Chimanimani District Climate Change Response & Watershed Management Strategy




Chimanimani Rural District Council

with

The Chimanimani District Climate Change &

Watershed Management Dialogue Platform

Version of 22.05.2017

Foreword

Climate change is a global issue of concern, seeing the shifting of known seasons, new weather patterns at various locations, changes in rainfall and temperature regimes. To put it simply, gases emitted into the air, eg. by human activities, vehicles, industrial emissions or fires, cause a blanket of gases accumulating in the atmosphere which results in global warming. Less resistant species have been heavily affected leading to their extinction.

Zimbabwe has been equally affected and temperature increases and prolonged dry spells have occurred since the turn of the century. From 1900 to 2000, 'the country's mean annual surface temperature has warmed by 0.4 Degrees Celsius (NCCRS p. 1) and average temperature increases of above 1 Degree Celsius have been projected for the nation for the current period. Rainfall patterns have become erratic with increasing dry spells, droughts and related negative livelihood effects. In Chimanimani district this story is evidenced by increasing temperature in the once cold highlands, frequent droughts in the low veldt and changes of rainfall patterns across the whole district. Coupled with inadequate management of natural resources, especially in the crucial watershed areas, this has led to increasing stress for the rural population, declining viability of various economic sectors and severe threats to a number of plant and animal species.

Chimanimani is one of the most diverse districts of Zimbabwe, endowed with still intact natural resources and skillful, peace-loving and dynamic people. Listening to stories of those who were there to witness the situation about thirty years ago, you get a feeling of the drastic changes that have taken place as a result of climate change. It is the vision of the many people and stakeholders, who were involved in drafting this policy, that Chimanimani will sustain its vibrant character and address the causes of negative effects of climate change and watershed management. The people of Chimanimani, communities, leaders, stakeholders will strive to adapt to the many challenges posed by a changing environment. Within the Chimanimani scope of action, the District has designed this Strategy to address Climate Change and Watershed Management. In June 2017, the Strategy was approved by the CC&WSM Dialogue Platform and the Policy was finally adopted by CRDC full Council. Hopefully this will make a contribution to Chimanimani District becoming more resilient: socially, economically and ecologically.

Chairperson of Chimanimani Rural District Council Chairperson CC&WSM Dialogue Platform

Acknowledgements

We would like to thank all participants involved in the process of dialogue on climate change and watershed management in Chimanimani for their dedicated contributions. In particular we gratefully acknowledge the participation of the District Administrator, the C.E.O. Chimanimani Rural District Council, the D.A.O. Chimanimani, the EMA District Officer, the District Officers of the Forestry Commission, the Ministry of Women Affairs, Gender and Community Development, and the Ministry of Lands, the District Officers of the Livestock Production Department, the Department of Veterinary Services and the Department of National Parks and Wildlife.

We acknowledge the active participation of Border Timbers Ltd. and the C.E.O. of the Timber Producers Federation. Civil society organisations SAFIRE, Birdlife, TSURO Trust and Chikukwa Ecological Land Use Community Trust actively participated and mobilised resources for the process. We acknowledge the research input by OXFAM (with SAFIRE), Birdlife International and Practical Action (with the TSURO Trust).

We appreciate the active involvement and in particular acknowledge the participation of Chief Muusha, Chief Saurombe, Chief Chikukwa and village heads from primary watershed areas in Bvumbura, Hangani,Tiya, Gudyanga, Chayamiti and Chikukwa.

We thank the many community members in Action Groups from all over the District who contributed in various ways to the formulation of this policy document.

We would like to give special appreciation to the efforts of the Steering Committee comprised of AGRITEX,TSURO Trust, Border Timbers Limited, SAFIRE, CRDC, EMA and Chief Chikukwa.

ACRONYMS

AGRITEX	Agricultural Technical and Extension Services
CAMPFIRE	Communal Areas Management Programme for Indigenous Resources
CARITAS	Catholic International Aid and Relief Agency
CBD	Convention on Biological Diversity
CC	Climate Change
CC&WSM	Climate Change and Watershed Management
CELUCT	Chikukwa Ecological Land Use Community Trust
CRDC	Chimanimani Rural District Council
DA	District Administrator
DDF	District Development Fund
DDP	District Development Plan
E.A.	Environment Africa
EMA	Environmental Management Agency
ENSURE	'Enhancing Nutrition, Stepping Up Resilience and Enterprise' (with World Vision)
FAO	Food and Agriculture Organisation of the United Nations
FC	Forestry Commission
GAA	German Agro-Action
GAM	Global Acute Malnutrition
HLLM	Holistic Land and Livestock Management
ICT	Information & Communication Technology
LPD	Livestock Production Department
MWAGCD	Ministry of Women Affairs, Gender & Community Development
NCCRS	National Climate Change Response Strategy
NGO	Non-Governmental Organisation
OPV	Open Pollinated Varieties
OVC	Orphans and Vulnerable Children
OXFAM	International Confederation of Charitable Organisations based in UK
PORET	Participatory Organic Research & Extension Trust
RDDC	Rural District Development Committee
SAFIRE	Southern Alliance for Indigenous Resources
SAM	Severe Acute Malnutrition
SMEs	Small and Medium Enterprises
TOR	Terms Of Reference
TCA	Trans-frontier Conservation Area (linking Zimbabwe & Mozambique)
TSURO	Towards Sustainable Use of Resources Organisation
UN	United Nations
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNICEF	United Nations International Children's Fund
VH	Village Head
ZELA	Zimbabwe Environmental Law Association
ZFU	Zimbabwe Farmers Union
ZINWA	Zimbabwe National Water Authority
ZIMVAC	Zimbabwe Vulnerability Assessment Committee
ZRP	Zimbabwe Republic Police

DEFINITION OF KEY TERMS

Aquatic life	plants and animals that live or grow in water
Biodiversity	the variety of plant and animal life in the in a particular habitat
Catchment area	is any area of land where precipitation collects and drains off
Climate change	the variation in global or regional climates over time
Conservation	protecting or preserving something
Ecology	is the interactions among organisms and their environment
Ecosystem	is a community of living organisms in an environment including non-living things
Genotypes	the part (DNA sequence) of the genetic makeup of a cell
Jeopardise	put someone or something into a situation in which there is a danger
Mainstreaming	incorporating an issue in all proceedings, at all levels and at all stages
Mitigation	the action of reducing the severity or seriousness of something
Participatory	involving or characterized by the contribution of everyone involved
Rangeland	open country used for grazing or hunting animals
Rehabilitation	the action of restoring someone or something to a previous state
Riverine	situated on a river or riverbank
Sacred	dedicated to a religious purpose and so deserving respect
Species	a group of living organisms consisting of similar individuals capable of exchanging genes or interbreeding
Sporadic	occurring at irregular intervals or only in a few places
Trans-frontier	of resources that overlap boundaries
Watershed	an area or ridge that separates waters flowing into different directions
Wetland	a wetland is saturated with water, either permanently or seasonally

Executive summary

The people of Chimanimani District have experienced negative effects of Climate Change and such experience has been supported by recent research in the district. The Zimbabwe Government - through its Ministry of Environment, Water and Climate – approved a National Climate Change Response Strategy that seeks to develop a climate-resilient Zimbabwe through an integrated response across all socio-economic sectors. Multi-stakeholder platforms at national, provincial and district level are among the governance structures that are to promote this vision.

In Chimanimani, a process of dialogue about climate change, its effects as well as mitigation and adaptation response strategies began in 2016. The dialogue was also about watershed management, its current situation, the challenges as well as potential action towards more sustainability. A Chimanimani District Climate Change & Watershed Management Dialogue Platform was created with a Steering Committee to coordinate the process. The Committee promotes and facilitates an inclusive dialogue process concerning CC&WSMgt, involving all relevant Government departments, traditional leaders, NGOs and other civil society organisations, private sector commercial actors, rural community representatives and other interested individuals or actors.

The dialogue platform recommended the development of a strategy to guide Climate Change and Watershed Management in Chimanimani. This strategy has been backed by a Chimanimani District Climate Change & Watershed Management Policy, approved by the full council of Chimanimani Rural District Council, which links up national policy, district level plans and the needs and practices at community level. This Chimanimani District Climate Change & Watershed Management Strategy (CDCC&WSMS) is the result of that inclusive process.

Its Vision is that

Chimanimani communities and stakeholders work together to sustain a climate change resilient district.

The Vision is supported by a Mission Statement, Pillars and guiding Principles.

The CDCC&WSMP **Objectives** are:

1. To strengthen participatory, inclusive and coordinated climate change governance systems through mainstreaming across the sector divides of government, private sector, civil society and communities
2. To encourage sustainable land use planning and development by supporting organized community based projects at household, village and ward level

3. To strengthen community driven water and natural resources management for ecosystems supporting a high quality of life
4. To generate, manage and disseminate climate change information for strengthening a climate change conscious society
5. To advance climate proofing in infrastructure planning and settlement design and limit unplanned settlement and extractive industries in ecologically sensitive areas
6. To support socio- economic initiatives which enhance a healthy, self-sustaining district community with functional industries and diverse livelihood systems

The strategy gives an overview of climate change related challenges in the district, based on a variety of research papers and stakeholder inputs. District specific response approaches are outlined along the sectors: ecology; agriculture; forestry; mining, tourism & commerce, socio-economic issues; water; and governance.

Based on the six Objectives above, twenty specific strategies were developed with more than eighty key actions. An action plan with lead and support functions allocated to various stakeholders is to guide implementation over the next years.

As part of a district adaptation plan, recommendations to various levels were formulated. To monitor an initial period of three years, outcomes will be measured in comparison of the current situation 2017 with a desired situation in 2020 along annual milestones. The strategy is to be reviewed at the end of this period.

The implementation of this strategy will be driven by a variety of motivated stakeholders. This is firmly backed by the related CC&WSM Policy driven by CRDC. While it is hoped that Government, civil society, private sector and the district at large will support this process with adequate resources, funding is not to become a bottleneck that could jeopardize the implementation of the policy. The collective will to respond to negative effects of climate change and inadequate watershed management can make a big difference. The people of Chimanimani District want to reach out to other districts, to Manicaland Province and to national level to take appropriate and urgently needed action in this regard.

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Chapter 1: Background

1.1 Overview of Chimanimani District and the Process of Climate Change Strategy and Policy Formulation

Chimanimani District is situated in the southern part of Zimbabwe's Eastern Highlands. It consists of 23 wards covering an area of 354,805 ha and comprises all 5 agro-ecological zones of Zimbabwe. Settlement patterns may be categorized into forestry estates (42 %), communal areas (34 %), resettlement areas (17 %), national parks (5 %), commercial farming areas (1 %) and semi-urban settlements (1 %). According to the 2012 Census there were 32,801 households or 133,810 inhabitants in the district. At a projected annual growth rate of 1.15% the 2016 district population is likely to exceed 140000 people. Most of these (about 89 %) live in communal and resettlement areas.

The mountainous eastern areas, with the highest peak Mount Binga rising to 2440 m a.s.l., experience high rainfall of up to 1400 mm per year, while the low veldt areas in the west, declining to altitudes of 350 m a.s.l., only receive between 300 and 800 mm in 'normal' rainy seasons.

Chimanimani District is part of two catchment areas, the Save River and the Budzi River catchments. The area is also significant as part of the Eastern Afromontane Biodiversity Hotspot, with the Chimanimani mountains representing a Key Biodiversity Area. The main watershed areas are found in:

- the eastern plateau situated in the area stretching from Chimanimani National Park and Chikukwa in the east to Saurombe, Charter and Cashel, where the rivers Haroni, Musapa, Nyanyadzi, Nyahode and Umvumvumvu originate;
- The central plateau around the Gwindingwe area, where the rivers Rusitu, Biriiri, Mhakwe, and Changazi originate;

The effects of Climate Change in Chimanimani are felt by rural communities, service providers, industries and other stakeholders. The effects of inadequate watershed management in the District have equally been identified as negative. A variety of hazards were documented by a number of research studies and agency reports during the period 2015-2016. The threats to bio-diversity, the alarmingly low river volumes, the threats to forest cover and rangelands, the increasing vulnerability of rural inhabitants of the District – to name just a few – demanded joint action to address these problems and to reverse these negative trends at a variety of levels.

In April 2016, a Chimanimani District Climate Change & Watershed Management Dialogue Platform met for the first time. In September 2016, its Steering Committee was elected and Terms of Reference for this Committee were adopted. Among other objectives, 'the Committee

promotes and facilitates an inclusive dialogue process concerning CC & WS Mgt, involving all relevant Government departments, traditional leaders, NGOs and other civil society organisations, private sector commercial actors, rural community representatives and other interested individuals or actors', and 'the Committee produces a Chimanimani District Climate Change Response Strategy draft'. After wide consultation with stakeholders at provincial and national level, this Chimanimani District Climate Change Response & Watershed Management Strategy was approved in June 2017. In the same month, Chimanimani Rural District Council adopted the related CC&WSM Policy at a Full Council meeting. This means that policy statements within the Chimanimani Climate Change & Watershed Management Policy are binding guidelines for all actors within the district.

The District Strategy seeks to link up with the Zimbabwe National Climate Change Response Strategy. It is meant to provide for a strategic framework at district level that allows for inclusive and effective action to mitigate against negative effects of climate change and inadequate watershed management and to strengthen adaptive strategies at all levels and in all areas of Chimanimani District.

1.2 Research Findings

According to recent research studies carried out in Chimanimani District, there are a number of indicators of climate change: declining rainfalls, late onset of seasons, increasing mid-season dry spells, extreme temperatures and decreasing crop yields. National level projections for the 2050 time horizon support community perspectives. Summer temperatures increases are projected to range between 1.75º and 2.5 ºC and annual average rainfall will decrease by 10 – 15 %. Maize yield is projected to drop by 10 %, with a 0.07 probability that by 2055 yield per hectare will fall below 200kg/ha. Stakeholders reported decreasing capacity in flow of streams and rivers; streams and rivers that used to flow perennially are now seasonal. The capacity of water sources has changed: members of the different watershed areas reported water scarcity and that people now walk long distances to get water. This has been attributed to siltation of river sources arising from increased soil erosion. Across watersheds, households reported having observed accelerated soil erosion in their fields as well as on the land in general. Some causes of land degradation are found in relation to agriculture and harvesting of trees. Another contributor to reduced water volumes appears to be exotic tree plantations enclosing river sources. Because exotic tree species, such as eucalyptus, are known to have high water demands, local people said that exotic tree plantations are affecting recharge of river water sources in Chimanimani, thus partly explaining decreasing river flow. The priority hazards are land degradation, climate change, water scarcity and sacrilege. Effects of degrading land can be observed in soil compaction, increased run-off, loss of soil fertility, and decrease in

vegetation cover. There is apparent stream bank cultivation around many rivers and river sources in Chimanimani. Land degradation was reported to be affecting livestock health: increasing stunting and low milk production were reported.

Infrastructure remains poor in all five watersheds key among which are agricultural services and infrastructure for marketing agricultural produce. Public agricultural extension services were reported to be declining. The role of Agritex has been reduced from a driver of rural development and agricultural production to a supporting service institution with inadequate budgetary support.

Across watersheds, members reported that some grass and tree species have disappeared, or are under threat. Some invasive species were also reported. Wild animals were said to be on the decrease in three watersheds. Woodland vegetation cover went down by 1.4%, attributed to human settlements. Cultivation has resulted in fragmentation of forest land/habitat. A relatively high proportion of farmers are making attempts to manage soil fertility, particularly by mixing leguminous crop/tree species with cereals. Some households had left their land fallow the previous season most of which was grass-dominated. There is evidence of the integration of crop production and livestock keeping/production in the different watershed areas.

There are several threats to forests in Chimanimani and the major ones include climate change and variability resulting in shifting agro-ecological zones, veld fires, dependence on fire wood, expansion of farmland for cereals production and socio-political pressure. Local narratives reveal that a national politics of patronage has weakened traditional leaders who cannot, as a result, control illegal settlements in forest areas. In addition, some among the traditional leadership hierarchy are also corrupt; they take bribes and allocate land in forest areas and ecologically sensitive areas, such as wetlands and/or riparian zones. District stakeholders cited lack of institutional capacity (material) which was linked to macro-economic decline, as well as lack of the harmonisation of laws, policies and line ministry mandates; as constraints to effective watershed management and efforts at climate risk management.

The household survey shows that rangelands are under threat: declining pasture quality, scarcity of grazing land and lack of managed livestock grazing. Evidence from the household survey shows that watershed areas and rangelands are clearly demarcated but people do not observe these demarcations because of scarcity of grazing land, and in some cases, increasing population pressure. Satellite images also show that settlements are not planned, and there is encroachment of settlement and agriculture into watershed areas.

Evidence from the study shows that ecological, social, economic, and governance issues are inextricably intertwined: dependence on ecosystem goods and services is high and poses a threat to watershed integrity. Yet regulating the use of these goods and services is difficult: the economic downturn in the country forces people to subsist on land and land-based

resources, and political polarisation weakens local institutions critical for watershed management. Stakeholders suggested the empowerment of traditional leaders as a first step towards improving watershed governance in Chimanimani. However, key to addressing watershed management problems, is the recognition that without political will at both district and national levels, attempts at watershed restoration and mitigating the impact of climate change and associated risks, will be a futile exercise. Thus to be effective, the governance framework outlined in the National Climate Change Response Strategy (NCCRS) should in practice, ensure that scientific, technical and expert knowledge are aligned with local experiences/custom and knowledge systems, and anticipate surprise emanating from micro politics-national politics interactions.' (Summary of 2015 Action Research carried out by Practical Action Consultancy for the TSURO Trust)

Birdlife Zimbabwe commissioned a 2016 Biodiversity Assessment on the Zimbabwean side of the Chimanimani Transfrontier Conservation Area. According to the study, the Chimanimani TFCA has about 46 endemic plant species, many of which are threatened. In terms of avifaunal biodiversity, Chimanimani is home to two globally Important Bird Areas (IBA) with at least 168 bird species. Some of the species are threatened due to disturbance of habitat, deforestation, invasive alien plant species and pesticide-spraying. The authors recommend research on insects, reptiles, amphibians and aquatic species to fill information gaps. They underline the importance of engaging communities and plantation companies and to create awareness on the whole range of ecosystem services. (Birdlife International 2016)

According to a SAFIRE/OXFAM study of 2016 on Climate Change Adaptation in the Chimanimani part of the Odzi Sub-catchment, there are three main messages:

- 'Irrigation is essential for productive agriculture and food security in the district. Massive investment is needed in irrigation which involves technically sound irrigation schemes, robust management systems and continuous maintenance and repairs, creating a viable and sustainable solution.
- Microbial contamination of water sources requires urgent investigation as to extent and causes, as well as urgent interventions to provide safe water to communities.
- More boreholes are needed for identified communities with problematic access to water.

The current state and trend in land degradation, pasture depletion, water stress and socio-economic pressures are interacting with climatic stress to heighten the vulnerabilities among rural communities in the district.' (OXFAM-UNDP/GEF Scaling Up Adaptation in Zimbabwe)

According to Agritex technical monitoring of the river flow in Chimanimani, the volume in the major rivers has drastically declined between 1991 and 2015: Nyanyadzi by 99.29 %, Shinja by

98.51%, Changazi by 97.61 %, Mhakwe by 92.22 %, Mvumvu by 84 %, Biriiri by 54.82 %, Musapa by 23.57 %. Decreasing rainfall in the District has been identified as a major cause of this, eg 41.89 % from the 2013/14 to the 2014/15 season.

According to Chimanimani Rural District Council, water infrastructure for urban settlements like Chimanimani urban was hit by a crisis of natural water sources drying up towards the end of 2016. One of the Forestry Companies has observed the following effects of climate change: change in precipitation pattern; change in vegetation composition; pest infestation and crop diseases; change in water supply levels; forest fires; invasive species and extinction risks of valuable species; reduced bark strip ability.

1.3 Existing legislation and legal framework

International Treaties and Protocols

Zimbabwe is a signatory to, and/or has ratified a number of international treaties and/or protocols on the environment. It has ratified and signed the Convention on Biological Diversity (CBD), UN Framework Convention on Climate Change (UNFCCC) in 1992, and has ratified the Kyoto Protocol in 2009. It is important to position local watershed management and climate-related dynamics within the global context, which may have implications for communities that depend on ecosystem services for a livelihood.

The Sendai Framework for Disaster Risk Reduction (2015-2030) emphasises disaster risk management by 'preventing new risk, reducing existing risk and strengthening resilience', using a multi-stakeholder approach.

The UN Framework Convention on Climate Change (UNFCCC) was established at the UN Conference on Environment and Development, commonly known as 'Earth/Rio Summit'. The UNFCCC guides international climate policy and emphasises differentiated responsibilities according to the country's development category. Parties to the UNFCCC meet every year at the Conference of Parties (COP) to review progress on implementation. The most recent meeting was held in Paris in December 2015; the latest agreements are thus known as the Paris Agreement. Article 2 and Article 5 of the Paris Agreement are explicit about the need to strike a balance between climate change mitigation, biodiversity conservation and human needs if mitigation strategies are to work. Article 2 focuses on strengthening responses to the threat of climate change in the context of sustainable development and the eradication of poverty, by for instance, building adaptive capacity and climate resilience 'in a manner that does not threaten food production'. Article 5: focuses on action to 'conserve and enhance, as appropriate, sinks and reservoirs of greenhouse' and 'take action to implement and support, including through results-based payments: policy approaches and positive incentives for activities relating to reducing emissions from deforestation and forest degradation, and the role of conservation,

sustainable management of forests and enhancement of forest carbon'. The values/principles underpinning the Paris agreement include, *inter alia*:

1. Parties should, when taking action to address climate change, respect, promote and consider their respective obligations on human rights, the right to health, the rights of indigenous peoples, local communities, migrants, children, persons with disabilities and people in vulnerable situations and the right to development, as well as gender equality, empowerment of women and intergenerational equity
2. Emphasis on 'The enduring benefits of ambitious and early action, including major reductions in the cost of future mitigation and adaptation efforts
3. Welcoming of non-Party stakeholders including those of civil society, the private sector, financial institutions, cities and other subnational authorities to address and respond to climate change, and inviting them to 'scale up their efforts and support actions to reduce emissions and/or to build resilience and decrease vulnerability to the adverse effects of climate change'
4. Recognize the need to strengthen knowledge, technologies, practices and efforts of local communities and indigenous peoples related to addressing and responding to climate change, and establishes a platform for the exchange of experiences and sharing of best practices on mitigation and adaptation in a holistic and integrated manner
5. Affirming the importance of education, training, public awareness, public participation, public access to information and cooperation at all levels
6. Recognizing the importance of the engagements of all levels of government and various actors, in accordance with respective national legislations of Parties, in addressing climate change.

In sum, the Paris Agreement seeks to achieve climate change mitigation in a socially inclusive and holistic manner: simultaneously protecting ecosystems, achieving food security and ensuring a 'just and safe operating space for humanity'.

The Chimanimani District Response policy is also well aligned with the relevant regional and international treaties and protocols.

Zimbabwean Natural Resource and Local Governance legislation

In Zimbabwe, legislation restricting use of wetlands and other ecosystem goods include the Environmental Management Act (2002), the Water Act (2002) and the Communal Forest Produce Act (1988). Restrictions include inter alia; pasturing or movement of livestock, felling of trees, cultivation or method of cultivation or use of land within stipulated distances from the river bank, and erecting buildings near a public stream or water source. Government departments, such as the Agricultural and Technical Extension Services (AGRITEX) and local authorities (RDCs), are also charged with enforcement of rules or by-laws regarding soil

conservation methods, environmental regulations and land use plans. In addition, traditional leaders such as chiefs, headmen and village heads are also empowered to enforce compliance with environmental regulations and/or by-laws (GoZ 2000) according to the Traditional Leaders Act.

The Zimbabwe National Climate Change Response Strategy (NCCRS 2015) has the goal to 'mainstream climate change adaptation and mitigation strategies in economic and social development at national and sectoral levels through multi-stakeholder engagement'. In its Climate Change Governance Framework, the NCCRS suggests Local Urban and Rural (RDC) Authority Climate Change Platforms. Accordingly, the Chimanimani Climate Change & Watershed Management Policy has been guided by the NCCRS.

1.4 Vision, Mission, Objectives, Pillars and Principles

Vision

Chimanimani communities and stakeholders work together to sustain a climate change resilient district.

Mission

Chimanimani Climate Change and Watershed Management Strategies are jointly driven by rural development authorities and agencies, farmers, rural communities, traditional leaders, civil society, commercial sector and all other stakeholders of the District. As residents of Chimanimani District - in spite of differences in context, views and interests – we are all affected by climate change and by human action increasing its negative effects. Recognizing the urgent need for joint action, we shall strive to unite, to pursue our Vision and to encourage other Districts of Zimbabwe to find their own solutions to the challenges of climate change.

Objectives:

In order to work towards this Vision, the District of Chimanimani will pursue the following six objectives:

1. To strengthen participatory, inclusive and coordinated climate change governance systems through mainstreaming across the sector divides of government, private sector, civil society and communities.
2. To encourage sustainable land use planning and development by supporting organized community based projects at household, village and ward level.
3. To strengthen community driven water and natural resources management for ecosystems supporting a high quality of life.

4. To generate, manage and disseminate climate change information for strengthening a climate change conscious society.
5. To advance climate proofing in infrastructure planning and settlement design and limit unplanned settlement and extractive industries in ecologically sensitive areas.
6. To support socio- economic initiatives which enhance a healthy, self-sustaining district community with functional industries and diverse livelihood systems.

The above strategic objectives are based on eight pillars and guided by fifteen principles that will serve as yardsticks to monitor the course of strategy implementation.

Pillars:

- Adaptation and disaster risk management
- Mitigation and ecosystem management
- Capacity building of institutions and people
- Good governance and participation
- Resource mobilization and climate change relevant investment
- Appropriate technology and infrastructure development
- Effective Information generation, management and dissemination
- Respect of tradition, culture, values and religious beliefs

Principles

- Acknowledge the diverse aspirations and needs of all inhabitants of Chimanimani District
- Pursue a relevant, implementable and practical community interest driven development agenda
- Create awareness about the purpose and intrinsic value of bio-diversity of plant & animal species
- Participation and inclusivity of communities and stakeholders regardless of their age, gender, economic or social status, political affiliation, culture and belief systems
- Equitable and just access to resources and sustainable livelihood development
- Mainstreaming Climate Change Adaptation and Mitigation across all sectors through training and education
- Linking Indigenous and scientific knowledge systems
- Alignment to national laws and development Strategies
- Awareness creation and enforcement of local rules and regulations
- Encourage and support respectful, transparent communication and access to information
- Strengthen district and community based disaster preparedness systems

- Clear, transparent and accountable Climate Change governance structure and leadership
- Promotion of environmentally friendly and low carbon technologies
- Motivate industries and SMEs towards climate proofing of new investments
- Create Climate Change response budget allocations by CRDC, central government, NGOs and private sector

1.5 Overview of Chimanimani District Response Strategies

The specific strategies below were developed in a series of participatory dialogue platform meetings and district steering committee workshops. There are 20 specific strategies linked to 6 objectives:

1. **Governance & Mainstreaming**

   Objective 1: To strengthen participatory, inclusive and coordinated climate change governance systems through mainstreaming across the sector divides of government, private sector, civil society and communities.

   Strategies:

   1.1 Capacity building of village heads to take a central role in guiding community processes of establishing climate change and watershed management related rules and regulations

   1.2 Effective participatory law enforcement by traditional leaders, key institutions and communities

   1.3 A multi-stakeholder Climate Change & Watershed Management District Platform & Steering Committee driving a coordinated response to climate change

2. **Sustainable Land Use Planning & Management**

   Objective 2: To encourage sustainable land use planning and development by supporting organized community based projects at household, village and ward level.

   Strategies:

   2.1 Revision and production of land use plans for climate smart villages by communities, local authorities and traditional leaders

   2.2 Rehabilitation of all rangelands in the District by means of community based planned grazing management

   2.3 Integrated soil and water management for improved and diversified crop production

   2.4 Conservation of indigenous forests and reforestation of bare lands

3. **Eco-system Integrity and Water Source Management**

   Objective 3: To strengthen community driven water and natural resources management for ecosystems supporting a high quality of life.

   Strategies:

   3.1 Conservation of biodiversity, including threatened species, in the Chimanimani Key Biodiversity Area and all watershed areas of the district

   3.2 Increasing agro-biodiversity in cropping areas through applied land-use design

   3.3 Ensuring the right of communities to adequate, clean and safe water

4. **Education & Research**

   Objective 4: To generate, manage and disseminate climate change information for strengthening a climate change conscious society.

   Strategies:

   4.1 Awareness creation and generation of information on climate change & watershed management

   4.2 Integrating climate change and watershed management issues in schools and other institutions

   4.3 Creating linkages with research institutions on climate change related issues

   4.4 Building climate change adaption and mitigation capacity of communities and stakeholders

5. **Settlement & Physical Infrastructure**

   Objective 5: To advance climate proofing in infrastructure planning and settlement design and limit unplanned settlement and extractive industries in ecologically sensitive areas.

   Strategies:

   5.1 participatory monitoring of settlement and cultivation in ecologically sensitive areas

   5.2 Consideration of long term effects of climate change in the upgrading of existing and establishment of new infrastructure development projects, especially in the areas of transport, water supply, energy and communication

6. **Livelihoods, Health, Vulnerability & Socio-economic Issues**

   Objective 6: To support socio- economic initiatives which enhance a healthy, self-sustaining district community with functional industries and diverse livelihood systems.

   Strategies:

   6.1 Poverty and vulnerability reduction programmes aimed at sections of society most affected by climate change: OVCs; people experiencing global/severe acute

malnutrition; female headed households; migrants; people living with disability and the elderly

6.2 Increasing productivity of agricultural crop production and small & large livestock rearing, and related marketing and finance systems to increase rural incomes

6.3 Promotion of low carbon footprint products, technology, management and marketing systems and awareness creation on water consumption in economic activities

6.4 Social equity enhancing dialogue of stakeholders on contribution of different sectors to the district economy and livelihoods

Chapter 2: Climate Change and Watershed Management in Chimanimani:

Situational Analysis, Priority Focus Areas and proposed Response

In this Chapter, several Stakeholders have made sector specific contributions concerning challenges and opportunities from their experience.

2.1 The Chimanimani Ecology

Chimanimani embraces all the agro-ecological regions found in Zimbabwe. The eastern part of the district is made up of the nation's eastern highlands familiar for high rainfall and cool temperatures. The area receives relief rainfall that rise up the highlands from the Indian Ocean. The eastern boundary making up the Mozambique boarder is formed of a quartzite mountain while stretching to the west from that area is a mountainous range with deep orthoferralitic soils. This scenario give rise to a diverse ecological phenomena of the Eastern Afro Montane biodiversity hotspot area which encompasses many separate natural biomes including fynbos, montane grassland, deciduous woodland and montane evergreen forest. This unique amalgamation of separate systems is home to a stunning diversity of flora and fauna where avian species are represented as well as wild orchids and field flowers. The fauna includes butterflies, frogs, birds and some large mammals. In the depressions within this eastern area, Rusitu Valley is hot and humid giving rise to thick forest of tall trees and climbers. This area is the home of the nature botanical reserve of Nyakwaa. Dominated by an international river, Rusitu River, it has a diversity of aquatic life forms starting from diatom to macro-vertebrates up to fish. The central part of the district, which by physical phenomena is a central plateau of the District, receives medium rains with high temperatures. Covering agro-ecological region III and IV, the area is dominated by Savannah deciduous woodlands which are dominant in the

mountain ranges as the flat plains have been cleared for human settlements. Mammals such as deer, rabbits; and reptiles and birds can be spotted in the forests. Bees are common. Water is a challenge in most parts of this area. The western part of the district is typically referred to as the low veldt. At an altitude of less than 500 m above sea level, this area lies in the rain shadow of the eastern highlands and thus receives most of its rainfall as convectional rainfall and sometimes frontal rainfall. Very minimum rains are received here totaling less than 350 mm per annum. Temperatures are very hot during the summer season and warm during the winter period. The vegetation is typical bushlands and acacia wooded land. Human settlements dominate the scenery with livestock rearing the most common trade. Crop production is based on irrigation with notable irrigation schemes such as Nyanyadzi, Gudyanga, Nenhowe and Chakohwa. Reptiles including snakes dominate the animal life forms of the wild. The soils are typical shallow sand with the river banks heavily silted to form deep soils. High temperatures and little rains have given rise to dry land species such as the baobab tree, acacia varieties and a wide reptile community. The common mammal of the area is the baboon which is as well an animal of the eastern side. Lower life forms of mosquito and flies are abundant.

Wild animals are migrating from game reserves due to sudden change of weather to harsh conditions and in these conditions they are not able to survive due to shortages of water and food so they are migrating searching for better conditions that can sustain their living. Animals such as lions, buffalos and elephants are often seen in the low veldt and central plateau (eg Runhowani and Gudyanga) during the month of October attacking livestock after escaping from Dewure Game Park. Before this never happened thus no doubt that climate change is the forcing factor. Bird species such as the blue swallows and vultures are threatened by extinction as a result of high temperatures and low precipitation which are not favorable for their living. For instance the blue swallows prefer cool temperatures for their habitat and breeding but due to climate change wetlands . Also extinction of fish species such as tilapia that requires high levels of water discharge for their survival .The most prevalent fish species found in rivers such as Umvumvumvu, Nyanyadzi, Biriri and Changazi are the catfish and elfish that can sustain under low levels of water.

Rivers, streams and watershed areas such as Nyanyadzi and Chikwizi rivers are drying up due to low rainfalls and prolonged dry spells. Wetlands are dwindling in size due to excessive temperatures being experienced and they tend to lose more water than being recharged. River discharges have declined below normal levels for example the Save and Odzi catchments that were characterized by high levels of discharge. Water table levels are always below the normal point thus failing to support rivers and wetlands during dry spells. Rivers that used to supply water all year around [perennial streams] are no longer able to discharge throughout.

Ephemeral and sporadic streams have become more prevalent today than before in the district due to low levels of base flow that supplies rivers.

Vanishing of forests has left the land bare and this has exposed it to rill, sheet and gully erosion. Deep gullies have developed in Gudyanga and Nyanyadzi. This all has been attributed by the changes in rain and temperatures unfavorable for forestry growth. Forests play a vital role in preventing soil erosion and if they disappear, soil erosion is a result.

With climate change, there is a rise in temperatures and less rainfall per annum across this landscape. This is associated by a migration of species resulting in new interaction of unfamiliar communities. Dry land vegetation encroaches into once humid zones. Species loss is incurred as favorable conditions phase out and no mutations succeed.

It must however be noted that non-climatic influences dominate local, short term biological changes. A complete systematic trend analysis across diverse species and geographic space is needed. Despite this uncertainty as to community and ecosystem trajectories, there is an evident pattern of ecological change across ecosystems.

2.2 Agriculture:

2.2.1 Crop Production

Chimanimani smallholders produce for subsistence in the first place. Any surplus can be sold but this is only done by 42 % of households while the majority of 58 % do not market any produce. Produce is mainly sold locally (48 % of households), while individual marketing in towns accounts for about 9 % and market linkages for another 9 %. Typical market products include bananas, maize, beans, groundnuts and horticultural products such as tomatoes.

Formal markets are at a far distance from Chimanimani and there is no appropriate marketing infrastructure. Accordingly, transaction costs are high. Farmers have had a variety of experiences with contract farming (tomatoes and peas for CAIRNS, millet for National Breweries). Some NGOs have been promoting agro-processing and marketing of organic herbs and chillies, baobab fruit, honey, peanut butter, citrus jam and juice on a limited scale. Organic certification has recently become an option for farmers producing for Organic Africa or under the ZimOrganic label. The Participatory Guarantee Schemes necessary for monitoring organic standards have not yet been fully established in the district. Although organic markets are beginning to increase in volume in the region, organic growers have not yet been able to realise reasonable mark-up profits from ‘going green’.

According to the Rural District Development Committee (Food & Nutrition Sector) chaired by Agritex, there are several climate change related challenges regarding crop production. There is

a generally high level of food insecurity, especially in the western parts of the District, due to insufficient cereal crop production. It is recommended to focus on small grains which have a potential of 910 – 980 kg/ha under rain fed conditions. Other valuable crops include beans, round nuts, cow peas, pigeon peas and locally adaptable maize varieties. Promotion of intercropping, conservation agriculture and use of OPVs are recommended. Nutrition levels and diversity of food is low in Chimanimani households and this could be addressed by increased horticultural productivity aided by micro-irrigation initiatives. Poultry and other small livestock is regarded as building household resilience especially under dry conditions.

The District CC&WSMgt committee will compile crop production trends for key products, incorporating timelines on changes in rainfall and agro-ecological zones over the past 40 years, as well as developments in output and market value. This will assist in revised crop recommendations according to specific areas of the District. In the case of irrigation schemes it has been observed that the production costs (e.g. electricity charges for pumping water) render the production of certain crops unviable. It will be good to equip farmers with information and cost effective and environmentally friendly technological choices to transform their production systems into solutions that are adapted to climate change.

Famers should be trained in economic risk management to reduce their risk of crop failure and worsening livelihood situations. Choice of drought resistant crops and varieties, conservation agriculture, diversification of crops, climate change adapted timing, integration of crop and animal farming go into that direction.

2.2.2 Livestock

The NCCRS observes a nationwide continued expansion of cropping areas into livestock grazing areas. This is partly because farmers shift from intensive to extensive production. It recommends to redefine the role of livestock in the face of climate change and to develop frameworks for promoting effective rangeland management systems. Keeping a range of animals has been a coping strategy in dry areas all over the world and this is likely to increase in relevance in Chimanimani. Small livestock such as poultry plays an important part in reducing vulnerability.

In terms of Chimanimani household economics, livestock is owned by the wealthier section of the rural population. Only 64 % of rural Households owned cattle in April 2016 (ZIMVAC). This gives them easier access to drought power and they can sell animals in times of food shortages or to increase their monetary income. Most livestock owners do not follow an income oriented stocking and destocking regime, as livestock ownership is more governed by cultural and status motives than by economic considerations. Livestock is sold according to fluctuating household need. Households on average derive 10.6 % of their cash income and 7 % of their food income

from livestock sales. There are no organised livestock auctions in the district at the moment. Livestock sales are important coping strategies. For instance according to ZIMVAC 2016, 8.3 % of households had sold more animals than usual (stress coping strategy) and 7 % of households sold their last breeding female breeding livestock (emergency coping strategy).

Rangeland management is a key factor affecting the water retention capacity of watershed areas. Currently there is no comprehensive national rangeland policy guiding land use management in these areas, which cover a major percentage of land in the country. A number of wards of the District have been experimenting with Holistic Land & Livestock Management as an approach to rehabilitate eroded grazing areas through planned, time controlled grazing. This has been facilitated by the TSURO Trust in cooperation with the Africa Centre for Holistic Management. Projects under Chief Chikukwa, Chief Muusha and Chief Mutambara have designed grazing constitutions which might be adopted by CRDC. Chief Chikukwa has formulated environmental bye-laws governing livestock, fire and cultivation practices in his area of jurisdiction and similar bye-laws have been generated by all other Chiefs in the district. Such initiatives may go a long way in sustaining the economic value of rangelands.

According to LPD, the district livestock population has been decreasing from year to year. The 2012 Crop & Livestock Survey estimated 40-45000 cattle in the district, while in 2016 the number is estimated at 33209. In that year 2016, 600 heads of cattle were lost in the western parts of the district due to drought. The calving rate is poor, with 1 calf in 2 to 3 years only. There is late cattle maturity and decreasing body size (stunted growth) and condition. In the low veldt there used to be sweet veldt but it is usually grazed before seeding and as a result there is little grass left. As a measure for drought mitigation, animals could be transferred to the Highveld between July and October. Feedlots and improved pastures could be established. Dry stalks could be used and hay could be made. Communal Livestock Management practices, including dipping and de-worming, should be improved. Given good management, livestock production will be a major contributor to incomes, food security, social practices like lobola. Barter trading will be possible.

2.3 Forestry

2.3.1 Commercial Timber Plantations

According to the Zimbabwe Timber Federation, Chimanimani forests occupy 83461 ha (54 % of Manicaland forests). This constitutes about 24 % of the land in Chimanimani, about 35 % of which (29745 ha = 42% of exotic timber area in Manicaland) are demarcated forests under exotic timber. Many crucial watershed areas in these higher altitudes are under exotic timber plantations. The cooperation of this industrial sector, from top management to the workers and

their families living on estate land, is therefore crucial to a response to climate change and watershed management in the District. Prolonged dry spells have caused a lowering of the water table and a high rate of evaporation in the forest estates. Changes in seasons, rainfall pattern and temperatures have resulted in forests becoming increasingly prone to fires. Most forest plantations in Chimanimani have experienced a lot of fires with the Zimbabwe Timber Federation (ZTF) estimating a loss of 43591 ha of timber in Manicaland due to forest fires between 2002 and 2016. This means an average loss of 2564 ha of timber per year, with particularly bad years in 2005 (9732 ha) and 2015 (10872 ha including unplanted areas). The ZTF has identified the main causes of these fires as 'mainly anthropogenic - arson, jumps from land preparation by illegal settlers, bee smocking etc - and electricity power lines'.

After fires, the ground is left exposed and prone to erosion. When it then rains, sheet erosion takes place thereby silting the rivers on the lower lying areas. Increase in temperature has increased the fire hazard against a background of aggrieved workers and illegal settlers who start arson fires, land preparation fires, bee smoking, illegal panning fires and fireguard preparation jumps. Strong winds and dry weather increases the fire run rate on the slope terrain of the timber estates. The District Fire Committee continuously conducts fire awareness programs in the district to abate the severity of the challenge. In spite of several fire awareness campaigns, its visibility and effectiveness on the ground could still be improved.

The effects of climate change on insect pests and pathogens and consequently on forest health are far from being fully understood. Predictions of forthcoming pest problems are also difficult due to the complex interactions among climatic conditions, nutrient supply, plant quality and resistance, and natural enemies and diseases. Decrease in nutrients causes trees as hosts to dry up, which also has a bearing on species richness. Some examples of pests which are affecting plantations are eucalyptus spp and leptocybe invasa. Attacks by pests and disease are severe during the dry season and less active in the rainy season as the host trees are less resistant during dry conditions.

On land disturbed by fire, emergence of new species is high and indigenous species are threatened by extinction. Invasive species such as wattle, pine, eucalyptus, lantana camara, venonia spp. threaten to dominate the forests. A particular new threat is posed by the invasion of *Vernonanthura phosphorica* from Mozambique to the east to the watershed areas of wards 6, 7, 10, 11, 12, 14 and 16. With the reduction of forest cover area, the habitat of some animal species can be destroyed, forcing them to migrate to other suitable area.

As a result of decreasing moisture there is decrease of production output in plantation forests. Forestry companies have begun substituting long season varieties by short season varieties that have a chance to complete their growth cycle under low rainfall conditions. The Wattle

Company and Border Timbers are facing problems of bark strip ability when making poles and harvesting bark from wattle. The production of pinus spp in Tilbury has been affected so that Border Timbers introduced a new eucalyptus species for pole production. With rapid changes in temperatures, monkeys and baboons have increasingly stripping pines as food, another reason for shifting to eucalyptus. However, this response strategy needs to be carefully assessed in view of the high water consumption of eucalyptus trees and associated negative effects on the downstream availability of water.

The Timber estates recommend to buffer systems by establishing more fuel breaks and fire suppression measures to prevent the spread of wild fires. They suggest to remove invasive species and prevent their migration, and to use phyto-sanitary treatments against insects and diseases. After disturbance by fire, the land should be restored and its bio-diversity regenerated.

In order to conserve and improve bio-diversity, the Timber Industry has suggested to create corridors and buffers to enhance landscape connectivity. Exotic trees should be planted at a reasonable distance from streams and springs. Bio-diversity hotspots and ecosystems should be conserved across environmental gradients and genetic diversity should be enhanced in natural forests. Selective logging, climate change aware selection of species and genotypes and their mixes would contribute to building forest resilience. Forest plantation management should be carried out in line with watershed management principles in all operations like thinning, harvesting and age structure management. Ex situ conservation of threatened plant species may complement in situ management. In line with their social responsibility policies, forestry companies may also aim at removing 'other pressures' on forests associated with internal conflict and relationships with neighbouring rural communities. In these efforts, the companies ask for the support of district authorities.

2.3.2 Indigenous Forests

Low rainfalls and increased temperatures have negatively affected forests in the District from thick vegetation to sparse vegetation. New growth of indigenous species such as msasa, muwawa and munhondo is no longer supported by the low rainfall. Invasive exotic species have dominated parts of the district replacing indigenous species (see above). Some of these alien species were brought in by winds and cyclones from countries to the east, stronger than experienced before. Long thin trees and shrub encroachment has developed and can be seen in low veldt areas such as Nyanyadzi and Wengezi. Wetlands used to be characterized by species such as Mukute and tall grasses but today much of this has vanished.

Some economically valuable indigenous trees are cut down for production of local craft. The Mukamba and Baobab trees are especially endangered as people cut them down or

overharvest their bark to produce goods for export. No new mukamba nurseries are being planted across the district but there is a rampant cutting down of the species. Conflicting legislation poses a special challenge here, where different approaches and practices between Forestry Commission, EMA, the Ministry of SME and law enforcement agencies provide for loopholes.

Comparisons of 2005 and 2015 land cover change maps show the extent of human encroachment. Riverine cultivation has increased along most of the rivers of the district. Cultivation has also resulted in fragmentation of forests and habitat. Some river sources, like that of Biriiri River in Gwindingwe, have been enclosed by exotic tree plantations, thus slowing down water recharge.

Overall, however, woodland vegetation only declined by 1.4 % between 2005 and 2015 and Chimanimani forests still produce a considerable amount of oxygen that acts positively to reverse the trend of global warming. Indigenous forests across the various settlement categories cover about 32 % of the District. It is important to acknowledge, to value and to conserve this important contribution of the District to mitigating negative effects of climate change.

2.4 Mining, Tourism and commerce

The scenic beauty of Chimanimani and the hospitality of its inhabitants used to be a major asset of the local tourism industry including a number of CAMPFIRE programmes. Sadly though, the conservation of forests and wildlife has come under increasing threat, with increasing destruction and fragmentation of habitat for plants, birds, mammals, insects and other invertebrates, reptiles and fish. Fire, hunting, small scale mining, use of chemicals and encroaching crop cultivation are some of the causes of this. In the Zimbabwean part of the Chimanimani mountains, 100 globally threatened species were identified, 92 of which are plants. This indicates a high threat to biodiversity in this Key Biodiversity Area. Birdlife International and other stakeholders have embarked on a programme to halt the accelerating destruction of bio-diversity in the whole of Chimanimani. Wildlife such as Eland used to be protected in the Eland Sanctuary under the Department of National Parks and Wildlife, and efforts to protect wildlife in this area should be reinforced.

The Chimanimani Hospitality sector has been suffering from a general decline in tourism in the country and it currently only creates about 25 permanent jobs. There are hopes that the Transfrontier National Park project including Mozambique, South Africa and Zimbabwe may rejuvenate this sector.

The district has lost soil, flora and fauna due to small-scale gold miners who clear the land for their mission to be fulfilled. Tarka and Nyabamba are under threat of these miners. There is serious land degradation which results in clay particles, and sometimes mercury, being deposited in the Haroni and Nyabamba rivers. These rivers will then pass the load to the next river until the pollutants reach the Indian Ocean. Rivers are being polluted due to the exposed clay soils which will find its way into rivers silting it up. There shall be loss of aquatic life due to change in the water quality. Organic matter will make the water body to be warmer due to the turbidity effect and so the clay particle does. A lot of tree species are being cleared and soon the species will nowhere to be found for they have certain climate conditions to grow.

A short lived diamond rush about 8 years ago did not help to make rural communities more resilient. Currently diamond mining operations are at a halt with companies in Ward 14 and in the low veldt ordered to shut down operations. If a resumption of diamond mining should take place one day, the District hopes that environmental and social considerations will be integrated into operational plans and transparently monitored. This will be especially important regarding potential effects of industrial operations on the water quality in the Odzi and Save Rivers which have raised concern in the past.

2.5 Socio-economic Issues:

2.5.1 Land-Use

Land ownership in Chimanimani District consists of a mix of property regimes, in which different owners exercise their legal rights to use their land for their own objectives. The challenges of climate change and watershed deterioration demand that land owners and land users develop a shared approach and practice towards sustaining their common environment. A multi-stakeholder approach, incorporating a diversity of economic actors and interests, will be needed to overcome the pressing issues of inequality and poverty in a district population of about 140.000 people.

Private and public ownership of land in watershed areas should be secure and follow clear guidelines regarding the ecological use of the land as well as the social responsibility of land owners regarding their neighbours and down-stream users in particular. Such guidelines will be based on CRDC bye-laws, traditional bye-laws and environmental policy as implemented by EMA, ZINWA and other relevant bodies.

In communal and resettlement areas, smallholder farmers should have sufficient security of tenure, so that they may develop a long lasting positive relationship with their land. Land allocation by traditional leaders should be guided by binding settlement and land use plans. In communal and resettlement areas there are common property resources including rangeland, forests and other land in the watershed areas. Here, participatory sustainable governance may

be necessary - a third way between full private property rights and centralized regulation - to avoid the 'tragedy of the commons'.
In the smallholder farming sector, there is increasing land fragmentation. Smallholders own 2.5 to 5 different pieces of land per household. Causes of fragmentation are that farmers are proud to own several pieces of land, locally called *marozhi*, demarcated by contour ridges. As population increases, parents would split their land to give to sons, or *zvabuya;* plots are shared between the father and mother in line with 'men's crops' and 'women's crops'. About 75 % of farmers own the land they work on, while more than 20 % rent it. The practice of renting land is especially prevalent in irrigation schemes.

2.5.2 Economic Resources & Production

The Chimanimani CC&WSM Dialogue Platform will monitor trends in the contribution of various sectors to the district economy. The key sectors: smallholder agriculture, commercial agriculture, forestry, mining, tourism, SMEs, commerce and public service all contribute to wealth creation in the District and the Nation. At the same time they also all depend on district resources such as land, water and infrastructure. As part of creating awareness in the District, information on production output, use of resources, employment creation and contribution to livelihood resilience by different sectors may be made available to the interested public.

Products and production processes require a range of resources that affect production costs in a variety of ways. Many of these are affected by changes in climate and management systems. Production patterns that used to be appropriate to conditions of climate and availability of resources 40 years ago are not necessarily appropriate anymore today. It is therefore important to be aware of changes in access to resources and use of resources in the view of climate change.

The District would like to raise awareness amongst producers and consumers regarding key issues such as:

- Carbon footprints: what is the contribution of current products, production technologies, management and land-use practices regarding emissions of greenhouse gases? What alternatives are available?
- Water footprints: what are the water consumption levels for key products and services in terms of rain water, irrigation water and recycled water?
- Climate proofing: Can we identify changes in cost effectiveness and comparative cost advantages; as well as adaptation measures for value chains that are under risk from climate change?

- Economic incentives: Can economic actors and rural communities be linked to incentive schemes that reward ecological practices such as water source and forest conservation?
- Production costs: In the context of climate change, the costs to the eco-system, i.e. the watershed areas, or often not considered 'real' costs, as resources such as water are thought to be freely available. With the effects of climate change becoming more visible in Chimanimani, there is a growing awareness of the increasing scarcity of resources such as water, fuel wood and soil fertility. Users of the goods and services derived from watershed areas should develop more awareness about the effects of their practices on their own future livelihoods and those of other users.

2.5.3 Incomes & Livelihoods

According to the 2015 Poverty Atlas (UNICEF), Chimanimani District had a poverty prevalence of 76.8 %. According to ZIMVAC April 2016, the national average household income for that month stood at US$ 62, the lowest in the past 5 years. In Manicaland this came to US$ 59. About 25 % of the rural population may be characterised as very poor (annual average income of US$ 130-160), 28 % as poor (annual average income of US$ 175-225), 36 % as middle income (annual average income of US$ 400-460) and 11 % as better off (annual average income of US$ 900-1000). Wealth of households is mainly determined by the quantity of livestock owned, the size of land cultivated and the quality of the soils. Employment in the commercial sector provides for livelihoods of 3249 households in forests and sawmills in Manicaland and may be estimated at about half of that (about 1800 households) in Chimanimani. According to ZTF, employment in the Manicaland timber industry has declined from about 14,000 in the late 1990's to about 4000 in 2016. About 63 % of workers are categorised as poor (earning about US$ 55/month), 25 % as middle income (US$ 65-75) and 12 % as better off (US$ 80 - 100). According to ZTF, 'illegal settlers pose the greatest risk to sustainability of the timber industry in Zimbabwe, more so in Chimanimani'.

Climate change and watershed management related hazards affect vulnerable sections of society more than others. About 7 % of the population experienced Global Acute Malnutrition (GAM) (national 4.4 %), while 4 % experienced Severe Acute Malnutrition (SAM) (national 1.9 %). Accordingly Chimanimani has one of the highest stunting rates (42.2 % of children) in the country (national 26.6 %). In Manicaland Province, 6 % of women experienced physical violence and 2 % experienced sexual violence. Internal migration within the District, from areas of lower rainfall to those with higher rainfall, increases pressure on resources in watershed areas. Migration from other areas to Chimanimani is also on the rise, though with 6 % relatively insignificant in 2012, while migration of young people and men of working age to other countries in the region also takes place as a result of difficult economic situations or domestic

issues. All these migratory tendencies result in increasing vulnerability of families in the District. Women are at a greater economic risk than men. It is necessary to empower women to design their own strategies to reduce the negative effects of climate change regarding vulnerability of women and children. According to Zimstat 2012, 39.1 % of households in Chimanimani are female headed. In recent climate change related research, this section of society has been rated as most vulnerable. Other vulnerable sections include OVCs (34.9 %), people living with disability (10-12 %) and the elderly (4.6 % above 65). Children are particularly vulnerable to effects of climate change in a variety of ways. Chimanimani District – due to its vulnerability to negative effects of climate change – was selected as one of six Districts under a 2014 UNICEF study on Children and Climate Change in Zimbabwe.

Although the district has been characterised as a high potential production zone, small holder farming communities in the area continue to face average grain deficits mainly during the months October to March, depending on the weather patterns of the relevant agricultural season. As per ZIMVAC Rural Livelihoods Assessment 2016, Chimanimani ranks among the districts with a lower food insecurity. Still, 39 % of the Chimanimani population (57831 people) are projected to be food insecure by Jan-March 2017 (Manicaland 46 %, National 42 %). According to 2013 NGO baseline findings, in the relatively food secure Chikukwa area only 33.3% of household experienced food shortages in the worst month of November, while in the dry Chikwakwa ward 60-92% of the population experienced food shortages in ten out of twelve months. On average this was mitigated by food relief for only 16% of the households in the district.

In order to assist in the food security situation of the district, stakeholders run different, sometimes diverging programmes: emergency relief, food for work, command agriculture, conservation agriculture, OPV and seed saving promotion, hybrid seed promotion. Smallholder farmers should be capacitated to know the implications of climate change to make well informed choices.

2.5.4 Physical and Social Infrastructure

Infrastructure development has always depended on reliable and constant climate parameters. However, in the face of climate variability, the ‘stationary mode’ scenario no longer holds. Climate variability describes the variability in climate parameters, such as precipitation on spatial and temporal scales beyond that of individual weather events. The conventional belief has been that, while climate varies between seasons within years and between years, the long term variance of climate parameters remains constant. This assumption (called the stationary assumption) has been the basis for designing hydraulic infrastructure including weirs, dams, conveyance systems, roads infrastructure etc in Zimbabwe. However climate variability offers a

number of water resource planning and management implications. Thus, engineers cannot assume that infrastructure designed for past climates will be suitable or reliable for the future.

In Chimanimani the impacts are already being felt. Our natural springs, the major source of water for Chimanimani Urban, Ward 15, dried up in 2016. This compromised water security significantly and urgent measures were required to mitigate against this development. An alternative reliable source of water should be identified and developed without further delay. Haroni River, 13 km away from Chimanimani Village, has been identified as a potential source.

The lowering of the water table also means that boreholes have to be deeper than before and this increases costs in the drilling operations. Due to the intensity of the erratic rains, massive siltation of drainage infrastructure has also been experienced. Interventions like construction of gabions are highly recommended.

According to the Civil Protection Act of 1989/1992/2001, civil protection plans are developed by the National Civil Protection Committee comprised of relevant Government agencies and civil society organizations like the Red Cross. Natural and man-made disasters are managed by the District Civil Protection Unit whose members include the D.A.s Office, Agritex, Border Timbers Limited and others according to a disaster reduction plan. Frequent incidents include fire management, water supply emergencies and impacts of storms and floods.

Electricity is currently available to about 2500 households in the District. Apart from the Mutare-Masvingo Highway that passes through the western part of the District, there is only one tarred road linking a stretch of about 80 km from the Wengezi Junction to the district capital Chimanimani. All other roads are dirt roads which are exposed to erosion during severe weather. This is especially critical in the productive and densely populated Rusitu Valley. According to a roads condition assessment conducted by CRDC, a budget of US$ 450,000 is required for road repairs after the heavy rains of the 2015/16 season. About 40 % of the population has access to a landline phone. Overhead lines have been prone to destruction by fires and winds and as a result Tel One has resorted to installing underground lines in some places. Cell phone coverage has reached a greater percentage of the District. This greatly eases communication and reduces transport costs. Access to internet is limited though and a good number of service providers do not operate their payment and service systems through the internet.

2.6 Water

2.6.1 Watershed Management

Watershed Management is about conserving the water retention capacity of higher altitude underground reservoirs that feed the springs, streams and other water points at lower altitudes. It is also about access to and use of water and the goods and services derived from it. As water scarcity increases under conditions of climate change and inadequate management of the resources, the struggle over its distribution intensifies. It is therefore important to understand that purely technical solutions cannot solve the multiple challenges that also derive from an inequitable distribution of water. The 1992 Water Act substituted the colonial 'riparian rights', which were based on the location of the land owned, by 'water permits'. Those who could not access a permit or pay the fees, like most communal farmers, were meant to be serviced by Government dams. The new ZINWA authority and its catchment councils were created to oversee the pricing of water, from which their operations were to be financed. Additionally donor support was pledged in the 1990's. However, as donors withdrew their funding in the course of the land reform and land owners did not pay their fees, the operations of the catchment councils have been compromised.

In Chimanimani, this situation is not different from the rest of the country. In some parts of the District, ownership of land changed and with it the way the land was used and the way water was used. While this may have given more people access to these scarce resources, there is a lack of coordinated management of water, and conflicts over it arise in many situations. This is why the need for transparent and equitable water allocation at community level cannot be overemphasized. Industries with high water consumption should also become more sensitive to the effects of this on the down-stream users and promote more equitable access to water.

2.6.2 Water Infrastructure

Chimanimani District aims to manage watershed areas, including their resources and the goods and services derived from them, with the objective to support the sustainable and equitable social and economic transformation of the district. Watershed management should also strive to conserve and improve existing ecosystems for the benefit of future generations of people and other species. This will be best achieved by decentralising water resource responsibility to catchment agencies and local water user associations or community based structures that are in close touch with the realities surrounding water relationships. Such agencies, associations or structures need to be supported so that they can fulfill their responsibilities adequately.

Water management is a permanent balancing act between water requirements of people and eco-systems, taking into consideration the needs of future generations. Furthermore, there may be a conflict of interests between watershed goods and services meant to satisfy basic human needs and those meant for generating economic surplus. Present day equitable access

to water resources by upstream and downstream users may have to be defined at district and local level.

In the face of climate change, water is becoming an increasingly scarce resource. Access to water is currently regulated by the Water Act (1998 – 2002) under which ZINWA is entitled to issue water permits for water abstraction for purposes other than primary use. In practice, there is a need to empower and capacitate local leaders to implement community based practices that ensure fair and equitable access to water based on sound water conservation principles.

Smallholder farmers generally have little access to irrigated land (below 11 % of households), except in Hangani (39.5 %) and Nyanyadzi (37 %). Communities using borehole water in the dry low veldt have to obtain water permits and pay fees to ZINWA through the Odzi and Lower Save Sub catchment Committee. Every user of water except in urban set up where council provides water, should have a permit. The permit is obtained from the sub catchment of that area. For domestic use, the permit is $40 paid once and for all but this is for small sources such as springs and rivers. For ground water, drilling permit is required at $65 and the usage charges then varies according to the amount being used and the purpose. Storage of water in various reservoirs attracts a charge and another charge for abstracting from the reservoirs. ZINWA, CRDC or DDF, however, do not service the existing water infrastructure adequately, especially if these were installed by donor agencies. This is a situation that does not agree with the communities' basic human right to water as emphasized in the Sustainable Development Goals. There is a clear need for increased budgetary support for water provision to rural communities by Central Government.

2.7 Climate Change & Watershed Management Governance

2.7.1 Governance related Challenges

In the common view of Chimanimani stakeholders, many of the challenges around climate change and watershed management are governance related. Climate change has caused dry areas to be drier than ever. There are a lot of people thronging the wetter parts from the drier regions. These people do not seek permission from the local leaders but rather find themselves places in watersheds thereby jeopardising the river sources. For example the Biriiri river sources have recently received many settlers who are cutting the trees down exposing the water sources. Biriiri river has low discharges now and soon there might be no any flows in this river. Serious decline of water in Biriiri river has resulted in extinction of certain fish species for example the Tilapia because the water levels are far below the threshold levels to support Tilapia breeding. Illegal settlers settle themselves in forestry land where the company has just

harvested their timber. Consequently, the potential area for timber production is dwindling. The affected areas include the Nyaruwa, Chinyaeni areas under Border Timbers.

The Traditional Leaders Act (5: h) reads 'the chief should prevent any unauthorised settlements in his area of jurisdiction'. Traditional leaders should not be alone in this battle but relevant stakeholders should put their hand together to evict all illegal settlers and or to formally allocate land which should be used for settlements. The District Administrator should participate for the mission to be a success. ZRP, Agritex and Ministry of Lands should also put their hands to deal with the situation. The Rural District Council has come up with a Land Allocation Policy to curb such problems. This policy states that there should be a committee comprising of the D.A to allocate land to inhabitants who need it for settlement purposes. The committee should also evict persons who settle themselves on unsuitable land. The D.A is very important as far as development is concerned for he represents the Ministry of Local Government, supervising and advising the council.

All relevant stakeholders should participate in fire awareness campaigns and then law enforcement should then come in. EMA Act Statutory Instrument 7 of 2007 says that it is an offense to cause and or ignore fires. Everyone is responsible for preventing and putting out fires. The Z.R.P should be taken aboard in addressing this issue. The D.A should also help in controlling illegal settlements together with the Agritex and Ministry of Lands and Settlements and also to educate the community. Timber Producers Federation Policy (3:2) states that a Fire Committee should be formed at district level which shall monitor and to come up with ways to reduce fires in the district. It further states that a person should give notice to all nearest police station before any fires.

Due to economic hardships being experienced these days most he companies have downsized their labour force. The expelled workers find no activity to do other than farming in order to earn a living. In order to be successful, the farmers farm near rivers for them to irrigate their crops. Urban farming is not prohibited but should be carried out on designated lands and not near river banks. According to the EMA statutory instrument 7 of 2007 (20;1) no person without license issued by the Agency shall dig up, break up, remove land within 30m of naturally defined banks of a public stream. Local Authority draft for Environmental Management Policy states that agricultural practises and any other human activities must be permissible within a stipulated buffer zone from the wetlands.

The Forestry Act (45:1) states that no miner may by whatsoever reason cut timber without permit. The forestry commission could not stand on their own but all stakeholders should come in and support this. It also states that no person should remove any indigenous tree or timber from private land. The local Authority, D.A, ZRP and EMA should be active also in enforcing the

law. In a nutshell, there is need for team work among stakeholders to be successful. If the stakeholders have one voice implementation of policies will be easy.

2.7.2 Chimanimani Climate Change & Watershed Management Governance Structure

In the diagram below, the CC&WSM Dialogue Platform brings together all relevant sections of the district society that are affected by issues of climate change and watershed management. The platform is coordinated by the District CC&WSM Steering Team. The Platform creates awareness, provides information and makes recommendations to various stakeholder groups. The stakeholders respond to these recommendations and initiate action at their respective levels. Traditional leaders, civil society and community action groups work together with the rural communities they reside in.

Joint action is coordinated by lead agencies according to their specific responsibilities (see Chapter 3). The Steering Committee monitors the implementation of the action plan and reports to the Dialogue Platform at quarterly intervals. Dialogue results are communicated to the RDDC and finally the DA's Office for decision making at Rural District Authority level. Outcomes of the process are shared through the DA's Office with Provincial and National Platforms.

See POLICY

2.8 Community-based Governance & Strategies

In communal and resettlement areas, governance is formally regulated through the Communal Lands Act and the Traditional Leaders Act. These areas include considerable so-called 'Commens', ie land under 'Common Property Regime'. According to FAO guidelines, 'secure tenure rights to commons are crucial for indigenous peoples and local communities, including farmers, fisherfolk, pastoralists, the landless and the most vulnerable, food insecure and marginalized people'. However, sometimes the state or customary authorities can dominate community institutions. 'Moreover, tenure rights to commons are jeopardized by the increasing demand and competition for natural resources, along with processes for privatization, encroachment and large-scale land transfers for commercial or public purposes'. According to the Food & Agriculture Organisation of the United Nations, it is important to achieve legal recognition and protection of tenure rights to commons and community-governance structures.

At the heart of community-based governance is an inclusive and transparent process to agree on rules for the sustainable use of the watershed areas, rangelands and other commons. This process should be supported by the state and by civil society. Traditional Leaders, especially Chiefs and Village Heads, play a pivotal role in ensuring accountable community governance structures. Traditional leaders have to be strengthened in terms of resources and capacity to fulfill this role.

In Chimanimani, there is a range of CBOs and community-based structures that can be built upon: the ZFU, the TSURO dzeChimanimani Association, Environmental Sub-committees, Climate Change Action Groups, the Chikukwa Permaculture Club a.o. . They carry out farmer-to farmer training and experimentation, community project development, community resource planning and awareness creation. SAFIRE approaches include Community Resource Management Plans, community based ecological monitoring, community-based disaster risk management, participatory livelihood assessment and land use planning. Management of resource related conflicts is an area that the Chikukwa Ecological Land use Community Trust specializes in. According to research generated in Chimanimani, supporting local action of small manageable, transparent and accountable groups is a promising approach to overcome rigid, centralized systems that sometimes stifle development. Inclusion of such groups in the District Dialogue Platform is recommended.

Chapter 3: Strategies & Actions

Objective	Strategies	Actions	Lead Responsibility	with
1. Governance & Mainstreaming	1.1 Capacity building of village heads to take a central role in guiding community processes of establishing climate change and watershed management related rules and regulations	W/S of traditional leaders on Climate Change, Natural Resource Management, NRM legislation, Transformational Leadership and Common Property Governance	EMA	CRDC, TSURO, ENSURE, SAFIRE, CELUCT, DA's Office
		Training VH secretaries on project management & fine accounting	CRDC	TSURO, Agritex, FC
		Participatory land-use planning involving traditional leaders	Agritex	CRDC
		Participatory rangeland demarcation involving traditional leaders	Agritex	CRDC, TSURO, SAFIRE, DA's Office
		Village heads mainstream CC&WSM awareness at village and ward assemblies	Traditional leaders	Councillors
	1.2 Effective participatory law enforcement by traditional leaders, key institutions and communities	Community formulation of traditional bye-laws and regulations	CRDC	EMA, FC, Agritex, TSURO
		Community awareness on CC&WSM Policy, CRDC laws, regulations and procedures	CRDC	EMA, FC, Agritex,
		Training w/s on participatory law enforcement	EMA	CRDC, Judiciary, ZELA
		Community resource monitoring and reporting by action groups	TSURO	CRDC, EMA
		Liaison of traditional leaders and law enforcement agencies	CRDC	DA's Office, TSURO, EMA
	1.3 A multi-stakeholder Climate Change & Watershed Management District Platform & Steering Committee driving a coordinated response to climate change	Quarterly meetings of the CC&WS Mgt Dialogue Platform	TSURO	Agritex
		Monthly meetings of the Steering Committee	TSURO	Agritex
		Reporting implementation of District CC Response to stakeholders	Agritex	TSURO
		Documentation of district climate change response	TSURO	EMA
		Integration of CC&WSM into all work plans	CRDC	all stakeholders

2. Sustainable Land Use Planning & Management	2.1 Revision and production of land use plans for climate smart villages by communities, local authorities and traditional leaders	Participatory development of ward & district land use plans	Ministry of Lands & Resettl.	CRDC, EMA, TSURO, Agritex, MWAGCD
		Production of hand-outs for designing climate smart villages	Agritex	CRDC, EMA, SAFIRE
		Adoption and implementation of land use plans by CRDC full council	CRDC	RDDC
		See 1.1 involvement of traditional leaders	CRDC	DA's Office, EMA
	2.2 Rehabilitation of all rangelands in the District by means of community based planned grazing management	Demarcation of rangeland and grazing areas in the whole district	Agritex	TSURO, CRDC, LPD Ministry of Lands & Resettlement,
		Exchange visits of all wards to 3 pilot HLLM schemes (5 wards)	TSURO	CRDC, EMA, Agritex, LPD, Ministry of Lands & Resettlement
		Training of stockowners in a three phase expansion of HLLM to all wards: 2018: wards 9,16B, 17,18,19; 2019: wards 1, 2, 3, 4, 5, 8; 2020: wards 13, 16A, 21, 22, 23	TSURO	Agritex, CRDC, LPD, EMA, SAFIRE,
		Improved Livestock management and marketing	LPD	CRDC, TSURO, SAFIRE
	2.3 Integrated soil and water management for improved and diversified crop production	Strengthening small grain production and conservation agriculture	Agritex	CRDC, TSURO, CELUCT, Caritas, MWAGCD
		Expend soil and water conservation measures in the whole district	Agritex	CRDC, TSURO, EMA, SAFIRE
		Encourage farmers to grow a diversity of nutritious food crops	Agritex	TSURO, SAFIRE, PORET, CELUCT
		Support farmer seed sovereignty	TSURO	Agritex, CELUCT
	2.4 Conservation of indigenous forests and reforestation of bare lands	Awareness creation on forest conservation and social forestry	FC	TSURO, CRDC, TPF
		Sustainable use of non-timber forest products	TSURO	CRDC, EMA, Birdlife
		Support beekeeping initiatives	Agritex	TSURO, EA, CRDC, FC, MWAGCD, Min of SME
		Implement a district fire prevention strategy	EMA	FC, CRDC, Agritex
		Support woodlots at schools and other public institutions	FC	EMA, CRDC, GAA, TSURO,
		Promote indigenous trees, multi-	FC	PORET, CELUCT,

		purpose trees and agro-forestry designs		TSURO
3. Eco-system Integrity and Water Source Management	3.1 Conservation of biodiversity, including threatened species, in the Chimanimani Key Biodiversity Area and all watershed areas of the district	Training community action groups in species identification and biological monitoring	FC	EMA, Birdlife, TSURO, Nat. Parks
		Awareness creation of the purpose of conserving bio-diversity	EMA	FC, TSURO, Agritex
		Production of species information and habitat hand-outs	TSURO	EMA, Birdlife, Nat. Parks
		engaging traditional leaders in conservation of threatened species	EMA	CRDC, DA's Office
		Collaboration with partners & stakeholders in Mozambique	Birdlife	Nat. Parks
	3.2 Increasing agro-biodiversity in cropping areas through applied land-use design	Training in Permaculture design and other approaches to increasing agro-biodiversity	CELUCT	TSURO, Agritex
		Competitions and documentation of most bio-diverse farming practise	TSURO	CELUCT, Agritex
		Promotion of integrated crop/orchard/animal farming systems	Agritex	TSURO, CELUCT
		Support farmer led research and experimentation on natural pest management	TSURO	CELUCT, Agritex, FC Research
	3.3 Ensuring the right of communities to adequate, clean and safe water	Monitor and halt contamination of water and practice sustainable waste management	EMA	M o Health
		rehabilitate irrigation schemes and increase area under irrigation	Agritex	CRDC, SAFIRE, TSURO, Caritas
		Expand WASH programmes to all households in need	DDF	CRDC, M o Health, ENSURE, TSURO, DA's Office, MWAGCD
		Regulate conflicts between upstream and downstream water users	CRDC	EMA, Odzi Subcatchment Council, MWAGCD
4. Education & Research	4.1 Awareness creation and generation of information on climate change & watershed management	Document best CC & WS Mgt practises	TSURO	SAFIRE
		Create CC awareness through posters and information materials in ward information centres and public places	EMA	TSURO, CRDC, SAFIRE, CELUCT
		Organise public events to promote CC awareness	EMA	TSURO, CRDC, SAFIRE, Agritex
		Link up with national CC advocacy networks and institutions	TSURO	EMA, CRDC, Agritex
	4.2 Integrating climate change and watershed management issues in	Involve schools in CC awareness creation	EMA	M o Education, CRDC
		CC change mitigation competitions at	EMA	M o Education, CRDC

	schools and other institutions	schools		
		Involve churches in CC awareness creation	TSURO	CELUCT
		Encourage rural health centres and other government service centres to apply CC guidelines in their design	CRDC	M o Health, D o Public Construction
	4.3 Creating linkages with research institutions on climate change related issues	Establish a regular research indaba in Chimanimani	TSURO	EMA
		Motivate research institutions to focus their research on critical knowledge gaps in Chimanimani	CRDC	TSURO, EMA
		Make research findings and recommendations available to stakeholders	TSURO	CRDC
		Design and carry out action research projects in collaboration with international research institutions	TSURO	CRDC, EMA, SAFIRE
	4.4 Building climate change adaption and mitigation capacity of communities and stakeholders	Establish and train CC related community action groups	TSURO	EMA, Agritex, SAFIRE, Birdlife
		Invest in community CC A & M projects	TSURO	SAFIRE, Birdlife,TPF
		Strengthen the administrative and technical capacity of CC related Gvt agencies	CRDC	
		Mobilise resources for adequate internal capacity building, planning & review processes in relation to CC & WS Mgt	TSURO	CRDC, CELUCT, SAFIRE, TPF, EA
5. Settlement & Physical Infrastructure	5.1 participatory monitoring of settlement and cultivation in ecologically sensitive areas	Visible demarcation of protected spring forests, water sources and stream banks	Min of Lands & Resettl	EMA, CRDC, Agritex, traditional leaders
		Creation of public awareness on specific conservation sites throughout the district	CRDC	Traditional leaders, EMA, TSURO, CELUCT, Agritex
		Decentralised land use monitoring informs traditional leaders	Commun ity Action Groups	Traditional leaders
		Joint settlement dispute committees at ward level	Min of Lands & Resettl	DA's Office, Agritex CRDC ,
		district data base on high priority hazard sites	CRDC	EMA, DA's Office, SAFIRE, Birdlife, TSURO
	5.2 Consideration of long term effects of climate change in the upgrading of	Linking up with technical experts in the field of engineering, renewable energy and communication	CRDC	TSURO, EMA, FC, TPF, Practical Action
		Establish and upgrade infrastructure	CRDC	EMA, DA's Office,

	existing and establishment of new infrastructure development projects, especially in the areas of transport, water supply, energy and communication	standards and related monitoring		Agritex, DDF
		Promote inclusive/disability friendly infrastructure at households and in public places	CRDC	M o Health, TSURO
		Engage ZINWA and other responsible authorities in upgrading water infrastructure	CRDC	DA's Office
6 Livelihoods, Health, Vulnerability & Socio-economic Issues	6.1 Poverty and vulnerability reduction programmes aimed at sections of society most affected by climate change: OVCs; people experiencing global/severe acute malnutrition; female headed households; migrants; people living with disability and the elderly	Participatory planning and mobilising resources for poverty reduction programmes (eg small livestock rearing, nutrition monitoring)	CRDC	World Vision, GOAL, M o Health, Dep of Social Welfare, MWAGCD
		Strengthen the Department of Social Welfare in CC related vulnerability reduction	CRDC	DA's Office
		Encourage neighbourhood assistance schemes and safety nets at community level	Traditional leaders	DA's Office, Dep of Social Welfare, Churches, MWAGCD
		Mainstream gender specific programming	MWAGCD	TSURO, CELUCT
		Engage food relief agencies in the CC dialogue	DA's Office	Social Welfare, Churches
		Document internal migration in the district and assess the special needs of migrants	DA's Office	Social Welfare
	6.2 Increasing productivity of agricultural crop production and small & large livestock rearing, and related marketing and finance systems to increase rural incomes	Promotion of soil building farming practices	Agritex	TSURO, CELUCT
		Facilitating access to low cost soil fertility inputs	Agritex	TSURO, PORET, CELUCT
		Promotion of sustainable and highly productive agriculture	TSURO	CELUCT
		Encourage production and consumption of traditional foods, medicinal herbs and small grains	CELUCT	TSURO, PORET
		Support livestock auctions	CRDC	Agritex, LPD, TSURO, SAFIRE, traditional leaders
		Engage financial institutions in provision of smallholder finance schemes	Min of SME	SAFIRE, ENSURE, SNV, CBZ, MWAGCD
		Strengthen community based marketing approaches, SME projects and related companies	Min of SME	Social Welfare
	6.3 Promotion of low carbon footprint products,	Provide departments and industries with low carbon emission guidelines and link them up with international	EMA	ZELA, TSURO

	technology, management and marketing systems and awareness creation on water consumption in economic activities	expertise in their specific fields		
		Provide information on water footprint guidelines	EMA	ZELA, ZINWA, TSURO
		Create consumer awareness on low carbon and water footprints	EMA	ZELA, ZINWA, Odzi Subcatchment, TSURO, Tourism Ass.
		Promote Chimanimani District as a Green Production Zone	EMA	CRDC, TPF, FC, TSURO, EA, Tourism Association
	6.4 Social equity enhancing dialogue of stakeholders on contribution of different sectors to the district economy and livelihoods	Promote awareness on social change issues related to Climate Change & WS Mgt	CRDC	DA's Office, TSURO
		Engage private sector actors on issues of vulnerability and income inequality in the District	CRDC	DA's Office, EMA, TPF,
		Engage traditional leaders on issues of vulnerability and access to resources within their areas of jurisdiction	CRDC	DA's Office, EMA, Dep of Social Welfare, MWAGCD
		Promote traditional and collective social security solutions	Traditional leaders	DA's Office. CRDC, EMA, Churches

Chapter 4: District Adaptation plan

4.1 Recommendations

4.1.1 Local Authority

- Local authority should promote an inclusive dialogue and a participatory decision making process involving all sections of society and link up with platforms at provincial and national level
- Traditional leaders should be strengthened in their governance roles concerning climate change & watershed management
- CRDC Full Council to develop relevant CC&WSM resolutions for policy implementation
- CRDC to prioritize CC&WSM in its 5-Year-Plan and mainstream related actions
- CRDC to develop infrastructure standards and CC&WSM related bye-laws
- Appoint a CC&WSM focal person who links the various levels from district to national level

4.1.2 Traditional Leaders

- Traditional leaders should endorse and promote accountable community governance structures and inclusive and transparent processes to agree on rules for the sustainable use of the watershed areas, rangelands and other commons
- Traditional leaders should support CC&WSM community action plans in their areas of jurisdiction
- Revive Chimanimani Chiefs Council to support CC&WSM dialogue and exchange with traditional leaders of other districts
- traditional leaders should monitor each other's implementation of CC&WSM practices to promote transparency and accountability
- Chiefs and Village Heads should gather information on CC&WSM from community action groups
- Chiefs and village heads should strengthen the preservation and use of indigenous knowledge and carry out CC related rituals with the material support of the community.

4.1.3 Provincial and national leadership

- Government should guarantee and protect secure tenure rights to commons for indigenous peoples and local communities, including farmers, pastoralists, the landless and the most vulnerable, food insecure and marginalized people

- Government should harmonize laws regarding CC&WSM and see to it that the rule of law is well implemented
- Central Government should enable implementation of national CC policy by meaningful budgetary support at national, provincial and district level.
- Appoint a CC&WSM focal person who links the various levels from district to national level
- Activate a provincial CC dialogue platform
- Ensure that internationally banned chemicals and GM seed are not imported into Zimbabwe

4.1.4 Technical stakeholders within the district

- Technology and infrastructure development in the private and public sector should aim at reducing carbon emissions and extensive use of water
- Government departments, NGOs and the private sector should collaborate on technical solutions regarding CC&WSM
- Initiate well focused research on CC&WSM themes
- Mobilisation and motivation of human resources for CC&WSM awareness through public-private partnerships

4.1.5 External development partners

- International development partners should design their interventions in Chimanimani District by taking the CC&WSM Policy into consideration and apply climate and water proofing to their development interventions.
- International development partners are welcome to use information and lessons learnt from Chimanimani District to advocate for causes in line with this policy. In any reference to the District they should acknowledge and inform the Chimanimani District CC&WSM Dialogue Platform.
- Focus on livelihood development and vulnerability reduction programmes
- Consider indigenous knowledge, cultural heritage and traditional practices
- Mobilize resources for specific CC&WSM actions carried out by traditional leaders

4.1.6 District communities

- Communities should create democratic community structures
- Promotion of awareness and exchange information & knowledge on good CC&WSM practices
- Communities should support traditional leaders in community based governance structures and monitor the implementation of community action plans
- Communities should respect rules, regulations and laws that regulate the protection of ecologically sensitive areas and prescribed settlement and cultivation in such areas.

- Chimanimani needs green citizens using their economic power for environmental management and take a lead in implementing meaningful CC&WSM projects

4.2 Action plan

Outcomes		**Current Situation June 2017**	**Milestones June 2018**	**Milestones June 2019**	**Desired Situation June 2020**
1.1	Climate change and watershed management related rules and regulations have been established through community processes under the guidance of Village Heads	Informal rules used by V.H.; hardly any participatory processes	Rules established under V.H. in 21 wards	Rules reviewed and amended under V.H. in 21 wards	Awareness on and dissemination of rules in the whole district
1.2	Traditional leaders, key institutions and communities enforce CC&WSM rules effectively in a participatory way	Traditional Bye-laws established by Chief Chikukwa.	Dialogue on rules at village level completed and informal rules complied with	Dialogue on rules at ward level completed; rules revised and documented	Participatory implementation of revised and amended rules under V.H. in 21 wards
1.3	A multi-stakeholder Climate Change & Watershed Management District Platform & Steering Committee drives a coordinated response to climate change	CC&WSM policy approved	District Action plan implemented & monitored; provincial dialogue	District Action plan implemented & monitored; national dialogue	Fully coordinated response at district level & dialogue at all levels
2.1	Land use plans for climate smart villages by communities, local authorities & traditional leaders are revised and used	Some development plans but no land use plans at ward level available	Land use plans for all wards available	Land use plans in all wards revised and 50% implemented	Land use plans in all wards 100 % implemented
2.2	All rangelands in the District have been rehabilitated by means of community based planned grazing management	Functioning HLLM projects in Wards 6,7,10,11,20	Functioning HLLM projects in As 2017 + wards 16B, 17,18,19;	Functioning HLLM projects in As 2018 + wards 1, 2, 3, 4, 5, 8;	Functioning HLLM projects in As 2019 + wards 13, 16A, 21, 22, 23
2.3	Integrated soil and water	Situation as per	Improvement	Improvement	Improvement

	management has brought about improved and diversified crop production	indicators June 2017	of 10% as per indicators	of 20% as per indicators	of 30 % as per indicators
2.4	Indigenous forests are conserved and bare lands reforested	Little information about key conservation areas	Key forest conservation & rehabilitation focus areas identified and demarcated	10 % of key focus areas conserved and rehabilitated	20 % of key focus areas conserved and rehabilitated
3.1	Biodiversity, including threatened species, is increasingly conserved in the Chimanimani Key Biodiversity Area and all watershed areas of the district	Situation as per indicators June 2017	Improvement of 5% as per indicators	Improvement of 10% as per indicators	Improvement of 20 % as per indicators
3.2	Increasing agro-biodiversity in cropping areas through applied land-use design	50 % application as per indicators	55 % application as per indicators	60 % application as per indicators	65 % application as per indicators
3.3	Communities enjoy their right to adequate, clean and safe water	33 % of rural people use unimproved water; 10 % have access to irrigation	30 % of rural people use unimproved water; 15 % have access to irrigation	25 % of rural people use unimproved water; 20 % have access to irrigation	20 % of rural people use unimproved water; 25 % have access to irrigation
4.1	Awareness creation and generation of information on climate change & watershed management	Sporadic awareness and info generation	online documentation available; 5000 pple reached	CC& WSM Handbook available: 10000 pple reached	Video Documentary available; 20000 pple reached
4.2	Climate change and watershed management issues are integrated in schools and other institutions	Hardly any thematic coverage in schools	ICT materials available in schools; CC Clubs in 10 schools	Handbooks available in schools; CC Clubs in 20 schools	Documentaries available in schools; CC Clubs in 30 schools
4.3	Linkages with research institutions on climate change related issues have been created	Sporadic links	Collaboration at provincial level	Research project at national level	Research project at international level
4.4	Climate change adaption and mitigation capacity of communities and stakeholders has increased	Sporadic formulation of plans	Participatory development of capacity indicators	Indicator based capacity increased by 10 %	Indicator based capacity increased by 25 %
5.1	Settlement and cultivation in ecologically sensitive areas is consistently monitored	Some ecologically sensitive areas documented	Ecologically sensitive areas demarcated & monitored in	Ecologically sensitive areas demarcated & monitored in	Ecologically sensitive areas demarcated & monitored in

		but not demarcated & monitored	10 wards	15 wards	23 wards
5.2	New infrastructure development projects, especially in the areas of transport, water supply, energy and communication have been upgraded/established in a climate change sensitive way	No CC related projects identified & no CC proofing	Key CC related infrastructure projects identified in all sectors	Key CC related infrastructure projects climate proofed	25 % of CC related infrastructure projects climate smart implemented
6.1	Sections of society most affected by climate change have benefitted from poverty and vulnerability reduction programmes	Situation as per ZIMVAC indicators June 2017	Improvement of 10% as per indicators	Improvement of 20% as per indicators	Improvement of 30 % as per indicators
6.2	Rural incomes have increased due to increasing productivity of agricultural crop production and small & large livestock rearing, and related marketing and finance systems	Situation as per sector indicators June 2017	Improvement of 10% as per indicators	Improvement of 20% as per indicators	Improvement of 30 % as per indicators
6.3	Low carbon & water footprints in products, technology, management and marketing systems indicate changes in CC&WSM awareness	No information on carbon and water footprints available	District carbon and water footprint overview available	Dialogue on carbon and water footprints at district and national level	Visible efforts to decrease carbon & water footprints in all sectors
6.4	All economic sectors in the district undertake efforts to enhance social equity	No reliable information on social equity per sector	Research results on district social equity available	Dialogue on social equity at national level	Guidelines on social equity serve as a yardstick for economic actors

Chapter 5 CONCLUSION

The above strategy was born out of local multi-stakeholder initiatives in Chimanimani District. Its usefulness and relevance will be tested against progress markers over a three year period, and reviewed thereafter. A CC&WSM Policy was adopted by CRDC to guide all climate change and watershed management related issues within the district. The people of Chimanimani are determined to overcome their differences and work towards a common goal to respond to the life threatening scenario presented by climate change and inadequate watershed management. We appeal to friends of Chimanimani, stakeholders at provincial and national level, and potential investors to help us prove that people can take action against the various hazards outlined above. This will hopefully inspire other such initiatives elsewhere.

ANNEXES

District Steering Committee TORs

List of Participants