptation to those adverse effects.

The African negotiating bloc has outlined several demands. These include adequate, sustainable, predictable, new and additional financial resources and investment to support action on mitigation, adaptation and technology cooperation, as well as a legally binding adaptation framework. Details are still emerging on the source and magnitude of adaptation finance, and the arrangements by which these funds will be administered. However, it is clear that in order to make a strong case for adaptation finance, African countries will have to demonstrate that they are able to utilise adaptation funding efficiently, transparently, and for the purpose it was intended.

African countries have been required to provide National Communications on climate change impacts and vulnerabilities, and Least Developed Countries (LDCs) are supported to produce *National Adaptation Programmes of Action* (NAPAs). These plans may provide the basis, or even condition, on which African countries could apply for adaptation funds in the future. Furthermore, plans for *Nationally Appropriate Mitigation Actions* (NAMAs), while not yet required in the form of binding commitments, may become a condition for countries to access funds for mitigation. Most African countries have undertaken steps to fulfil such commitments; but in many cases, the lack of funding and human and institutional capacity for the implementation of NAPAs are critical challenges.⁵

In response to demands by state and non-state southern African actors for adaptation finance and the goal-oriented and efficient administration of such funds, The Heinrich Böll Stiftung Regional Office for Southern Africa (HBS) commissioned a study to evaluate the state of knowledge on climate change vulnerability and adaptation preparedness. The countries selected for the study were Botswana, South Africa and Zimbabwe. This report focuses on the study's findings with respect to Zimbabwe.

1 Unmüßig, B. and Cramer, S. 2008. "Climate Change in Africa." GIGA *Focus Africa*. No.2. 2008. German Institute of Global and Area Studies. Hamburg. <http://boell.org.za/web/144-431.html>

2 Watson et al. 1996: 24 in Olmos, S. 2001. "Vulnerability and Adaptation to Climate Change: Concepts, Issues, Assessment Methods." A paper prepared for the Climate Change Knowledge Network. July 2001. www.ccknnet/pdf/va_foundation_final.pdf

3 See Olmos 2001.

4 Emphasis added.

5 Mqadi, L. 2009. Key Issues Being Negotiated in Copenhagen: Implications for South Africa and Other Southern African countries. *Perspectives*. 2.09. Heinrich Böll Foundation. Cape Town.



The study sought to establish the following:

- impacts of and vulnerability to climate change
- what climate change adaptation policies, plans and strategies exist, and their genesis and appropriateness relative to current knowledge of vulnerabilities at the national level
- who the main institutional actors involved in climate change adaptation policy and responses are, and whether they have adequate capacity and efficacy to implement adaptation policies
- how much awareness exists about climate change—and particularly adaptation—within the public sphere
- the role played by state and non-state actors in the international climate change negotiations

1.1 Structure of the report

Chapter 1 of this report introduces the study, sets out its objectives, and describes the study's methodology and its limitations. Chapter 2 gives the background to the country study by looking at Zimbabwe's biophysical setting, demographic and socio-economic profiles, and contribution to global emissions. An analysis of Zimbabwe's main vulnerabilities to climate change is also given. Chapter 3 presents a review and analysis of policy, government plans, strategies, projects and core documents relevant to climate adaptation in Zimbabwe. Chapter 4 takes a look at the institutional capacity for climate change adaptation in Zimbabwe. Both state and non-state institutions are reviewed, with attention to their role, capacity and challenges in enabling an effective adaptation response. Chapter 5 gives an account of climate change public awareness in Zimbabwe, characterises the dominant debates and highlights some of the current initiatives geared to increasing public awareness of climate change. Zimbabwe's involvement in the UNFCCC negotiations process is described and critiqued in Chapter 6. Each chapter concludes with an integrated gender analysis. Conclusions from the preceding discussions and recommendations are offered in Chapter 7. Appended to the report is a list of prominent adaptation projects implemented and ongoing in Zimbabwe.

1.2 Methodology

Due to the nature of the study, a multi-pronged approach was adopted to identify relevant literature. A web- and email-based search for documentation and a desktop review of printed literature were used to enable analysis of secondary data on vulnerability and adaptation

to climate change in Zimbabwe. Sources consulted included government and international reports, state and non-state agency development and climate change response plans, public research organisations' reports, and academic and scientific literature.

1.3 Limitations

The overriding limitation in this study was that findings were solely based on information that is documented and publicly available. Little research has been carried out on climate change in Zimbabwe over the past five years.⁶ In addition, findings from research that has been carried out are not readily available publicly. Certain current government-led processes in climate change strategy and policy development have also not been documented due to a lack of resources, thereby barring them from being reported adequately.ⁱ

⁶ McDevitt, A. 2009. "Climate Change and Zimbabwe." Helpdesk research report. Governance and Social Development Resource Centre. <http://www.gsdr.org/docs/open/HD620.pdf>



CHAPTER 2: Background

2.1 Country profile

2.1.1. Biophysical setting

Zimbabwe is a landlocked country in tropical southern Africa, sharing borders with South Africa to the south, Botswana to the southwest, Mozambique to the east and Zambia to the northwest. Much of the country sits on a plateau 1000 m or more above sea level. The main physical feature of Zimbabwe is the high watershed, which ranges from 1200 m to 1500 m above sea level and runs from southwest to northeast. In the east is a series of mountain ranges with peaks as high as 2600 m above sea level. From the central plateau, the altitude decreases northwards towards the Zambezi River Valley and southwards into the Limpopo River Basin. The major rivers are the Zambezi and the Limpopo, with valleys below 500 m above sea level.



Figure 1: Map of Zimbabwe

SOURCE: <http://www.intimate-africa.com>

Zimbabwe’s climate is mostly semi-arid. The country lies in a region with limited and unreliable rainfall patterns, and has a national mean rainfall of 655 mm. Mean annual rainfall ranges from 300 mm in the low-lying Limpopo Valley in the south to over 3000 mm per annum in some high mountain areas to the east. The rainy season extends from November to March with a peak in January, during which time rainfall exceeds 100 mm over most of the country. The rainfall regime is predominantly free convection associated with the

Inter-Tropical Convergence Zone (ITCZ). Inter-annual variability in rainfall is relatively high, ranging from 16 percent on the northern plateau to 48 percent in the Limpopo River Valley (overall mean 29 percent).⁷

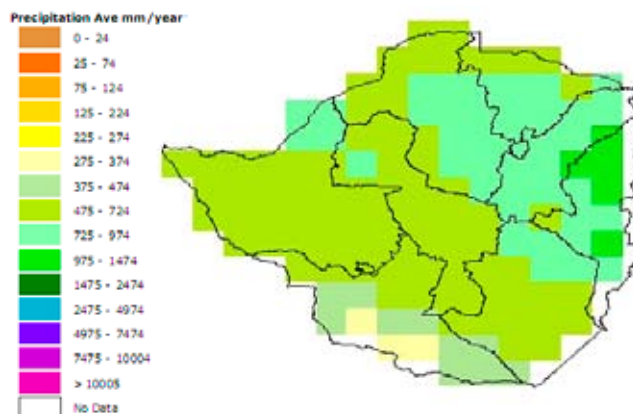


Figure 2: Average annual precipitation in Zimbabwe

SOURCE: FAO

On average, one to three droughts occur every ten years, largely due to changes in the phases of the El Niño-Southern Oscillation (ENSO) phenomenon and periodic sea surface temperature changes. Annual evaporation ranges from 1400 mm in the cool eastern highlands to as high as 2200 mm in the hot low-lying areas to the south and north of the country.

The relatively high elevation of most parts of Zimbabwe, especially the central watershed, has a moderating effect on temperatures. Most parts of the country, therefore, enjoy temperatures that are generally lower than might be expected for their latitudes. The mean annual temperature varies from 18°C in the highveld to 23°C in the lowveld. The highveld experiences some frost in June or July most years, and temperatures rise up to 30°C around October. In the lowveld, temperatures rarely fall below 2°C in winter but can rise to over 40°C in summer.⁸

7 Frost, G. H. 2001. Zimbabwe and United Nations Framework Convention on Climate Change. A Working Paper. Overseas Development Institute. London. <http://www.odi.org.uk/resources/des.asp?id=315&title=zimbabwe-international-institutions-unfccc>

8 GoZ. 1998. Zimbabwe’s Initial National Communication on Climate Change. Climate Change Office—Ministry of Mines, Environment and Tourism. Government of Zimbabwe. Harare. http://unfccc.int/essential_background/library/items/3599.php?rec=j&preref=2251#beg

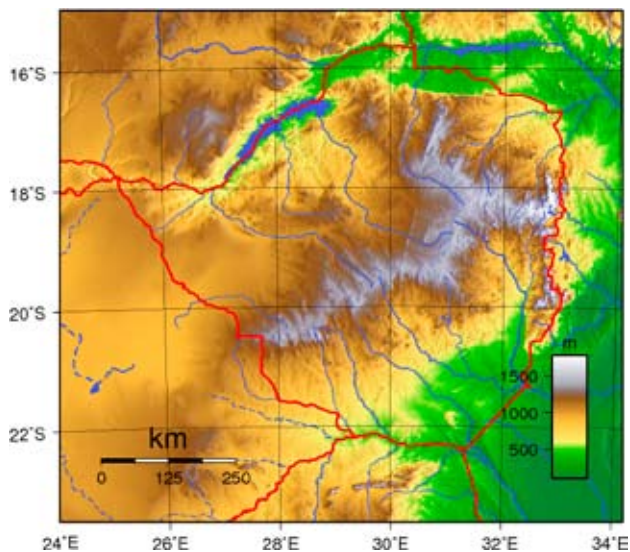


Figure 3: Topographical map of Zimbabwe

SOURCE: <http://commons.wikimedia.org>

the warmest years on record for Zimbabwe have occurred since 1987.¹⁰

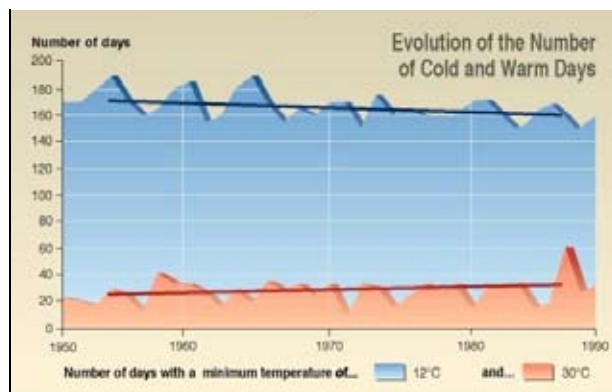


Figure 5: Evolution of the number of cold and warm days in Zimbabwe

SOURCES: Zimbabwe Department of Meteorological Service at <http://weather.utande.co.zw/climate/climatechange.htm>

http://maps.grida.no/go/graphic/climate_change_in_zimbabwe_trends_in_temperature_and_rainfall

Credit: Philippe Rekacewicz, UNEP/GRID-Arendal

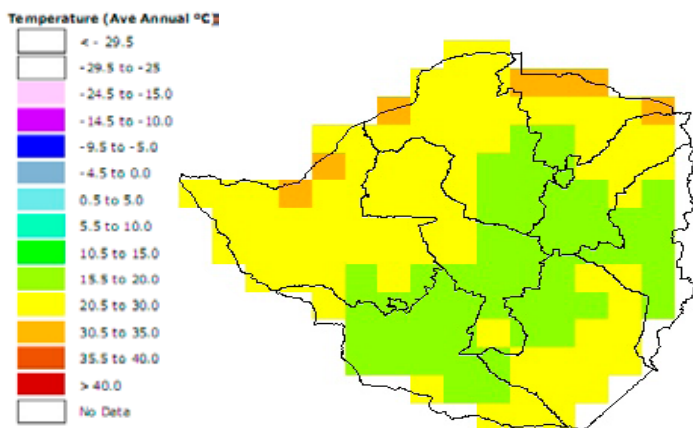


Figure 4: Average annual temperature in Zimbabwe

SOURCE: FAO

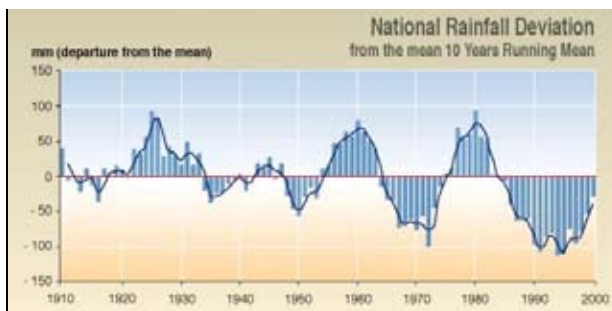


Figure 6: National rainfall deviation

SOURCES: Zimbabwe Department of Meteorological Services at <http://weather.utande.co.zw/climate/climatechange.htm>

http://maps.grida.no/go/graphic/climate_change_in_zimbabwe_trends_in_temperature_and_rainfall

Credit: Philippe Rekacewicz, UNEP/GRID-Arendal

By the end of the twentieth century, Zimbabwe was a warmer and drier country than it was at the beginning. Annual mean temperatures had increased by about 0.4°C since 1900, and rainfall had declined by nearly 5 percent across the country. The 1990s were on record as the warmest and driest decade of the century.⁹ Temperature analysis results from meteorological stations in Beitbridge, Bulawayo and Harare indicate a rise in daily minimum temperatures of around 2.6°C, coupled with a rise in daily maximum temperatures of about 2°C in the last century. The number of cold days is decreasing at a rate of about fifteen days per 100 years. Further, six of

2.1.2. Demographic profile

With a population of 11.63 million on a land area of 390 000 square kilometres, Zimbabwe's population density is 29.8 persons per square kilometre. The population growth rate is 1.1 percent. Sixty-five percent of the inhabitants live in rural areas, mainly as peasant farmers, and the rest live in urban areas. The proportion of people living in urban areas rose from just under 31 percent

9 GoZ / UNDP. 2007. "Zimbabwe: Coping with Drought and Climate Change." UNDP project document. Harare.

Part I: <http://www.undp.org.zw/images/stories/Docs/ProDocs/Coping-with-dr1.pdf>

Part II: <http://www.undp.org.zw/images/stories/Docs/ProDocs/Coping-with-dr2.pdf>

10 "Report of a Climate Change Awareness and Dialogue Workshop for Parliamentarians." Kadoma. 19 October 2009.



of the population in 1992¹¹ to 35 percent in 2006.¹² In recent years, Zimbabwe's urban population annual growth rate has averaged 5.9 percent. The structure of Zimbabwe's population has a high dependency ratio, with about 40.6 percent of the population under the age of fifteen years. Limited resources and opportunities in the communal areas have accelerated rural-to-urban migration.

Available gender disaggregated data show that proportionately more men than women live in urban areas (female:male sex ratio 0.94), reflecting the effects of migrant labour. Conversely, women predominate in the rural areas (sex ratio 1.16).¹³

2.1.3. Socio-economic and development profileⁱⁱ

Zimbabwe has suffered extraordinary economic collapse since the year 2000. Gross domestic product fell by a cumulative 40 percent between 2000 and 2007, plunging a further 14 percent in 2008. Inflation is estimated to have peaked at a record 500 billion percent in September 2008, while foreign currency reserves amounted to \$6 million against a foreign debt of \$6 billion. Humanitarian aid for 2008 was a massive \$490 million, against a background of over 90 percent unemployment and the worst crop failure in the country's history.

Agriculture has historically been central to Zimbabwe's economy. Sixty-five percent of the country's population lives in the rural areas, and is therefore directly or indirectly dependent on agriculture for employment and food security. Increasingly, urban populations have also been dependent on agriculture for their survival as most sectors of Zimbabwe's economy tumbled: an estimated 56 percent of urban households reported having grown their own staple, maize, during the 2008–09 agricultural season.

Historically, agriculture has been the bedrock of Zimbabwe's export revenue, contributing 51 percent of export earnings in 2000. The manufacturing sector has also historically depended on productivity in agriculture, since much of it was based on processing agricultural products. However, the dire economic collapse precipitated by the government's Fast Track Land Reform Programme (FTLRP), which began in 2000, has devastated large-scale commercial agriculture,

with catastrophic consequences. The implementation of this policy has also compounded concerns about political stability, the rule of law, and government accountability, transparency and honesty. The newly settled farmers cultivate only about 30 to 55 percent of the total arable land allocated to them, owing to shortages of tractor/draught power, fuel and investment in infrastructure, as well as absenteeism on the part of some new settler beneficiaries.

Following the land reform programme, the large-scale commercial sector now produces less than one-tenth of the maize that it produced in the 1990s.¹⁴ Agriculture's share of export earnings had fallen to 29 percent by 2008, and production declined by 79 percent between 2002 and 2008. In mid-2009, Zimbabwe was judged the most food aid-dependent country in the world, with up to 80 percent of the population relying on food aid.

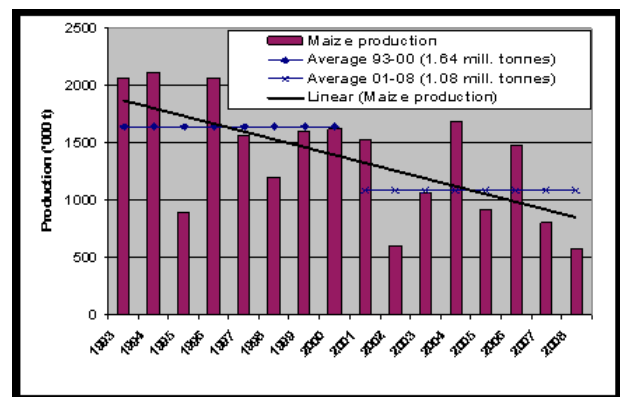


Figure 7: Zimbabwe maize production, 1993–2008

SOURCE: FAO

Potential climatic changes raise concerns regarding Zimbabwe's strong dependence on agriculture for economic development. Because so much of national agricultural production is based on rainfall, the country's output is directly influenced by weather patterns. In addition to other factors such as the FTLRP, political instability, and absence of the rule of law and government accountability, trends in economic growth have also been linked to rainfall variability which directly impacts the agricultural sector; a major contributor to GDP (see Fig.7)

11 See Frost 2001.

12 GoZ. 2006. Republic of Zimbabwe: Preparation of the Second National Communication under the UN Framework Convention on Climate Change (UNFCCC). National Communication Support Programme. UNDP. <http://ncsp.undp.org/docs/637.doc>

13 See Frost 2001.

14 FAO. 2008. "Crop and Food Supply Assessment Mission to Zimbabwe." Special report. FAO/WFP. 18 June 2008. <http://www.fao.org/docrep/010/ai469e/ai469e00.htm>

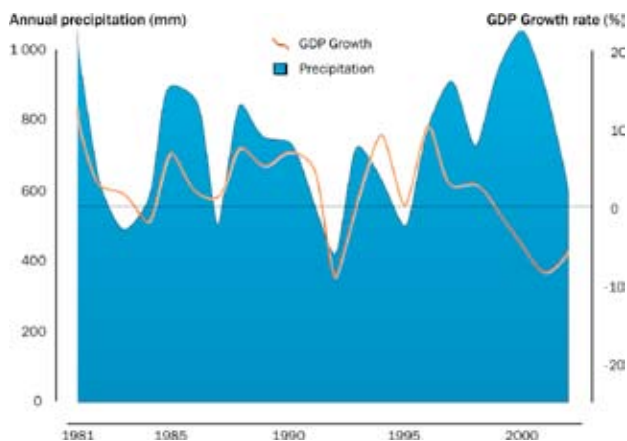


Figure 8: Rainfall variability and economic growth in Zimbabwe

SOURCES: United Nations Statistics Division. 2006. UN Common Database—GDP annual rate of growth (World Bank estimates).

<http://unstats.un.org/unsd/cdb/>

<http://maps.grida.no/go/graphic/rainfall-variability-and-economic-growth-in-zimbabwe>

Credit: Hugo Ahlenius, UNEP/GRID-Arendal

Water and sanitation delivery is in shambles, with the result that in 2008 and early 2009, a cholera outbreak killed more than 4000 people—one of the largest outbreaks in recorded history. Safe water coverage in the urban areas is glaringly inadequate. Raw water sources for the largest urban centres such as Harare, Bulawayo and Chitungwiza are only sufficient for normal rainy seasons, as reservoir capacity is now too small. The capital, Harare, has only half the clean water storage capacity it requires. Water coverage in the rural areas was 75 percent in 1999, but by 2007, a third of the rural population was estimated to be without access to improved drinking water. A 2006 survey revealed that only 30 percent of rural households used safe sanitary facilities, compared with 60 percent in 1999.

2.1.4. Contribution to global emissions

Zimbabwe contributes minimally to global carbon dioxide emissions, the most important greenhouse gas (GHG), in both absolute and *per capita* terms. Most of Zimbabwe's emissions come from energy. Commercial energy use in the country accounts for only about 0.1 percent of global energy consumption, and just over 3 percent of energy consumption in Africa.¹⁵ In 1990, the country produced just over 0.1 percent of total global anthropogenic CO₂ emissions, but this had fallen to 0.08

percent by 1997.¹⁶ As the second-most industrialised country in southern Africa after Africa's largest emitter, South Africa,¹⁷ Zimbabwe emits about half the global *per capita* average, but twice the average for the rest of Africa.

More than 48 percent of the country's emissions emanate from power generation. Industry is another significant contributor to GHG emissions, at 14.97 percent. Agriculture (11.34 percent), transport (11.82 percent), commercial activities (9.59 percent) and the rest, including mining and households, contribute 4.18 percent. Over 70 percent emissions are from energy production and use.¹⁸ Biomass fuels are the sole source of energy for over 95 percent of the rural population. Biomass fuels are used for cooking, lighting and heating, mainly due to the unavailability of alternative sources of energy.¹⁹

2.2 Vulnerability to climate change

Vulnerability studies carried out in Zimbabwe vary in their objectives, the systems and sectors under investigation, the methods applied, and their location-specific contexts. These differences pose a problem in comparing and synthesizing findings. However, available literature reveals a discernible dichotomy in the scale of investigation. Both small-scale, community (micro-level) studies and national, sector-wide (macro-level) studies have been carried out; but very little work has focused specifically on the micro-level vulnerability of different social groups to climate change in Zimbabwe.²⁰ There is a huge gap in research and understanding of vulnerability to climate variability and change at the household and community level from the affected communities' perspectives. In addition, there have been no nationwide attempts to map micro-level vulnerability, and the data available are from isolated studies.

Conversely, more systematic research has been done on macro-level sectoral impacts and vulnerabilities through the UNFCCC National Communications process, government-led economic sector planning and academic research. Most macro-level vulnerability studies have focused on the processes and conditions shaping the consequences of climate variations and change within a limited range of domains. These include agriculture and national food security, water resources management, energy generation and health.

¹⁶ World Bank 2000 in Frost 2001.

¹⁷ See FAO 2008.

¹⁸ See "Report of a Climate Change Awareness and Dialogue Workshop for Parliamentarians." Kadoma. 19 October 2009.

¹⁹ See GoZ 1998.

²⁰ See McDevitt 2009.

¹⁵ See Frost 2001.



2.2.1. Micro-level vulnerability

A recent study²¹ shows that household-level vulnerability in Zimbabwe is influenced by conflict and insecurity; inequitable land distribution; low education; poor infrastructure; gender inequality; dependence on climate-sensitive resources; poor health status; and HIV/Aids. The study shows that although unequal distribution and access to markets, power structures and the breakdown of social networks affect vulnerability, they do so differentially. Vulnerability is shown to vary from village to village, with climate-related water shocks such as droughts and floods creating both opportunities and challenges, depending on the ability of the household to diversify its source of livelihood.

Disease often also deprives households of labour during critical periods, adding to vulnerability. The study identifies the following groups as particularly vulnerable: elderly populations (especially women), orphans and urban residents. Also, it is not always the poorest who are most vulnerable to climate change. In some cases, irrigation farmers may be at greater risk from increasingly

At independence in 1980, Zimbabwe inherited a skewed land ownership structure that reserved 70 percent of the country's commercially viable, arable land for a white minority totalling less than 1 percent of total population.²⁴ In addition to reduced opportunities under conditions of overcrowding, the inequitable distribution of land under colonial rule has led to other problems. These include high rates of soil erosion, deforestation, land fragmentation into uneconomic units, low productivity, and overstocking and resultant overgrazing, all of which increase the rural population's vulnerability to climate extremes.²⁵

A study of cotton farmers' vulnerability to climate change in the Gokwe District of Zimbabwe²⁶ found that the decrease in rainfall during the drought years of 1981–82 and 1991–92 not only impacted on cotton output, but also had marked impacts on social and human capital. Of the respondents surveyed, 23 percent reported children dropping out of school because parents could not afford to pay their school fees following a failed cotton crop. Fifteen percent reported migration to urban areas by the

Irrigation farmers may be at greater risk from increasingly frequent droughts, as they are less diversified and face a combination of both market and climate risks.

frequent droughts, as they are less diversified and face a combination of both market and climate risks.²²

Another study,²³ in the predominantly rural district of Chiredzi, southeast of Zimbabwe, found that the most vulnerable households included female-headed households, those lacking access to irrigation, and poor households. Rural-to-urban and cross-border migration were found to compound vulnerability by leaving agricultural activities to older and very young people, who may not be able to maximise the use of land. A factor that has historically prompted younger, economically active people to migrate to urban areas is the high population densities found in the mostly marginal lands reserved for the majority black population under colonial rule.

productive age groups in search of alternative means of generating income, and 21 percent reported increased antisocial behaviour at Gokwe town centre.

2.2.2. Macro-level vulnerability

Zimbabwe is vulnerable to climate change in various socio-economic sectors, principally through shifting rainfall and extreme events. In addition, social, economic and political processes affecting human settlements, agricultural patterns and natural resources such as water, vegetation and forestry are likely to exacerbate climate impacts. Perennial drought already affects water supplies, agriculture and access to food, impacting negatively on basic health and survival. Zimbabwe is also vulnerable to a perennially high incidence of malaria.²⁷

21 Eriksen, S., O'Brien, K., and Rosentrater, L. 2008. "Climate Change in Eastern and Southern Africa. Impacts, Vulnerability and Adaptation." Global Environmental Change and Human Security (GECHS). Oslo.

<http://www.bvsde.paho.org/bvsacd/cd68/ClimAfrica.pdf>

22 See Frost 2001.

23 JIMAT Development Consultants. 2008. "Coping with Drought and Climate Change Project: Baseline Study." Final Report to EMA and UNDP. Harare. <http://www.undp.org.zw/component/content/175.html?task=view&3a1ed061a28f8a5e62fd4865066ea7fa=dirxelcs>

24 See http://en.wikipedia.org/wiki/Zimbabwe#Land_reform

25 Chenje, M., Soloa, L., and Paleczny, D. 1998. *The State of Zimbabwe's Environment 1998*. Ministry of Mines, Environment and Tourism. Government of the Republic of Zimbabwe. Harare.

26 Gwimbi, P. 2009. "Cotton Farmers' Vulnerability to Climate Change in Gokwe District (Zimbabwe): Impact and Influencing Factors." *JAMBÁ: Journal of Disaster Risk Studies*. 2(2) November 2009. African Centre for Disaster Studies. North-West University. Potchefstroom, South Africa. http://acds.co.za/uploads/jamba/vol2no2/81_92_Gwimbi.pdf

27 Chigwada, J. 2005. "Climate Proofing Infrastructure and Diversifying Livelihoods in



Because agricultural and water resources are so important to Zimbabwe's economy, documented knowledge focuses on the vulnerability of these sectors, while climate change impacts on biodiversity and the vulnerability of populations whose livelihood is dependent on biodiversity have received limited attention.

2.2.2.1. Agriculture and food security

Rain-fed agriculture forms the basis of the agricultural sector of Zimbabwe. Historically, major food crops are cereals such as maize, wheat, sorghum and millet, and vegetables. Major cash crops have been cotton, sugar, tobacco and horticultural produce. Water-demanding and drought-susceptible maize is the dominant and preferred staple food in Zimbabwe. The lack of diversity and the minor role played by drought-tolerant staples such as sorghum, millet and cassava increase the vulnerability of food systems to the effects of climate change.

The land in Zimbabwe has been categorised into five agro-ecological or natural regions, based on average rainfall, altitude above sea level and other climatic conditions prevailing in each region. Based on this information, farming systems suitable for each region have been determined.

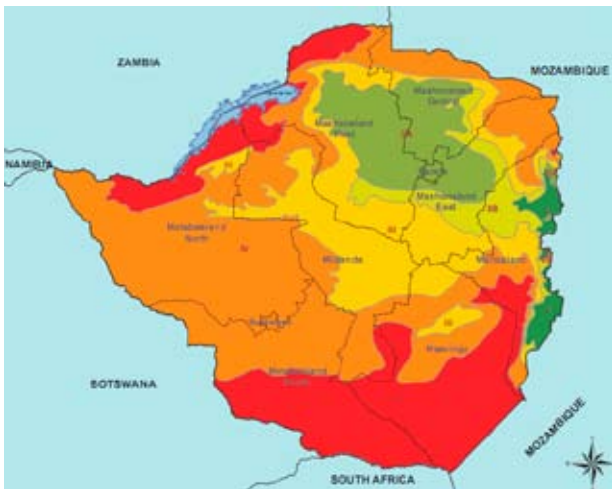


Figure 9: Zimbabwe agro-ecological regions

SOURCE: <http://www.reliefweb.int>

The area of each natural region in relation to the area of the whole country is given in Table 1. Natural regions I and II, which are the most favourable for specialised and intensive farming, comprise only 16.9 percent of the entire country. The rest of the country makes up

natural regions III, IV and V, where rainfall is erratic and inadequate, making rain-fed agriculture a risky venture.

Table 1: Area of natural regions

NATURAL REGION	AREA IN HECTARES	AS PERCENTAGE OF COUNTRY
I	703,400	1.8
II	5,861,400	15.1
III	7,287,700	19.5
IV	14,782,300	36.7
V	10,441,100	26.8
TOTAL	39,075,900	100.0

Agricultural production and food security have suffered significantly following the government's Fast Track Land Reform Programme, initiated in 2000, when land was acquired from primarily white large-scale commercial farmers for redistribution to predominantly landless, poor black Zimbabweans. The resettled farmers remain constrained by limited support services to ensure full utilisation of acquired land, which has in turn exercised a negative impact on food security at both national and household levels.²⁸

Reduced rainfall has led to recent domestic cereal deficits. By September 2007, food insecurity was reported in southern and western Zimbabwe, largely as a result of a drought during the 2006–07 agricultural season. The harvest from this season provided only 45 percent of Zimbabwe's cereal needs, leaving the country with an import requirement of over 610,000 metric tonnes.²⁹

The vulnerability of Zimbabweans to reduced rainfall is compounded by the fact that up to 80 percent of the population are farmers,³⁰ including some in urban areas who depend on agriculture for their livelihoods and staples. Women play an important role in agriculture; it is estimated that 70 percent of small-scale farmers are women.³¹

2.2.2.2. Water resources

Zimbabwe's agriculture sector suffers from a deficiency of water resources, particularly in the agro-ecological zones IV and V to the extreme north and south of the country.

28 See GoZ / UNDP 2007.

29 FEWSNET. *Zimbabwe Food Security Outlook October 2007 to March 2008*. September 2007

30 Levina, E. 2006. "Domestic Policy Frameworks for Adaptation to Climate Change in the Water Sector Part II: Non-Annex I Countries. Lessons Learned from Mexico, India, Argentina and Zimbabwe." OECD, Paris.
<http://www.oecd.org/dataoecd/46/15/37671630.pdf>

31 FAO AQUASTAT 2005.
<http://www.fao.org/nr/water/aquastat/countries/zimbabwe/index.stm>



Zimbabwe has a few perennial rivers and there are no large floodplains and swamps because of the semi-arid climate and topography.

Zimbabwe's State of the Environment Report 1998 estimates that surface water resources (mostly rivers) account for 90 percent of the country's water supply, with a supplement from dams. In 2000, agricultural water use was estimated at 71 percent of total withdrawals,³² rising to 78.9 percent in 2002.³³ This is against projections of annual rainfall decline of between 5–20 percent of the 1961–90 average by 2080 in all the country's major river basins. Evapo-transpiration under climate change is predicted to increase by between 4 and 25 percent in the river basins, and runoff has been projected to decline by up to 40 percent, with the Zambezi Basin the worst affected.³⁴

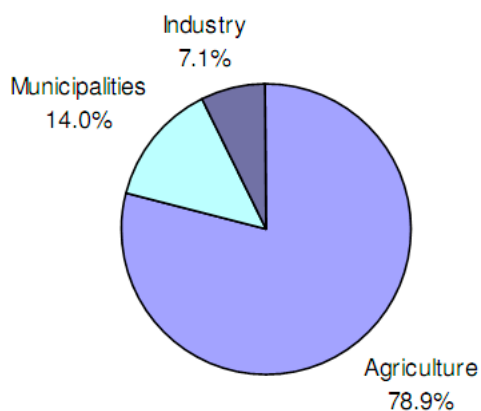


Figure 10: Water withdrawals, 2002

SOURCE: FAO AQUASTAT 2005

A sensitivity analysis of water storage in Zimbabwe's main reservoirs during the 1991–92 drought cycle indicated that with a 2 °C mean temperature increase and a potential evaporation exceeding the long-term average by 30 to 90 percent, the water level dwindled to 10 percent of the capacity. In 2007, most of Zimbabwe's dams had extremely low water levels due to high evaporation, resulting in some of them being decommissioned. The last six years having been the warmest of the last fifteen,³⁵ evaporation has increased in Zimbabwe. This trend has severely affected human livelihoods and ecosystems, and has curtailed economic activity—this coincident with predictions of increased

droughts induced by climate change. Due to the reduced water levels, many rural wells and boreholes have dried up, urban water supplies have been severely limited throughout the country, and hydroelectric power generation has gradually fallen, threatening several industries.

Water available for storage from runoff varies between seasons. The estimated long-term mean is 20 billion m³ per annum, excluding the flow of the Limpopo and Zambezi Rivers. Groundwater is an important, yet inadequately utilised, water source in Zimbabwe. The Nyamandhlovu Aquifer in southwestern Zimbabwe is one of the major aquifers in the country. Secondary aquifers exist in crystalline formations that comprise two-thirds of the country. Estimates by the International Union for Conservation of Nature and Natural Resources (World Conservation Union) show that Zimbabwe's water supply-to-demand ratio is 0.89 negative, with demand outstripping supply by 631 million m³. The demand comprises water for domestic purposes, irrigation, livestock, industry and energy generation.

2.2.2.3. Energy generation

Zimbabwe is critically dependent on hydroelectric power. With 80 percent of the country's electricity supply coming from the Lake Kariba Dam, commercial and domestic electricity supply is heavily reliant on sufficient water.³⁶ Lake levels are crucial for energy generation at the Kariba Dam. Future decreases in rainfall will have implications for the contribution made by Lake Kariba to the Zimbabwean economy. The dry years of the mid-1980s led to a major fall in lake levels and a concomitant reduction in energy generation (see Fig.10). Further decreases in rainfall across the Zambezi Basin, as predicted, would lead to lower lake levels for Kariba.

The economic impacts of curtailed hydropower generation from Lake Kariba on the Zambezi River, resulting from the 1991–92 drought, was estimated at some US\$101 million loss in GDP, US\$36 million loss in export earnings and the loss of 3,000 jobs.³⁷

Zimbabwe is currently actively pursuing opportunities in small-scale hydropower. A potential of over 120 MW from mini-hydro exists in Zimbabwe.³⁸

32 See GoZ / UNDP 2007.

33 See FAO AQUASTAT 2005.

34 Ibid.

35 IPS. 2008. Q&A: "We Need Policies That Address Climate Change". Interview with Washington Zhakata, national coordinator of Zimbabwe's Climate Change Awareness Programme. Harare. 26/07/2008.

36 See Levina 2006.

37 Benson and Clay 1998 in Manase. "Documentation of Research on Climate Change and Water in Southern Africa." [2nd DRAFT]. Undated.

38 See "Report of a Climate Change Awareness and Dialogue Workshop for Parliamentarians." Kadoma. 19 October 2009.

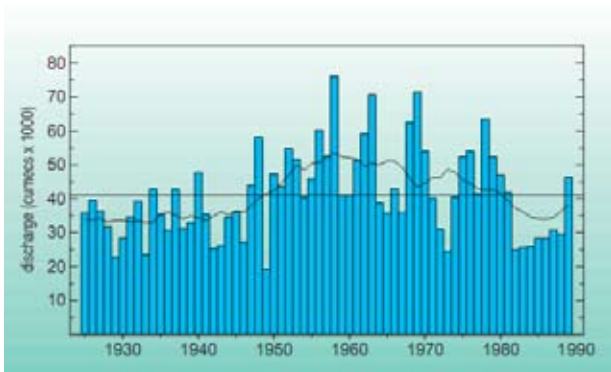


Figure 11: Discharge rate (000 m³/s) of the Zambezi River, 1924–1989, upstream of Lake Kariba

The horizontal line is the long-term average

SOURCE: Hulme, M. and Sheard, N. 1999. "Climate Change Scenarios for Zimbabwe." Climatic Research Unit, UEA, Norwich, UK.

Feasibility studies have been done at a number of sites (see Table 2). While development of small hydro offers potential for significant added generation capacity, it also increases the country's vulnerability to climate change.

Table 2: A selection of mini-hydro power generation sites

SITE	CAPACITY (MW)	SITE	CAPACITY (MW)
Manyuchi	1.4	Duru	2.3
Mutirikwi	5.0	Gairezi	30
Osborne	3.0	Tsanga	3.3
Siya	0.9		

2.2.2.4. Health

In Zimbabwe, investigations into the possible implications of climate change on human health have been rather limited.³⁹ Climate change will alter the distribution of the preferred habitats of disease-carrying insects, especially mosquitoes, tsetse flies, and ticks. Potential geographic distribution of mosquitoes does not, however, directly translate into actual cases of malaria. Non-climatic factors will influence whether the future geographic distribution of malaria is different from today. These factors include parasite drug resistance, demographic change, changes in land-use patterns, the success of intervention programs, civil unrest, deterioration of public health systems and HIV proliferation⁴⁰—all of which have been reported in

Zimbabwe in recent times.

Impacts of drought would also be compounded by loss of productivity due to the HIV/Aids pandemic. The 2003 Zimbabwe Human Development Report estimates that 25–30 percent of the 25–49-year-old age group is infected with HIV,⁴¹ increasing vulnerability to further disease-related stressors.

2.2.3. Zimbabwe's crisis and vulnerability to climate change

Very little literature exists that maps the linkages between the political and economic crisis in Zimbabwe since 2000 and the country's vulnerability to climate change. However, it can be said with certainty that the collapse of the economy drove most Zimbabweans to rely more on nature and natural goods than ever before—resulting, in the majority of cases, in unsustainable exploitation of environmental resources.⁴² According to the report *Moving Forward in Zimbabwe—Reducing Poverty and Promoting Growth*,⁴³ the decline of the state in Zimbabwe created space for private interests to unsustainably exploit natural products with little accountability.

Environmental management efforts were affected in several ways, including ineffective environmental regulation due to a collapse in enforcement capacity, as staff was gradually lost without replacement. As a result, central government policy on environment had little meaning in the context of a collapsed economy. It has also been reported that violence and insecurity, especially in the countryside, made enforcement of environmental legislation tenuous. In addition, sporadic land invasions and the subsequent implementation in 2000 of the Fast Track Land Reform resulted in increased levels of environmental degradation as farmers with no knowledge of environmental management were resettled in resource-rich areas. Due to poverty and lack of training in resource management, wildlife poaching, deforestation and other environmentally unsustainable practices have reached alarming proportions.

The failure of agricultural productivity due to the lack of inputs also drove people towards environmental goods. Livelihoods were diversified to include illegal gold panning, timber extraction, encroachment into commercial plantations and processing of non-timber

Different Climate Change Scenarios." *Climatic Change*, Vol.73, No.3. <http://www.springerlink.com/content/p10m402h13279507/>

41 See GoZ / UNDP 2007.

42 Chimhowu, A. 2009. "Moving Forward in Zimbabwe—Reducing Poverty and Promoting Growth." Brooks World Poverty Institute. University of Manchester.

43 Ibid.

39 Zimbabwe's Initial National Communication under the United Nations Framework Convention on Climate Change. 1998.

40 Ebi, K. et al. 2005. "Climate Suitability for Stable Malaria Transmission in Zimbabwe under



forest products. Overall, since 2000—and irrespective of official policies and rhetoric about environmental management—implementation has been negligible. This has created a ‘free-for-all’, open-access situation, driven by the socio-economic crisis and poverty, and causing massive environmental degradation.⁴⁴ This state of affairs will only increase future vulnerability to climate change in Zimbabwe.

2.3 Gender aspects of vulnerability to climate change

Zimbabwe’s demographic data show that more women than men live in the rural areas (sex ratio 1.16),⁴⁵ where livelihoods are intimately linked with the exploitation and integrity of the threatened natural resources base. It is widely acknowledged that the negative effects of climate change are likely to hit the poorest people hardest. Since women form a disproportionate share of the poor in Zimbabwe’s rural areas, where the majority live, women are likely to be disproportionately vulnerable to the effects of climate change.

Moreover, because of gender differences in property rights, access to information, and cultural, social and economic roles, the effects of climate change are likely to affect men and women differently.⁴⁶ Recurring droughts and low rainfall patterns make it a challenge to provide accessible water supplies, especially in the rural areas. As a result, women and girls walk longer distances to secure water. Poor access and quality increase the amount of labour that women endure to collect, store, protect and

distribute water. Gender inequalities are also exacerbated in the aftermath of disasters such as floods. The workload increases substantially, forcing many girls to drop out of school to assist with household chores.

Women are vulnerable not only to climate change, but also to social problems including poverty, unemployment and HIV/Aids. Their role as primary caregivers in the HIV/Aids pandemic places severe strain on women’s resources, and this will only be exacerbated by the increase in climate change-related diseases. Even where there is a lack of hard evidence, it is commonly recognised that climate change exacerbates existing inequalities in key dimensions that not only are the building blocks of livelihoods, but are also crucial for coping with change. These include wealth; access to and understanding of technologies; education; access to information; and access to resources⁴⁷—more so for vulnerable groups such as women, children and the elderly.

Gender analysis in climate change has the potential to clarify how different social groups, even at the most micro level, are differentially at risk from different threats to their livelihoods. When aggregated, such analysis indicates macro-level conditions of risk and vulnerability. A gendered analysis of climate change informs the different manifestations of, and reasons for, vulnerability of men and women, respectively, including inequalities in vulnerability levels between men and women. It also incorporates other socially related and compounding factors and stressors.⁴⁸ Micro-level studies of vulnerability to climate change in Zimbabwe show a marked propensity towards some level of gendered analysis, although hard gender-differentiated data is seldom available. Available reports of macro-level studies largely do not include gender analyses.

A gender-sensitive response requires more than a set of disaggregated data showing that climate change has differential impacts on women and men. It requires an understanding of existing inequalities between women and men, and of the ways in which climate change can exacerbate these inequalities. Conversely, it also requires an understanding of the ways in which these inequalities can intensify the impacts of climate change for all individuals and communities.



Women in Zimbabwe picking leaves, the only food available

(Photo ITDG/ Keith Machell)

44 Ibid.

45 See Frost 2001.

46 GenderCC. 2004. “Mainstreaming Gender into the Climate Change Regime.” A paper summarising the issues as discussed at two gender-focused side events organised by LIFE, WEFC, ENERGIA and ETC foundation during COP10. 14 December 2004. COP10. Buenos Aires.

47 Brody, A., Demetriades, J., and Esplen, E. 2008. “Gender and Climate Change: Mapping the Linkages.” A scoping study on knowledge and gaps. BRIDGE, IDS, UK. June 2008. [DRAFT]

48 Banda, K. and Mehlwana, M. (eds). 2005. “Equity and Gender in Climate Change.” Climate change and gender position papers. Novafrica. [DRAFT]



CHAPTER 3: Climate Change Adaptation – Legislative and Policy Review

The government of Zimbabwe acknowledges that climate change is a serious issue,⁴⁹ although it currently does not have the capacity to implement a clear response strategy. While Zimbabwe's contribution to global GHG emissions is very small, there is growing concern over the potential impacts of climate change on the country in the future.⁵⁰ To show its commitment to addressing climate change challenges, Zimbabwe signed and ratified the UNFCCC in June 1992 and acceded to the Kyoto Protocol on Climate Change in June 2009.

3.1 Adaptation response policy and legislative architecture

Although Zimbabwe has ratified the UNFCCC, there is currently no clear national strategy on implementation of its provisions.⁵¹ Despite the importance attached to climate change by the government of Zimbabwe, the country's policy response is implied rather than stated. There is no comprehensive, specific national policy and legislative framework for climate change and climate change adaptation.⁵² Instead, legislative and programmatic adaptation responses are found in a plethora of development policies, strategies and action plans of various government sectors. These include the environment and natural resources management, water resources management, agriculture and disaster management sectors.

Zimbabwe's environment policy, launched only in September 2009,⁵³ is administered through the fulfilment of specific environmental protection functions assigned to a number of ministries and government departments, including the ministries of Home Affairs, Environment and Natural Resources Management (MENRM), Mines, Energy Development, Agriculture, Water Resources and Infrastructural Development, Lands, and Health and Child Welfare; and the Zimbabwe National Water Authority, among other agencies.⁵³ It is within policies and programmes of this broad range of ministries that

issues to do with climate change adaptation are found. Delegates attending a climate change roundtable in April 2009 noted the absence of a deliberate and focused policy response to climate change in Zimbabwe. The roundtable emphasised that climate change is currently not an issue in the parliament of Zimbabwe, and is therefore not adequately factored into the country's development plans.⁵⁴

3.1.1. The Environmental Management Act No.13 of 2002

The Environmental Management Act No.13 of 2002^{iv} provides the overall framework for the sustainable management of natural resources and protection of the environment in Zimbabwe. Prior to its enactment in 2002, environmental management policy and legal provisions were severely fragmented. This was due to the fact that various sectoral ministries coordinated different specific environmental responsibilities, a situation that made administration and implementation extremely difficult, if not impossible.⁵⁵ Similarly, climate change adaptation responsibilities today are implied in various, incongruent sectoral policies. Room for adaptation planning is provided in Sections 87 and 95 of the Act, which require the minister and local authorities to prepare a National Environment Action Plan (NEAP) and local environmental action plans (LEAPs), respectively.⁵⁶

3.1.2. The National Water Act No.31 of 1998 and the Zimbabwe National Water Authority Act No.11 of 1998

The devastating effects of the 1991–92 drought gave impetus for reform of the water sector. Subsequently, the National Water Act No.31 of 1998 and the Zimbabwe National Water Authority Act No.11 of 1998 were promulgated.

The National Water Authority Act establishes an administrative structure for water management, and sets up the Zimbabwe National Water Authority (ZINWA). The National Water Act provides the legal

49 See GoZ 1998.

50 ALM UNDP. 2009. "Zimbabwe Country Profile." Adaptation learning mechanism. UNDP. <http://www.adaptationlearning.net/zimbabwe/profile>

51 See JIMAT Development Consultants 2008.

52 Mtisi, S. 2010. "LEAPS and Climate Change—Opportunities for Industry." Zimbabwe Environmental Lawyers Association. [Presentation]

53 See GoZ 2006.

54 "Report of a Climate Change Awareness and Dialogue Workshop for Parliamentarians." Kadoma. 19 October 2009.

55 Nhamo, G. 2003. "Institutional and Legal Provisions for Environmental Management in Zimbabwe." *AJEM-RAGEE* Vol.7. November 2003. pp.14–20. <http://www.srcosmos.gr/srcosmos/showpub.aspx?aa=4289>

56 See Mtisi 2010.



foundation for this sector and incorporates, among other provisions, time-bound water permits, their administration by catchment councils, the polluter-pays principle, allocation of water for environmental purposes and drought preparedness.⁵⁷ Time-limited water abstraction permits increase flexibility and allow abstraction to be stopped when water levels become too low. An opportunity has also been created to review the allocations to different users and adjust them based on an assessment of the value of water use.

However, implementation of this new system of water permits is still very weak, due to the lack of institutional, technical and monitoring capacity.⁵⁸ Removal of private ownership of water and the preferential rights of water owners, which also came into effect, should allow more equal access to water. This will be crucial as rainfall patterns shift due to climate change.

Demand-management approaches include attempts to encourage more efficient water use through water pricing and reducing waste through leakage control and improved irrigation efficiency. However, water demand continues to outstrip levels of supply, a situation likely to worsen under climate change.⁵⁹

Removal of private ownership of water and the preferential rights of water owners should allow more equal access to water. This will be crucial as rainfall patterns shift due to climate change.

Water information systems have historically been very effective. A comprehensive data gathering and monitoring network is in place, bringing together government, universities and research institutions. Meteorological information has been collected on a regular basis since the 1950s, and daily rainfall data are collected from 120 stations. The system also allows for regular gathering of rainfall records, dam and provincial water levels, and river pollution levels. In addition, information captured on groundwater includes water levels and quality, the nature of the geological formation and the results of pumping tests. Water levels are monitored on a monthly basis in order to optimise rates of abstraction by users.⁶⁰

3.1.3. The Civil Protection Act No.10 of 1989

The frequency of extreme events is projected to increase with expected climate-related shocks such as drought and floods. Effects of increased cyclonic activity off the coast of Mozambique have already been felt in the recent past. Disaster management will therefore be an integral part of Zimbabwe's climate change adaptation policy response.

Disaster management activities in Zimbabwe are provided for by the Civil Protection Act, Chapter No.10 of 1989, which is administered by the Ministry of Local Government, Public Works and National Housing. Efforts to repeal this act and replace it with a new Emergency Preparedness and Disaster Management Act, with more elaborate mechanisms for disaster risk reduction, were reported to have reached an advanced stage in 2005. However, since then there has been no progress on the issue.

The responsibility for cross-sectoral coordination of disaster management rests with the Cabinet Committee on Emergency Preparedness and Disaster Management, which is chaired by the Minister of Local Government. The membership of the cabinet committee comprises the

following ministries: Transport and Communications; Education, Sport and Culture; Environment and Natural Resources Management; Health and Child Welfare; Public Service, Labour and Social Welfare; Defence; Home Affairs; Mines and Mining Development; Energy and Power Development; Finance and Economic Development; Water Resources and Infrastructure Development; Agriculture and Rural Resettlement; Foreign Affairs; and the Office of the President and Cabinet.⁶¹

3.1.4. The Meteorological Services Act of 1990

Both short- and long-range weather information will be crucial to ensure an effective adaptation response in Zimbabwe. The Meteorological Services Act of 1990 establishes meteorological services whose functions include issuing weather and

57 See Levina 2006.

58 Ibid.

59 See McDevitt 2009.

60 See Levina 2006.

61 GoZ / UNDP. 2005. "Support for Strengthening National Capacity for Disaster Management in Zimbabwe." [Project Document]
http://www.undp.org.zw/images/stories/Docs/ProDocs/Disaster_Mant.pdf



climate forecasts and advance warnings on weather conditions likely to endanger life and property, and carrying out meteorological research and investigation. Weather data will be important for adaptation planning among the many ministerial sectors delivering adaptation-oriented development programmes in the country.

3.1.5. Agriculture policy framework

Zimbabwe's agriculture policy recognises that the country is susceptible to recurrent droughts, a trend likely to be accentuated by climate change. Agriculture policy aims to replace the current dependency on food aid with a broad approach involving the development of sound strategies and schemes to help families to cope with the effects of drought. Specific policy objectives include:⁶²

- improvement in water availability through the expansion of irrigation area, particularly in the smallholder sector, with minimal impacts on the environment and human health
- water harnessing by construction of dams, and the equitable allocation and efficient use of scarce water resources
- establishment of a water pricing structure consistent with cost and social efficiency
- establishment of an effective institutional structure

The policy framework also emphasises the need for intensive research on improving the tolerance of staple food crops to drought and diseases.⁶³

3.1.6. Drought mitigation policy

The government of Zimbabwe has a specific National Policy and Programme for Drought Mitigation. The policy provides a framework for the provision of financial assistance by international organisations to provincial and district programs that aim to mitigate drought. Through this programme, regional early warning systems and drought monitoring centres have been established. Drought monitoring centres issue bulletins that provide pre-seasonal forecasts in September of every year. However, the government has had institutional and capacity constraints hindering the efficient use of the forecasts. Budgetary resources are often not available for

preventive measures, only for disaster response.

Since the late 1990s, the government of Zimbabwe has adopted proactive measures to mitigate the effects of anticipated drought, rather than merely seeking disaster relief. With the backing of international and regional agencies and greater involvement of the media, there has occasionally been better use of forecasts, including a number of specific recommendations. Farmers have been advised to plant early, choose drought-tolerant and early-maturing seed varieties, adopt water conservation measures and be prepared to sell livestock.⁶⁴

3.2 National communications under the UNFCCC

Zimbabwe submitted its Initial National Communications on Climate Change (INC) on 25 May 1998.^v The INC details climate change impacts and human and sectoral adaptation options in the following sectors: forestry, water resources, agriculture, and human health. Preparation of the Second National Communication (SNC), due for completion in March 2009, included a vulnerability and adaptation assessment focused on: (i) natural ecosystems: flora, fauna, forests; (ii) water resources; (iii) public health; (iv) human settlements; (v) agriculture; and (vi) wildlife. A national action plan on adaptation to climate change, potentially the main outcome of the SNC vulnerability and adaptation exercise, would outline adaptation measures and plans for their implementation; the way of implementation and resources needed; time frame; and parties responsible for its implementation.⁶⁵

3.3 Policy development process

Several commentators have challenged the technocracy that characterises environmental policy-making in Zimbabwe. Calls have been made for more inclusive, participatory forms of policy-making. Although there has been a recent trend towards more broad-based and participatory policy-making, the mode of participation is only 'instrumental', and serves to replicate early government-centred narratives and technocratic approaches.^{vi}

The Environmental Management Act, which prescribes the overall framework for management of environmental resources in Zimbabwe, states that *every "person" has a right to access environmental information and right to participate in promulgation and implementation of legislative, policy and other measures that prevent pollution*

62 Gumbo, D. "Zimbabwe Country Case Study on Domestic Policy Frameworks for Adaptation in the Water Sector." Background information for presentation to the Annex I Expert Group Seminar in conjunction with the OECD Global Forum on Sustainable Development. 28 March 2006.

<http://www.oecd.org/dataoecd/46/15/37671630.pdf>

63 See JIMAT Development Consultants 2008.

64 See Levina 2006.

65 See GoZ 2006.



and environmental degradation.⁶⁶ However, there has to date been limited engagement between the public and government policy-makers and important stakeholders, such as representatives of industry.⁶⁷

Notwithstanding, the preparation of the SNC has been described as highly participatory, involving most of the stakeholders that will participate in and contribute to the national communication process. Stakeholder consultations involving the participation of thirty experts were conducted from 3–5 August 2005.⁶⁸ Although civil society has been involved in the SNC consultation process, no record of public engagement exists.

Stakeholders to be involved in the preparation of the SNC include:

1. Ministry of Environment and Tourism (MET)
2. Forestry Commission
3. Standards Association of Zimbabwe
4. University of Zimbabwe (Departments of Geography and Environmental Science, Civil Engineering, Agriculture)
5. Africa 2000 NGO (Community-based NGO)
6. Zimbabwe National Water Authority
7. Ministry of Water Resources and Infrastructure Development
8. Zimbabwe Meteorological Services
9. Southern Centre for Energy and the Environment
10. Envirotech Consultants
11. World Food Programme
12. Ozone Office
13. Climate Change Office
14. Environmental Management Agency
15. Ministry of Economic Development
16. Ministry of Finance
17. Harare Municipality
18. Ministry of Works, Construction and National Housing
19. Zimbabwe Electricity Supply Authority
20. Sable Chemicals
21. Scientific Industrial Research Development Corporation
22. Forestry Company of Zimbabwe
23. Ministry of Higher and Tertiary Education
24. National University of Science and Technology
25. NGOs and private sector
26. Cairns Foods

Box 1: Stakeholder consultation for the Zimbabwe Second National Communication on Climate Change

3.4 Appropriateness and quality of adaptation policy, plans and strategies

Government policies may act to either promote or hinder adaptation to climate change. Given Zimbabwe's development policy milieu, adapting to climate change requires great coordination and flexibility. This requires complementary policies that enable, rather than inhibit, local and national adaptation options, and that enable greater local freedom to choose appropriate practices. However, experience from the region so far shows that local participation and accounting for household coping strategies remain real challenges in the development of adaptation policies, because there is a tendency for interventions to focus at the sectoral level. There is a danger that nationally prescribed adaptation solutions, without participation from those intended to adopt the practices, will actually limit, rather than create, spaces for local adaptation.⁶⁹

The analysis below is confined to policies that overtly refer to measures aimed at adapting to climate extremes. The analysis reveals a gap in climate change adaptation policy dialogue in the areas of biodiversity, poverty alleviation and the health sectors, among others.

3.4.1. Generalist frameworks

Encompassing environmental resources management frameworks without a specific mandate for climate change tend to obfuscate and underrate the practicalities required for adequate adaptation response. For instance, content of the local environmental action plans provided for in the Environment Management Act are not prescribed in the act, save to say that the minister shall prescribe these. In the formulation of the National Environmental Action Plan, the minister is tasked with consulting with unnamed stakeholders, the only stipulation being that the minister shall consult those stakeholders "he" considers necessary or desirable. The act therefore entrusts an enormous amount of power to the minister, without legally prescribing which other important stakeholders should be involved in drawing up the National Environmental Plan. Instead, the act prescribes public consultation (*public display and exhibition for comments*) after the Environmental Action Plan has already been developed.⁷⁰

3.4.2. Agricultural marketing and pricing policies

The ability of farmers to adapt to climate variability and

66 See Mtisi 2010.

67 Ibid.

68 See GoZ 2006.

69 See McDewitt 2009.

70 See Mtisi 2010.



change depends on market and institutional signals. The current marketing and pricing systems in Zimbabwe are centralised. Marketing and trading of maize is controlled and regulated by the Grain Marketing Board (GMB). Farmers, including smallholder and peasant farmers, are compelled to sell their produce to the GMB at prices set by the government. These prices are artificially low, and clearly out of step with prices in the informal sector and international price levels and trends.

These policies discourage farmers from putting more land under maize, even in times of good rains, thereby foregoing opportunities to bolster their food stocks. Instead, farmers continue to focus their resources on uncontrolled, non-food cash crops, thereby hindering adaptation measures to climate change.⁷¹

Following the land reform programme, the large-scale commercial sector now produces less than one-tenth of the maize that it produced in the 1990s. The reasons for the downward trend before the land reform include a gradual switch by the large-scale commercial

water. Ideally, this move would increase resilience of the water and agricultural sectors to climate change; but in reality these measures have not been implemented due to lack of capacity and funds, and the inability of most users to pay the full cost of water.⁷⁴

Lack of security of tenure to the newly resettled farmers poses another challenge. Currently, resettled farmers are generally understood to possess ninety-nine-year lease permits, although very few of them have any documentation to this effect. Without guarantees of tenancy, farmers are reluctant to devote their total resources to making their land productive, to the detriment of adaptation strategies. The full productive potential and sustainable use of natural resources and environmental management of resettled lands will be realised only when farmers are guaranteed secure tenure.⁷⁵

Legislation regarding specific provisions on wetland management is very important for countries vulnerable to floods. Zimbabwe already experiences significant damage from floods, and is projected to be even more

Tenure insecurity among resettled farmers poses another challenge. Without guarantees of tenancy, farmers are reluctant to devote their total resources to making their land productive, to the detriment of adaptation strategies.

farms from maize, because it became a GMB-controlled crop, to other non-controlled crops such as tobacco, cotton, wheat and others.⁷²

3.4.3. Water management and land policy

Government policies pertaining to land and water resources, which represent the basic foundation for agricultural production, should more explicitly require implementing agencies to consider the possible impacts of climate change.⁷³ Despite reforms aimed at providing water at full cost, water is currently subsidised. This encourages over-use, and discourages the conservation measures that may well be elements of future adaptation strategies.

Water reforms of the late 1990s sought to move towards integrated land and water resources management, along with its implied principles of user-pays, water- and benefit-sharing, and full pricing of

susceptible to floods due to climate change. However, the country does not have robust and enforceable legal provisions regarding floodplains. Existing legislation, under both the Water Act (1998) and the Environmental Management Act (2000), forbids the cultivation of wetlands and stream banks. Due to the variability in rainfall and the presence of fertile soils in these zones, however, subsistence farmers have continued to work in these restricted areas. The extent of enforcement is limited, since there are conflicting provisions authorising these areas as food-producing zones in cases of drought.⁷⁶

An examination of the existing water rights system in Zimbabwe shows that it is not sufficiently developed or implemented to react effectively to changing climatic conditions, or even to variations in weather. Strong legal provisions do not yet exist to handle existing conflicts over water on a consistent basis.⁷⁷ The situation is better

71 See JIMAT Development Consultants 2008.

72 See FAO 2008.

73 Ibid.

74 See Levina 2006.

75 See JIMAT Development Consultants 2008.

76 See Levina 2006.

77 Ibid.



at the transboundary level, where there are currently robust memoranda of understanding and agreements between riparian states.⁷⁸

3.4.4. Disaster management policy

The Civil Protection Act, Chapter 10:06, has a number of limitations. These include a narrow focus on disaster response, rather than comprehensive disaster management with emphasis on risk reduction; weak enforcement mechanisms for sectoral disaster planning and response; and lack of an effective funding mechanism for the Department of Civil Protection (DCP) under the Ministry of Local Government and its disaster management committees at provincial and district levels. In respect of the latter, the DCP only manages to get sufficient funding for response when the state president declares a state of national disaster.⁷⁹ This inclination towards disaster response militates against comprehensive disaster risk management, which is an integral component of any adaptation response to climate change.

3.5 Climate change adaptation preparedness at policy level

The fact that adaptation strategies are inherent in the existing gamut of policy documents, but without much coordination, means a fragmented adaptation response is likely. As discussed above, some of the current policies and programmes in Zimbabwe actually constrain climate change adaptation. There is a need to harmonise uncoordinated and fragmented pieces of legislation and strategies aimed at enabling and enhancing an adaptive response to climate change.

A conscious and deliberate effort to mainstream climate change adaptation has not been defined. It is implied through the efforts of various government ministries and departments to ensure that people can live with the impacts of climate change; but lack of capacity to identify links between climate change and various social and economic sectors means that climate risks are not being adequately mainstreamed in national policy, budgets, government and other organisational programmes and plans. Currently, the understanding of climate change among policymakers is still very limited. Most of them are ignorant of or not well conversant with the subject, which makes it difficult for them to push for clear adaptation policies.⁸⁰

3.6 Climate change adaptation projects in Zimbabwe

A number of climate change vulnerability assessment and adaptation projects have been carried out, with some still ongoing. Among some of the notable ongoing projects are:

- Coping with Drought and Climate Change in Zimbabwe, implemented by the Environmental Management Agency (EMA) in the Ministry of Environment and Natural Resources Management and supported by UNDP-GEF (2008–2012)
- Lack of Resilience in African Smallholder Farming: Exploring Measures to Enhance the Adaptive Capacity of Local Communities to Pressures of Climate Change, implemented by the University of Zimbabwe and the Soil Fertility Consortium for Southern Africa, and funded by the International Development Research Centre (IDRC) (2007–2010)
- Building Capacity to Adapt to Climate Change in Zambia and Zimbabwe, implemented by the Midlands State University and supported by IDRC (2007–2010)
- Community Based Adaptation to Climate Change in Africa, implemented by the African Centre for Technology Studies and funded by IDRC (2008–2011)

Completed projects include:

- An Assessment of Vulnerability and Adaptation of Maize Production to Climate Change in Zimbabwe, carried out by the Climate Change Office under the Ministry of Environment and Natural Resources Management
- Support for Strengthening National Capacity for Disaster Management in Zimbabwe, implemented by the Department of Civil Protection and the Ministry of Local Government, Public Works and National Housing from 2004 to 2009, with support from the UNDP

3.7 Gender analysis of adaptation policy frameworks

To be successful, adaptation policies and measures within both developed and developing countries need to be gender-sensitive. To understand the implications of adaptation measures for all people involved, it is necessary that all members of an adapting community are represented in climate change planning and

78 See IPS 2008.

79 See GoZ / UNDP 2005.

80 See IPS 2008.



governance processes.⁸¹ Social roles and responsibilities of women and men create different degrees of dependency on the natural environment. Women are usually the ones engaged in household subsistence activities; thus, degradation of forests, watersheds and agricultural land gives women an added adaptation responsibility under conditions of climate change.

The various policy frameworks for management and protection of environment and natural resources in Zimbabwe do not explicitly take gender issues into account. Such enabling provisions as increased access to water, weather information, land tenure and micro-credit finance, among others, need to be preferentially extended to women and the elderly (evidence elsewhere has shown more success with women in revolving micro-finance schemes than with men).⁸² Globally, participation of women in decision-making regarding climate policy, and its implementation in instruments and measures, is very low. Thus, in general, it is men's perspectives that are taken into account in planning processes.⁸³ This is clearly accentuated in Zimbabwe, where the current government has only four women cabinet ministers out of a total thirty-five.⁸⁴

81 See GenderCC 2004.

82 Petrie, B. 2009. "Gender and Climate Change: Regional Report." Executive summary. Heinrich Böll Foundation. Cape Town.

83 Roehr, U. 2004. "Gender, Climate Change and Adaptation. Introduction to the Gender Dimensions." Genanet. Berlin.

84 Makanga, D. "Zimbabwe: New Cabinet Ignores Quota for Women." IPS. 26/02/2009 <http://ipsnews.net/news.asp?idnews=45892>



CHAPTER 4: Climate Change Adaptation – Institutional Review

Institutions provide frameworks for policy and legislative action. The ability of a given institution or organisation to fulfil its mandate depends, not only on power relationships, source of mandate and political “rightness or acceptability”, but also on the representativeness of its composition and its human resource capacities.

4.1 Institutional capacity for climate change adaptation

In 1996, the then-Ministry of Mines, Environment and Tourism, following national consultations, established the National Steering Committee on Climate Change, comprising a cross-sectoral grouping of stakeholders. The committee reviews all proposed national climate change positions, and acts as a deliberating body on new and emerging climate change issues. To provide consistent facilitation of climate change activities, the ministry also established a climate change office with a full-time coordinator and secretary. This office and the committee form the institutional core of climate change activities in the country.⁸⁵

4.1.1. National Climate Change Committee

National activities related to climate change are coordinated through the National Climate Change Committee. The committee provides a forum for exchange of views on climate change issues, consensus building on national positions and advice to the ministry when required.

The committee comprises representatives from various ministries and departments. Among these are the Ministry of Environment and Natural Resources Management; the Climate Change Office; the Department of Meteorological Services, the Ministry of Energy; the Ministry of Agriculture; and the National Economic Planning Commission, together with representatives from industry and the environment research community. The committee is chaired by the deputy secretary for environment in the Ministry of Environment, and administrative details are dealt with by the Climate Change Office. When required, technical inputs are provided by various other national institutions,

universities, research organisations, industry associations and non-governmental organisations. Although scheduled to meet regularly, the committee meets as matters arise.⁸⁶

4.1.2. National Climate Change Office

The National Climate Change Office assists the government in designing climate change policies, and coordinates specific national climate change projects such as the compilation of national inventories of greenhouse gases. The office also coordinates other climate change activities between various ministries and organisations, including the private sector. It further functions as the secretariat for the Clean Development Mechanism (CDM) in the country. The office was established in 1996 with funding from the Global Environment Facility (GEF), through the UNDP, to coordinate and administer the preparation of Zimbabwe’s Initial National Communication to the UNFCCC.

4.1.3. Early warning institutions

The National Early Warning Unit (NEWU) was established in 1987 to provide advance information on food security in the country through crop forecasts and assessment of food stocks. The NEWU was complemented by the SADC Regional Early Warning Unit and the United States Agency for International Development (USAID) Famine Early Warning System (FEWSNET). However, lately the Zimbabwe Vulnerability Assessment Committee (ZIMVAC) has emerged as the preferred source of food security information for government and donors.

ZIMVAC is a committee comprising various government agricultural organisations, whose mandate is to make assessments on the food security situation in the country. Some of the organisations that constitute the committee are the Department of Agricultural Research and Extension (AREX—formerly AGRITEX); the Ministry of Agriculture; the District Administrator’s Office; and the UN Food and Agricultural Organisation (FAO). The Zimbabwe Meteorological Services department provides climate monitoring and prediction

85 See GoZ 1998.

86 See Frost 2001.



services. Working collaboratively with the SADC Drought Monitoring Centre (DMC) and other international climate prediction centres, the department issues probabilistic seasonal climate forecasts.

Since 1997, climate experts have convened twice a year at the Southern Africa Regional Climate Outlook Forum (SARCOF) to produce a consensus forecast for the SADC region. This forecast is subsequently downscaled by the respective national meteorological services for national purposes.

Zimbabwe's Department of Meteorological Services also monitors climatic conditions and maintains records of meteorological data. Its meteorological activities include weather forecasting, and measurement of wind speed and direction, temperature and humidity in the atmosphere. The department also maintains a network of meteorological observatories, meteorological stations and rainfall stations throughout the country.

4.1.4. Water and agricultural sector institutions

Following the water reforms of the late 1990s, the new institutional framework for Zimbabwe's water sector is now dominated by ZINWA, a parastatal under the Ministry of Water and Infrastructure Development, and Catchment and Sub-Catchment Councils. These are intimately linked with agricultural institutions, government institutions, parastatal agencies and non-governmental organisations involved in water management in general, and irrigation in particular.

AREX, in the Ministry of Agriculture, was constituted in 2001 after the Department of Agricultural Research and Specialist Services (DR&SS) merged with a major portion of the former extension and technical department (AGRITEX). It is the institution primarily responsible for increased and sustainable agricultural production and the provision of appropriate technical, professional and other support services to the agricultural industry. AREX's mandate is, *inter alia*, to carry out research and development; to provide regulatory, advisory and technical services, farmer training, food technology R&D (including post-harvest processing and product development), and dissemination of technologies; and managing and advising on biodiversity and genetic conservation for sustainable farming.⁸⁷ AREX and other service departments, such as the Department of Irrigation under the Ministry of Agriculture and Rural Development, view themselves as specialist units

providing advice to ZINWA, albeit on the demand side.

These service entities do have their own mandates to fulfil; thus, ZINWA can only influence the way in which they use water through pricing. It is not necessarily empowered to make calls for conservation. Only the Environmental Management Agency (EMA) under the Ministry of Environment has any say regarding the supply side of water, through its mandate to maintain the environmental integrity of catchments.

4.1.5. Disaster management institutions

The Department of Civil Protection is the nucleus for coordination of all disaster management activities. Its substructures include provincial and district civil protection committees with multi-sectoral representation. As demand for its coordination functions increases, there is need for its capacity to be bolstered, particularly at national and provincial levels. A capacity-building programme for all provinces ran from 1996 to 2001, when multi-sectoral teams were trained in "emergency preparedness and response". However, due to staff turnover, a significant number of the trained staff has left the provinces. Such training needs to be ongoing.⁸⁸

4.1.6. Non-governmental organisations

Climate change activities in Zimbabwe are also carried out in close cooperation with a number of research organisations and non-governmental organisations, among them the UN agencies. There is, however, current agitation by a nascent coalition of environmental NGOs for broader inclusiveness in climate change policy-making and in the crafting of Zimbabwe's official position on climate change.^{vii}

NGO/government relations have been frosty in recent years, with the government imposing a ban on NGO field activity from June to August 2008 following the country's disputed presidential elections. Currently, however, there is a working relationship under the protection of the Global Political Agreement (GPA). The GPA, signed by the three parliamentary parties in September 2008, established an inclusive government.

A proposal in the ongoing negotiations between principals in the GPA would channel all aid funds through the government, which would have the right to determine where resources are to be allocated. NGOs have vociferously challenged this proposal, arguing

87 See Gumbo 2006.

88 See GoZ / UNDP 2005.



that it would present administrative and operational problems.⁸⁹

The umbrella body for NGOs in Zimbabwe, the National Association for Non-Governmental Organisations, argues that given the serious need for institutional change in government, it is too soon after the GPA to have the government controlling these funds. There are concerns that government control of NGO funds would place further strain on resources, while simultaneously creating unnecessary delays in the disbursement of funds for pressing needs. Other concerns include the possibility that funds may be diverted;^{viii} that NGOs' ability to work outside direct state control may be compromised; the lack of human capacity; and the often-cited corruption in government.

Notwithstanding, there has been discernible cooperation on climate change issues between the government and a number of NGOs operating in the country. UN agencies in Zimbabwe—among them, UNDP and UNESCO—are very active in climate change adaptation activities. The UNDP is currently supporting the five-year Coping with Drought and Climate Change project to develop and pilot a range of

The British Council in Zimbabwe acknowledges that there is low engagement between individuals and decision-makers when it comes to policy formulation and implementation regarding climate change. The council is currently involved in a project, Strengthening Environmental Education in Agricultural Colleges, which is being coordinated by the Institute of Environmental Studies (IES). A primary aim of this initiative is to mainstream sustainable natural resources management in agricultural education. This is to be done through developing and incorporating environmental education into the curricula of higher national agricultural diploma programs. The project also aims to groom tertiary and higher tertiary students to take leading roles in developing vernacular alternatives for climate change—and further, to produce future vernacular literature on climate change in Zimbabwe.

The Institute of Environmental Studies, hosted by the University of Zimbabwe, facilitates multi-institutional, interdisciplinary and policy-directed research on environmental issues. It has in-house technical expertise to coordinate and monitor research studies. The institute's current research programme deals mostly with

There are concerns that the proposed government control of NGO funds would place further strain on resources, while simultaneously creating unnecessary delays in the disbursement of funds for pressing needs.

long-term agricultural adaptation measures to reduce the current and future vulnerability to climate change shocks of smallholder farmers and pastoralists in rural Zimbabwe.

Guided by the overall UNESCO Strategy for Action on Climate Change, the UNESCO Harare Cluster Office, in conjunction with the British Council in Zimbabwe, is working on a project that draws on UNESCO's climate change knowledge base to apply educational tools, specific sectoral measures and public awareness activities, and to develop national policy frameworks on climate change adaptation in order to improve the education, outreach and policy dimensions of addressing climate change. The Zimbabwe project is a pilot programme to be rolled out to the cluster offices in Botswana, Malawi and Zambia.

ecologically sustainable management of trees, soils and grazing, and the potential contribution of non-wood forest products to sustainable forest management.

Other NGOs of note include the Zimbabwe Environmental Law Association (ZELA); Practical Action; and ZERO, a regional environment organisation. ZELA seeks to use legal tools to protect and promote environmental justice and sustainable use of natural resources through research, advocacy and impact litigation. The organisation currently has three operative programmes: a land and communities programme; the Environmental Law Education Programme; and a programme to manage transboundary natural resources. ZELA is also in the process of developing a comprehensive climate change programme.

Practical Action has four main programme areas: Reducing Vulnerability; Making Markets Work for the Poor; Access to Infrastructure Services; and Responding to New Technologies. It also facilitates a development

89 Makombe, L. "Government Is Unable to Manage NGO Funds—Analysts." *The Zimbabwe Independent*. 07/01/2010. <http://allafrica.com/stories/201001080805.html>



consultancy. Significantly, Practical Action hosts a climate change electronic forum whose objective is to explore, discuss and pool information on climate change issues affecting Zimbabwe and the southern African region. This forum explores strategies for vulnerable populations to cope with and adapt to climate change, and the role of local institutions in enhancing their capacity to adapt. The e-forum brings together practitioners, policy makers, academia and the media.

ZERO is currently spearheading an initiative that aims to bring over twenty NGOs into a climate change network. It is hoped that this will build a critical mass in Zimbabwe, ensuring effective participation of NGOs in the development of climate change policy, and in defining the country's position on climate change in international negotiations.

The Business Council for Sustainable Development in Zimbabwe (BCSDZ)—previously known as the Environmental Forum of Zimbabwe—is a voluntary body of environment-conscious organisations that promotes a culture of environmental stewardship in all business processes. BCSDZ was formed in 1993 by prominent Zimbabwean businesspeople who shared common concerns over environmental issues. The organisation seeks to encourage commitment from the business sector to the phased implementation of environmental management programmes, and to assist in enhancing appropriate knowledge. The BCSDZ has six technical committees: Climate Change; Energy; Environmental Management Act; Water; Waste; and Sustainable Development Reporting.

4.2 Institutional deficiencies in government

The obtaining institutional scenario is characterised by weak capacity to implement policies and strategies related to climate change adaptation. Skills migration, coupled with limited financial resources in government departments and research institutions, has limited research and extension in this area. Specialist skills in climate change research across the key sectors of health, water and natural resources management are lacking, as is the capacity to generate the same through the national tertiary education system.

Although the Ministry of Environment and Natural Resources Management maintains a climate change office, it is not a statutory body, and funding for staff and activities has to be obtained through projects. Since its establishment, the Climate Change Office has thus subsisted on marginal funds, though the costs of office

space, water, electricity and telephone are borne by the ministry. Currently, the Climate Change Office is also very small, making it difficult for it to effectively carry out its mandate.

Furthermore, the brain drain prevalent in Zimbabwe has led to the loss of well-trained personnel at a very high rate. High staff turnover, especially in government departments, leads to loss of capacity, particularly where staff trained in climate change adaptation migrate to external destinations. There is therefore a need for policies and measures to retain experts at all levels.

The Climate Change Office needs to be put on a more secure footing. Of concern is the absence of a unit for coordinating activities specifically related to climate change adaptation. Adequately staffed and supported, the Climate Change Office could help to address the crucial need to draw up an appropriate climate change adaptation policy framework; support stronger intra-governmental coordination; promote more effective linkages and trust between public and private sector institutions; improve the flow of information; and provide for greater continuity. Generally, weak linkages exist between various institutions in terms of climate information-sharing to enhance decision-making capacity.

Significant progress at national level has been made in setting up the Civil Protection Unit. However, the unit is generally more responsive than proactive to disasters. The Department of Civil Protection's capacity is hampered by lack of an effective funding mechanism at all levels of government. Like many other government departments, the DCP is incapacitated by a lack of vehicles, equipment and other necessary accessories. Disaster risk management is further hindered by the absence of an effective information management system to enable knowledge generation and networking. Consequently, there is no capacity for information management and sharing, public awareness, education, training and research.

4.3 Organisational constraints among NGOs

Projects staff at NGO and CBO level have varied backgrounds, which are sometimes short on training in environmental and agricultural issues. In such cases, contextualising climate change information presents a technical challenge.⁹⁰ Migration of trained NGO professionals pursuing higher incomes in regional and international markets reduces the human resources

90 See JIMAT Development Consultants 2008.



available to train or be trained in key areas. The NGO community also lacks coordination of activities relating to climate change adaptation, leading to possible duplication of roles, and challenges in targeting programme beneficiaries. The climate change challenge in Zimbabwe is further compounded by the limited capacity of the media to report on such technical subjects as climate change adaptation, and to communicate the issues effectively to communities.

4.4 Mainstreaming gender in adaptation institutions

From an institutional perspective, a gender-sensitive response requires an understanding of existing inequalities between women and men, and of the ways in which these can intensify the impacts of climate change for all individuals and communities. Such inequalities include the traditionally greater access of men to information, and the exclusion of women from vital communications due to their caring and other domestic responsibilities.

Organisational operating modes need to be geared towards rectification of such inequalities. Early warning institutions should ensure that their delivery systems target the vulnerable sections of society, which include women, children and the elderly. Institutions that generate and manage knowledge should ensure that these vulnerable groups can contribute their own knowledge to community and national-level adaptation strategies, so as to maintain essential grassroots participation in overall climate change adaptation strategies.

Gender sensitivity in consultation and decision-making is essential for effective adaptation responses to climate change. This process starts with the institutions themselves ensuring that women are adequately represented in their staff and decision-making processes. Gender mainstreaming should not be regarded as an add-on in institutional structures of disaster and environmental change management. Most institutions consciously and unconsciously serve the interests of men. Encouraging institutions engaged in adaptation activities to adopt a gender perspective in transforming themselves will help to reverse this situation.

Full participation of women in decision-making should be promoted, so that women's needs move from the margins to the centre of climate change adaptation and development planning. Furthermore, early warning and assessment, disaster mitigation and prevention strategies should include gender in every stage of assessment, warning, planning and relief implementation

through gender analysis that is integrated with social variables and the use of sex-disaggregated data.

Programmes put in place for disaster mitigation should increase the participation of women in planning. This could be facilitated by education and outreach aimed at women through a participatory approach for community assessment and vulnerabilities, with women mapping their own vulnerabilities and risks.⁹¹ While greater representation of women in these bodies and processes does not guarantee that gender mainstreaming takes place, it does go a long way towards ensuring that gender perspectives are acknowledged.

Professional access to the climate change sector is mainly based on postgraduate scientific and technical education, in which Zimbabwean women are under-represented. Gender inequality in education manifests itself in fields of study opted for by men and women at institutions of higher learning, leading them to particular careers and employment.⁹² In the year 2000, the male-to-female ratios of undergraduate students enrolled in the faculties of agriculture, science and social science at the University of Zimbabwe were 300:81, 724:294, and 988:699, respectively.⁹³ Consequently, the influence of women on concepts, methodologies, planning, decision-making and implementation is limited. There is need for training, and for education institutions to offer programmes that can improve gender-sensitive capacity in climate change adaptation policy.⁹⁴

91 See Asamoah, J. in Banda, K. and Mehlwana, M. (eds). 2005.

92 Kapungu, R. "The Pursuit of Higher Education in Zimbabwe: A Futile Effort?" A paper prepared for the Centre for International Private Enterprise (CIPE) 2007 International essay competition on "Educational Reform and Employment Opportunities".
<http://www.cipe.org/programs/women/EssaysForWeb/Kapungu.pdf>

93 Raymund Maunde. 2003. "Zimbabwe Higher Education Profile." INHEA.

94 See Banda, K. and Mehlwana, M. (eds). 2005.



CHAPTER 5: Public Awareness of Climate Change

In many parts of Zimbabwe, the sustainability or capability of local communities to maintain acceptable standards of well-being over a long period of time appears so far very limited. This is mainly because most communities are constantly faced with various natural and environmental disaster problems, which prevent them from engaging in actions that would foster sustainable development. Among such disasters are climate change and its associated shocks.

In light of this situation, some concrete actions need to be taken in order to reduce the impact of climate change. Among such actions, public awareness, in particular, appears to be one viable alternative worth considering.⁹⁵ Enhancing public awareness is essential to increasing both the knowledge and preparedness of local communities with respect to climate change adaptation.

5.1 Climate change awareness

Levels of awareness of climate change in Zimbabwe are low, with most people having only a general understanding of the situation. Climate change is currently not an issue in the country's parliament, and understanding among policy-makers is still very limited. This makes it difficult for them to push for policies supporting effective climate change adaptation policies.⁹⁶ Awareness among policy and decision-makers is also a critical element for effective implementation of the UNFCCC and its Kyoto Protocol in Zimbabwe.⁹⁷

A 2007–08 Gallup poll⁹⁸ surveyed individuals from 128 countries in the first comprehensive study of global opinions on climate change. The poll found that 52 percent of respondents in Zimbabwe reported *awareness* (knowing “something” or a “great deal” about global warming when asked “How much do you know about global warming or climate change?”); 41 percent responded that climate change is *caused by human activity* (responding “yes” when asked, “Temperature rise is part of global warming or climate change. Do you think rising temperatures are [...] a result of human activities?”); while 36 percent *perceived climate change*

as a threat (responding that global warming is a serious personal threat).⁹⁸

Among the most commonly debated climate change issues in Zimbabwe's public sphere is not how to respond, but the consequences of climate change—especially the impacts of increased temperature and reduced rainfall on agriculture. In a study of farmer perceptions of climate change in Gokwe District,⁹⁹ about 60 percent of surveyed farmers noted that there has been increased temperature and decline in rainfall. A small but significant percentage of the farmers (15 percent) believed that both rainfall and temperatures were alternating between above-normal and below-normal levels, while 25 percent reported that there was no change. Overall, as many as 75 percent of the farmers reported a greater frequency of water-deficit years, later onset of the rainy season and premature end of the rains (reduced length of growing period). More than 70 percent of the farmers surveyed complained of lack of access to timely weather forecasts and other climate change information, and emphasised that credit facilities were needed to motivate them to engage in water conservation strategies. Poverty was noted as a major barrier to farmers' adaptation to the rigours of climate change.

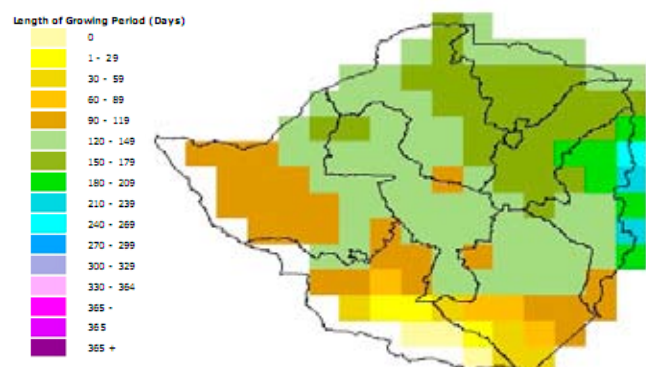


Figure 12: Length of growing period in Zimbabwe

SOURCE: FAO

95 Sedgo, J. and Somé, S. 2001. “Enhancing Public Awareness for Increasing Sustainability of Community in Sub-Saharan Africa.” *Global Blueprints for Change*. First edition—prepared in conjunction with the International Workshop on Disaster Reduction. August 19–22, 2001.

96 See IPS 2008.

97 GoZ. 2009. “Report on the Climate Change Roundtable.” Kadoma. 15–16 April 2009

98 Pelham, B. 2009. “Awareness, Opinions About Global Warming Vary Worldwide.” Gallup. 22/04/2009. <http://www.gallup.com/poll/117772/awareness-opinions-global-warming-vary-worldwide.aspx#>

99 See Gwimbi 2008.



5.1.1. Role of the media

Among suggested interventions to increase the breadth and depth of debate on climate change in Zimbabwe are the involvement of media; increased community participation; and increased education and awareness.¹⁰⁰

It has been noted that there is poor coverage and capacity to report on climate change issues in the media. The media has not played a significant role in the debate so far. Occasional articles on climate change, almost always excerpted from the international news agencies, appear in the local papers, but usually without comment.¹⁰¹ A study of environmental coverage in two of Zimbabwe's leading weekly newspapers¹⁰² found that climate-related coverage comprised 12 to 15 percent of environmental news; that coverage is centred on short-term, sudden-onset climate hazards like floods, droughts and cyclones; and that limited capacity for analysis precludes connecting such events with long-term climate change.

Another challenge militating against enhanced public awareness of climate change is lack of clarity on the terms *climate variability* and *climate change*. Consensus should be reached within the research and development sectors to enable effective communication. Also, information on climate change is not available in formats

change and create a demand for action through training of media practitioners on effective, accessible reporting on environmental issues. Other initiatives include programs to educate schoolchildren on climate change and what they can do about it, and lobbying policy-makers.

Several other training workshops and awareness-raising events have been conducted. These include the Climate Change Awareness and Dialogue Workshop for Mashonaland Central and Mashonaland West Provinces held in Kariba, 29–30 September, 2008; the Climate Change Roundtable held in Kadoma, 15–16 April 2009; a media training workshop in Kadoma, 15–18 June 2009; and the Climate Change Awareness and Dialogue Workshop for Parliamentarians, also in Kadoma, 19 October 2009.

5.3 'Gendering' public awareness of climate change

Very few community-level public awareness activities exclusive to climate change are occurring. However, over the years, there have been activities related to drought and other human and social development concerns, such as water resources management, population growth and family planning, and HIV/Aids, TB and malaria

Information on climate change is not available in formats and language appropriate to the respective stakeholders, such as policy-makers, industry and commerce, extension officers, NGOs and donors, farmers and the community at large.

and language appropriate to the respective stakeholders, such as policy-makers, industry and commerce, extension officers, NGOs and donors, farmers and the community at large.

5.2 Public awareness initiatives

A limited number of public awareness initiatives are running in the country, albeit very few at community level. Of note among current activities is the UNESCO/British Council joint initiative "Our Climate, Our Future", which aims to build awareness on climate

campaigns, among others. Lessons drawn from these campaigns can be utilised to integrate gender sensitivity into public awareness activities for a climate change response among communities in Zimbabwe.

Public awareness of climate change and adaptation strategies, in particular, requires the interaction of two key players. On the one hand, practitioners are needed to stimulate and maintain public interest, to inform target groups, and to urge these groups to actively contribute to long-term community climate change adaptation responses. On the other hand, the target groups for the adaptation message must be precisely identified. Of even greater importance is the need to eliminate the perceived conflict between the two. Both practitioners and target groups must be encouraged to co-create the climate change message, allowing practitioners to make optimal use of the available process and technology and empowering full participation of the community.

100 Report of proceedings at the Climate Change Awareness and Dialogue Workshop for Mashonaland Central and Mashonaland West Provinces, hosted by the Ministry of Environment and Tourism: Climate Change Office. Caribbea Bay Hotel, Kariba, Zimbabwe. 29–30 September 2008. [http://www.undp.org.zw/images/stories/Docs/Climate%20Change%20Awareness%20and%20Dialogue%20\(2\).doc?3a1ed061a28f8a5e62fd4865066ea7fa=dirxelcs](http://www.undp.org.zw/images/stories/Docs/Climate%20Change%20Awareness%20and%20Dialogue%20(2).doc?3a1ed061a28f8a5e62fd4865066ea7fa=dirxelcs)

101 See Frost 2001.

102 Chagutah, T. "Environmental Reporting in the Zimbabwean Press: A Case of *The Standard* and *The Sunday Mail*." MA Dissertation. University of Zimbabwe. 2006.



As the channels for conveying the message, these co-creators—practitioners and the community—require ‘gendering’, as does the message itself. This process means ensuring equitable gender representation at public awareness-raising events, both among trained communicators and within the community group participants. Events should be deliberately scheduled and positioned to allow for participation by men, women, children and the elderly.

Suitable environments for public awareness events include schools, community halls, markets, churches and other venues where the community gathers. In schools, trained teachers of both sexes can best sensitise and educate students, from primary school to university, about important issues pertaining to climate change and sustainability. At the community level, existing resource persons or opinion leaders of both sexes and all ages can convey specific messages at public awareness events. Opinion leaders may include, but are not limited to, local chiefs, farmers’ association group leaders, youth association group leaders, women’s association group leaders, the village teacher, the village health care worker, extension agents, local NGO representatives, senior citizens, etc.¹⁰³

The choice of methods used to spread the message should be carefully considered to ensure equal access to the message by all members of the community. Also, trained communicators should be engaged to create gender-sensitive messages in formats that do not exclude women, children and the elderly—as well as men—from receiving the message.

103 See Sedgo, J. and Somé, S. 2001.



CHAPTER 6: Regional and International Actions

Climate change activities in Zimbabwe have been growing since its participation at the Rio Earth Summit in 1992. Since then, however, various activities related to the IPCC and the UNFCCC climate change negotiations have been characterised by limited national consultations. These consultations and activities, while not constituting stated government policy, indicate Zimbabwe's national thought on issues relating to climate change.¹⁰⁴ Zimbabwe took the Rio conference seriously, signing and ratifying the Climate Change Convention quite early in the process.

6.1 Zimbabwe and the UNFCCC

Zimbabwe has been represented at the ministerial level at all COPs to the UNFCCC. At each COP, the Minister of Environment is supported by senior officials from the ministry and other government departments, as deemed necessary. These officials include the appointed chief negotiator, who represents the country at meetings of the UNFCCC subsidiary bodies. A representative of the Ministry of Foreign Affairs, usually the Zimbabwean ambassador in the country hosting the COP or the senior ambassador in the region, also supports the Zimbabwean team.

Although the negotiating team has been larger in the past,^x the size of the delegation is usually relatively small: usually three to five members, and sometimes a single delegate.¹⁰⁵ The chief negotiator at the COP attends all meetings of the subsidiary bodies. Nevertheless, despite the small size of the delegation, Zimbabwean delegates have in the past chaired various formal and informal groups within the negotiations process.

Zimbabwe's current chief negotiator, Ms. Margaret Mukahanana-Sangarwe, is permanent secretary in the Ministry of Environment and Natural Resources Management. She was elected chair of the Ad Hoc Working Group on Long-Term Cooperative Action under the UNFCCC (AWG-LCA) at the COP15 in Copenhagen, December 2009. Similarly, several Zimbabweans have served as authors in the IPCC assessment reports process. Most recently, Professor Christopher Magadza served as lead author in the

Fourth Assessment Report Working Group II, Assessing Key Vulnerabilities and the Risk from Climate Change.

6.2 Role of state and non-state actors

In the run-up to the Rio Earth Summit, Zimbabwe conducted a number of national consultations so as to establish clear positions on several issues, including climate change. Thus, for Zimbabwe, the positions taken at Rio could be considered a mandate from both the state and non-state stakeholders consulted at that time. Formal report-back sessions resulted in a national response conference to the Rio Earth Summit, organised by the then-Ministry of Environment and Tourism, and funded by the UNDP. More than 400 delegates from churches, civic groups, industry associations, farming communities, various government departments, universities, NGOs and international development agencies based in Zimbabwe attended the conference.¹⁰⁶

Procedurally, towards COPs, Zimbabwe convenes a cross-section of state and non-state stakeholders that produces a country position paper on various aspects for the negotiations. This paper is forwarded to the African Ministerial Conference on the Environment (AMCEN) for consolidation with others to create an African position paper. This is the main opportunity for non-state actors to inform the country's position and involvement at the negotiations. However, as noted earlier, there is currently general agreement among environmental NGOs on the need for broader inclusiveness in climate change policy-making, in the crafting of Zimbabwe's official position on climate change, and in the country's participation at the actual negotiations.

6.3 Zimbabwe's position

Zimbabwe's position on climate change issues is shaped by its ongoing involvement in the discussions of the UNFCCC subsidiary bodies; influenced by its membership of the Group of 77/ China; and determined principally by its national interest and the need to achieve equitable social and economic development.

In the run-up to COP15, Zimbabwe was mainly concerned about attaining a global financial and

104 See GoZ 1998.

105 See Frost 2001.

106 Ibid.



technology transfer framework to enable adequate adaptation response to climate change. Such a response would involve investment to support adaptation projects, including strengthening of early warning systems, disaster preparedness and management, water harvesting and many other aspects of the country's adaptation strategy.¹⁰⁷ Zimbabwe, along with other developing countries, also sought commitment from developed countries to deep, time-bound emissions reduction targets.

6.4 Relationships with regional groupings

As a member of the African Group within the Group of 77/ China, Zimbabwe has worked to establish a common negotiating position with other developing countries on issues of mutual interest, particularly those related to financing of activities and technology transfer. Given the diversity of this group, agreement on the best approach to climate change issues is not always possible.¹⁰⁸

Zimbabwe is also a prominent member of the Southern African Development Community. However, SADC has not been very effective in formulating and pushing for a firm position on the issues being discussed within the UNFCCC. Zimbabwe's membership and allegiance to the eclectic G77/ China means its presence and influence at the negotiations is circumscribed by consensus within the group. This may have the effect of inhibiting the country delegation from pushing through individual demands they may have given that group positions are normally based on the lowest common denominator of all the country positions.

6.5 Constraints to effective involvement at negotiations

Insufficient capacity is probably the main constraint to more effective negotiation. The shortage of capacity is reflected primarily in the relatively few people involved in climate change issues on a continuing basis. Given the complex nature and fast pace of negotiations—and the increasing importance of informal consultations and side events, and of discussions with potential project partners and donors—the small size of Zimbabwe's delegation places the country at a disadvantage. Capacity-building for negotiators and their support teams, including civil society, should be encouraged. Civil society should be involved in the negotiations, and exert greater influence

at country level consultations and position building before the COPs.

There are also limitations in the amount of technical expertise on climate change and related issues within Zimbabwe.¹⁰⁹ The UNFCCC Roster of Experts (<http://maindb.unfccc.int/public/roe/>) lists eighteen nominated experts, of whom only two have been updated or are still available.

6.6 Gender in climate change negotiations

As is the case with most countries in the region, gender aspects are currently poorly addressed in climate change debates in Zimbabwe. This is due to a lack of gender sensitivity in those shaping the debates, leading to a strong technical and economic bias in the contents. This is best seen in the Kyoto Protocol. Social and gender issues receive cursory attention and space in these discussions and documents.¹¹⁰

Other UN processes have exposed a vicious cycle regarding the relationship between participation of women and gender organisations in negotiations and the presence of gender perspectives in resulting agreements and documents. If women's organisations are not actively involved, gender and women's aspects will not be addressed; and because gender aspects are not addressed, women's organisations do not take part.¹¹¹

In Zimbabwe, negotiations at the COPs are a preserve of the government delegation. Thus, the opportunity for gender organisations to influence the actual negotiating process stops at the level of national consultations. At this level, there is evidence that organisations in the gender lobby are not adequately involved in the process of shaping the country's position on climate change and influencing the actual negotiating at the COP. For instance, the list of stakeholders involved in the preparation of the Second National Communication on Climate Change does not contain a single organisation working exclusively on gender and equality issues. Lack of gender-differentiated research and data is another impediment to the entry of gender organisations into the negotiations process, at both national and international levels.

107 See GoZ 2009.

108 See Frost 2001.

109 Ibid.

110 See Roehr 2004.

111 Ibid.



CHAPTER 7: Conclusions and Recommendations

The conclusions reached and recommendations given in this chapter indicate possible entry points for organisations interested in climate change programming in Zimbabwe.

The reliance of the vast majority of Zimbabweans on rain-fed agriculture and the sensitivity of major sectors of the economy to the climate make Zimbabwe particularly susceptible to climate change. Despite this, very little research has been carried out on climate change, particularly adaptation, in Zimbabwe over the past five years.¹¹²

Although past studies have yielded significant information on sectoral vulnerability to climate change in Zimbabwe, there is a paucity of data relating to vulnerability at community and household levels. Considerable knowledge about sectoral vulnerability is not matched by efforts towards adaptation, and very little is available in the way of sectoral adaptation response plans.

Additionally, while communities have developed

to harmonise existing uncoordinated and fragmented pieces of legislation and strategies aimed at enabling and enhancing an adaptive response to climate change in the various sectors of the economy.

The established institutional scenario is characterised by weak capacity to implement policies and strategies related to climate change adaptation. Specialist skills in climate change research across the key sectors of health, water and natural resources management are lacking, as is the capacity to generate same through the national tertiary education system. As with other sectors of government, skills flight and inadequate funding mechanisms have impacted heavily on the capacity of various institutions to implement policies, plans and strategies relating to climate change adaptation in Zimbabwe. Vital institutions in need of such support include the Climate Change Office; institutions involved in early warning, such as the National Early Warning Unit; the Zimbabwe Vulnerability

Specialist skills in climate change research across the key sectors of health, water and natural resources management are lacking, as is the capacity to generate skills through the national tertiary education system.

many varied ways of coping with perennial droughts, very few studies have systematically recorded these coping strategies so as to map existing community adaptation strategies. Data here are currently available only from isolated studies.

Zimbabwe currently has no specific policy response to climate change. Instead, fragmented responses are implied in a battery of sectoral policies, including those relating to environment and natural resources management, water resources management, agriculture and food security, and disaster management. There exists a need for the definition of a specific policy response to climate change. There is also a need to mainstream climate change adaptation in the policies and work programmes of various government ministries, and

Assessment Committee; and the Meteorological Services Department. Other vital institutions in need of capacity-related support are the Zimbabwe National Water Authority, the Department of Agricultural Research and Extension, and the Department of Civil Protection. Although the non-governmental organisations are also affected by skills flight, their capacity constraints are less crippling. However, NGOs continue to work individually and without coordination, resulting in duplication of interventions, among other problems. There is a need to bring together NGOs under a coordination mechanism dedicated solely to climate change issues.

Public awareness, especially as it relates to adaptation, is sorely lacking in Zimbabwe. Chief among the constituencies in need of increased awareness-raising efforts are the legislators, whom evidence has shown have very little knowledge of climate change and the need for

112 See McDevitt 2009.



an urgent policy response to it. In addition, very little information is available through the country's media on long-term climate change. Media practitioners still view reporting on climate change as a specialty area, and many do not make necessary connections to climate change in their day-to-day reporting, even on environment-related issues. In addition to increased professional training on reporting climate change issues, a bigger challenge and need exists within journalism training schools to encourage and develop curricula on climate and environmental reporting.

Many farmers are aware of climate change, although many still view its effects in the light of normal seasonal climatic variability. There is need for a concerted effort to raise awareness of climate change among farmers, with an emphasis on its implications for their choice of farming methods, timing, and crop and seed varieties.

Zimbabwe's participation at regional and international climate change forums has suffered because resources to build a stronger and larger negotiating team for the country have been unavailable. Also, there is limited participation of civil society in crafting the country's position on climate change. This excludes the views of a large section of Zimbabwe's population, leaving this task to government bureaucrats and a small section of the research community. Members of civil society active in climate change issues need to form a strong coalition, and to create space for their views and participation in crafting the country's position and policy on climate change. Civil society must also have a voice in the actual negotiations.

A deliberate and extensive effort is needed to integrate gender issues into Zimbabwe's response to climate change. Gender disaggregated data on vulnerabilities is needed at both micro and macro levels. The accentuated vulnerability of women to climate change should be acknowledged, researched and integrated in planning and strategy building. Policy making in response to climate change must ensure the participation of women, children, the elderly, the disabled and other vulnerable groups. Gender parity should be mainstreamed in the institutional frameworks and programmes of all organisations and bodies involved in responding to climate change in Zimbabwe. Likewise, institutions involved in public awareness raising should ensure that communities are informed of the implications of climate change on gender relations, and are aware of restorative alternatives.



REFERENCES

- ALM UNDP. 2009. "Zimbabwe Country Profile." Adaptation learning mechanism. UNDP. <http://www.adaptationlearning.net/zimbabwe/profile> [accessed 06 February 2010]
- Banda, K. and Mehlwana, M. (eds). 2005. "Equity and Gender in Climate Change." Climate change and gender position papers. Novafrica. [DRAFT]
- Benson and Clay 1998 in Manase. "Documentation of Research on Climate Change and Water in Southern Africa." Undated. [2nd DRAFT]
- Brody, A., Demetriades, J., and Esplen, E. 2008. "Gender and Climate Change: Mapping the Linkages." A scoping study on knowledge and gaps. BRIDGE, IDS, UK. June 2008. [DRAFT]
- Chagutah, T. "Environmental Reporting in the Zimbabwean Press: A Case of *The Standard* and *The Sunday Mail*." MA Dissertation. University of Zimbabwe. 2006
- Chenje, M., Soloa, L., and Paleczny, D. 1998. *The State of Zimbabwe's Environment 1998*. Ministry of Mines, Environment and Tourism. Government of the Republic of Zimbabwe. Harare.
- Chigwada, J. 2005. "Climate Proofing Infrastructure and Diversifying Livelihoods in Zimbabwe." *IDS Bulletin* Vol.36, No.4.
- Chimhowu, A. 2009. "Moving Forward in Zimbabwe—Reducing Poverty and Promoting Growth." Brooks World Poverty Institute. University of Manchester.
- Doran, S. 2009. "Zimbabwe's Economy—A Report Card. Mid-2009." Discussion document. The Brenthurst Foundation. October 2009. Johannesburg.
- Ebi, K. et al. 2005. "Climate Suitability for Stable Malaria Transmission in Zimbabwe under Different Climate Change Scenarios." *Climatic Change* Vol.73, No.3. <http://www.springerlink.com/content/p10m402h13279507/> [accessed 10 February 2010]
- Eriksen, S., O'Brien, K., and Rosentrater, L. 2008. "Climate Change in Eastern and Southern Africa. Impacts, Vulnerability and Adaptation." Global Environmental Change and Human Security (GECHS). Oslo. <http://www.bvsde.paho.org/bvsacd/cd68/ClimAfrica.pdf> [accessed 05 February 2010]
- FAO AQUASTAT 2005. <http://www.fao.org/nr/water/aquastat/countries/zimbabwe/index.stm> [accessed 02 February 2010]
- FAO. 2008. "Crop and Food Supply Assessment Mission To Zimbabwe." Special report. FAO/WFP. 18 June 2008. <http://www.fao.org/docrep/010/ai469e/ai469e00.htm> [accessed 02 February 2010]
- FEWSNET. *Zimbabwe Food Security Outlook October 2007 to March 2008*. September 2007.
- Frost, G. H. 2001. "Zimbabwe and United Nations Framework Convention on Climate Change. A Working Paper." Overseas Development Institute. London. <http://www.odi.org.uk/resources/details.asp?id=3615&title=zimbabwe-international-institutions-unfccc> [accessed 01 February 2010]
- GenderCC. 2004. "Mainstreaming Gender into the Climate Change Regime." A paper summarising the issues as discussed at two gender-focused side events organised by LIFE, WECF, ENERGIA and ETC Foundation during COP10. 14 December 2004. COP10. Buenos Aires.
- GoZ / UNDP. 2005. "Support for Strengthening National Capacity for Disaster Management in Zimbabwe." [Project document] http://www.undp.org.zw/images/stories/Docs/ProDocs/Disaster_Mant.pdf [accessed 03 February 2010]
- GoZ / UNDP. 2007. "Zimbabwe: Coping with Drought and Climate Change." UNDP project document. Harare. Part I: <http://www.undp.org.zw/images/stories/Docs/ProDocs/Coping-with-dr1.pdf> [accessed 01 February 2010] Part II: <http://www.undp.org.zw/images/stories/Docs/ProDocs/Coping-with-dr2.pdf> [accessed 01 February 2010]



- GoZ. 1998. Zimbabwe's Initial National Communication on Climate Change. Climate Change Office—Ministry of Mines, Environment and Tourism. Government of Zimbabwe. Harare.
http://unfccc.int/essential_background/library/items/3599.php?rec=j&preref=2251#beg [accessed 03 February 2010]
- GoZ. 2006. Republic of Zimbabwe: Preparation of the Second National Communication under the UN Framework Convention on Climate Change (UNFCCC). National Communication Support Programme. UNDP.
<http://ncsp.undp.org/docs/637.doc> [accessed 03 February 2010]
- GoZ. 2009. "Report on the Climate Change Roundtable." Kadoma. 15–16 April, 2009.
- Gumbo, D. "Zimbabwe Country Case Study on Domestic Policy Frameworks for Adaptation in the Water Sector." Background information for presentation to the Annex I Expert Group Seminar in conjunction with the OECD Global Forum on Sustainable Development. 28 March 2006.
<http://www.oecd.org/dataoecd/46/15/37671630.pdf> [accessed 06 February 2010]
- Gwimbi, P. 2009. "Cotton Farmers' Vulnerability to Climate Change in Gokwe District (Zimbabwe): Impact and Influencing Factors." *JÁMBÁ: Journal of Disaster Risk Studies*. 2(2) November 2009. African Centre for Disaster Studies. North-West University. Potchefstroom, South Africa.
http://acds.co.za/uploads/jamba/vol2n02/81_92_Gwimbi.pdf [accessed 05 February 2010]
- Hulme, M. and Sheard, N. 1999. *Climate Change Scenarios for Zimbabwe*. Climatic Research Unit, Norwich, UK.
- IPS. 2008. Q&A: "We Need Policies That Address Climate Change". Interview with Washington Zhakata, national coordinator of Zimbabwe's Climate Change Awareness Programme. Harare. 26/07/2008.
<http://ipsnews.net/news.asp?idnews=43325> [accessed 13 February 2010]
- JIMAT Development Consultants. 2008. "Coping with Drought and Climate Change Project: Baseline Study." Final Report to EMA and UNDP. Harare.
<http://www.undp.org.zw/component/content/175.html?task=view&3a1ed061a28f8a5e62fd4865066ea7fa=dirxelcs> [accessed 01 February 2010]
- Kapungu, R. "The Pursuit of Higher Education in Zimbabwe: A Futile Effort?" A paper prepared for the Centre for International Private Enterprise (CIPE) 2007 International essay competition on "Educational Reform and Employment Opportunities".
<http://www.cipe.org/programs/women/EssaysForWeb/Kapungu.pdf> [accessed 19 February 2010]
- Keeley, J. and Scoones, I. 2000. "Environmental Policy Making in Zimbabwe: Discourses, Science and Politics." IDS Working Paper 116. <http://www.ids.ac.uk/download.cfm?file=wp116.pdf> [accessed 18 February 2010]
- Levina, E. 2006. "Domestic Policy Frameworks for Adaptation to Climate Change in the Water Sector Part II: Non-Annex I Countries. Lessons Learned from Mexico, India, Argentina and Zimbabwe." OECD. Paris.
<http://www.oecd.org/dataoecd/46/15/37671630.pdf> [accessed 04 February 2010]
- Makanga, D. "Zimbabwe: New Cabinet Ignores Quota for Women." *IPS*. 26/02/2009.
<http://ipsnews.net/news.asp?idnews=45892> [accessed 09 February 2010]
- Makombe, L. "Government Is Unable to Manage NGO Funds—Analysts." *The Zimbabwe Independent*. 07/01/2010.
<http://allafrica.com/stories/201001080805.html> [accessed 16 February 2010]
- McDevitt, A. 2009. "Climate Change and Zimbabwe." Helpdesk research report. Governance and Social Development Resource Centre.
<http://www.gsdrc.org/docs/open/HD620.pdf> [accessed 01 February 2010]
- Mqadi, L. 2009. "Key Issues Being Negotiated in Copenhagen: Implications for South Africa and Other Southern African Countries." *Perspectives*. 2.09. Heinrich Böll Foundation. Cape Town.



Mtisi, S. 2010. "LEAPS and Climate Change—Opportunities for Industry." Zimbabwe Environmental Lawyers Association [Presentation].

Nhamo, G. 2003. "Institutional and Legal Provisions for Environmental Management in Zimbabwe." *AJEAM-RAGEE* Vol.7. November 2003. pp.14–20.
<http://www.srcosmos.gr/srcosmos/showpub.aspx?aa=4289> [accessed 17 February 2010]

Olmos, S. 2001. "Vulnerability and Adaptation to Climate Change: Concepts, Issues, Assessment Methods." A paper prepared for the Climate Change Knowledge Network. July 2001.
www.cckn.net/pdf/va_foundation_final.pdf [accessed 01 February 2010]

Pelham, B. 2009. "Awareness, Opinions about Global Warming Vary Worldwide." Gallup. 22/04/2009.
<http://www.gallup.com/poll/117772/awareness-opinions-global-warming-vary-worldwide.aspx#1> [accessed 03 February 2010]

Petrie, B. 2009. "Gender and Climate Change: Regional Report." Executive summary. Heinrich Böll Foundation. Cape Town.

"Report of a Climate Change Awareness and Dialogue Workshop for Parliamentarians." Kadoma. 19 October, 2009. British Council Zimbabwe.

Report of proceedings at the Climate Change Awareness and Dialogue Workshop for Mashonaland Central and Mashonaland West Provinces, hosted by the Ministry of Environment and Tourism: Climate Change Office at Caribbea Bay Hotel, Kariba, Zimbabwe, 29–30 September, 2008.
[http://www.undp.org.zw/images/stories/Docs/Climate%20Change%20Awareness%20and%20Dialogue%20\(2\).doc?3a1ed061a28f8a5e62fd4865066ea7fa=dirxelcs](http://www.undp.org.zw/images/stories/Docs/Climate%20Change%20Awareness%20and%20Dialogue%20(2).doc?3a1ed061a28f8a5e62fd4865066ea7fa=dirxelcs) [accessed 05 February 2010]

Roehr, U. 2004. "Gender, Climate Change and Adaptation. Introduction to the Gender Dimensions." Genanet. Berlin.

Sedgo, J. and Somé, S. 2001. "Enhancing Public Awareness for Increasing Sustainability of

Community in Sub-Saharan Africa." *Global Blueprints for Change*. First edition—prepared in conjunction with the International Workshop on Disaster Reduction. August 19–22, 2001.

Unmüßig, B. and Cramer, S. 2008. "Climate Change in Africa." *GIGA Focus Africa*. No.2. 2008. German Institute of Global and Area Studies. Hamburg.
<http://boell.org.za/web/144-431.html> [accessed 01 February 2010]

Zimbabwe's Initial National Communication under the United Nations Framework Convention on Climate Change. 1998.
<http://www2.ohchr.org/english/issues/climatechange/docs/submissions/Zimbabwe.pdf> [accessed 15 February 2010]



Endnotes

- i. One such process is the current Climate Change Response Strategy development process led by the Zimbabwe Climate Change Office, of which the author could not find a documented record.
- ii. Due to the collapse of most government services and restricted access for non-state actors to engage in extensive research and data collection in the recent past, authoritative literature and current data on the present state of the economy in Zimbabwe are lacking. This section is therefore largely derived from a discussion document for the Brenthurst Foundation by Stuart Doran: “Zimbabwe’s Economy—A Report Card, mid–2009”. The Brenthurst Foundation. October 2009. Johannesburg.
- iii. The National Environmental Policy and Strategies Document was launched by Zimbabwe’s Vice President, Joyce Mujuru, on 23 September 2009. The full text of her speech during the launch can be viewed at http://www.enviroafrica.org/index.php?option=com_content&task=view&id=109&Itemid=23. Up until 2009, Zimbabwe still had no official policy document outlining agreed broader intentions and aspirations on the environment. In 2003–04 the Ministry of Environment and Tourism, in collaboration with the Institute for Environmental Studies, developed a draft environmental policy through wide stakeholder participation and consultations at all levels. These included the community level, and also different sectors and interest groups, such as industry and resettled war veterans. However, up until 2009, the document had not been presented to Parliament for adoption.
- iv. Full text available at http://www.kubatana.net/docs/legisl/env_mgmt_act_060325.doc
- v. Full text available at <http://unfccc.int/resource/docs/natc/zimnc1.pdf>
- vi. For this discussion see “Understanding Environmental Policy Processes: Cases from Africa” by James Keeley and Ian Scoones; also, by the same authors, “Environmental Policy Making in Zimbabwe: Discourses, Science and Politics”. 2000. IDS Working Paper 116. <http://www.ids.ac.uk/download.cfm?file=wp116.pdf>
- vii. Environmental NGO ZERO is spearheading the formation of a network of environmental NGOs seeking more space to influence the country’s policy framework and position on climate change.
- viii. In 2008, the Reserve Bank of Zimbabwe admitted diverting over US\$7 million from the Global AIDS Fund’s Round 5 grant, originally earmarked for scaling up the national antiretroviral (ARV) programme. <http://www.zimbabwemetro.com/health/zimbabwe-global-fund-moves-to-safeguard-money-from-gono>
- ix. Gallup aggregated opinion from the adult population fifteen years of age and older in both rural and urban areas, except in areas where the safety of interviewer was threatened and in sparsely populated islands. Error bounds were below ± 6 percent, with 95 percent confidence.
- x. In the past, the size of the Zimbabwe delegation was larger. Eight delegates attended the fifth session of the subsidiary bodies in February 1997, soon after Zimbabwe took over the presidency of the COP. Since then, however, the numbers have dropped.
- xi. An example is the country position paper process carried out in April 2009 and presented as Zimbabwe’s position for consolidation into an African Group position paper at COP15 in Copenhagen, December 2009. The exercise was carried out at the Climate Change Roundtable in Kadoma, 15–16 April, 2009.