REPUBLIC OF BOTSWANA

THE BOTSWANA CLIMATE CHANGE POLICY

MINISTRY OF ENVIRONMENT, NATURAL RESOURCES CONSERVATION AND TOURISM

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FOREWORD

The Climate Change Policy for Botswana presents an opportunity for the country to reiterate its commitment to join the international community in the stabilization of greenhouse gases in the atmosphere to the required levels as demonstrated by science. The Intergovernmental Panel on Climate Change (IPCC) Reports from first to fifth has built a case for concerted effort of the international community to respond to the impacts of climate change collectively to avoid irreversible impacts to the environment.

Botswana is not exempt to the impacts of climate change. The key economic sectors dependent on the climate system has recorded declines over the years due to the variability of rainfall. Sectors such as Agriculture, Water and Tourism have suffered the most, the consequences of which contributed significantly to the declined livelihoods of Batswana especially in rural areas.

To respond to the changing climate, Botswana has embarked on sectoral reforms aimed at climate smart agriculture, poverty alleviation, building resilience, diversification of tourism for improvement of livelihoods and income generation, local economic development and sustainable environment to mention but a few. These efforts require a coordinated mechanism that would provide an enabling environment for an integrated approach to the formulation and implementation of development plans and socio-economic related policies in Botswana.

This draft policy followed a countrywide stakeholder consultation. Most of the districts were consulted with the view to soliciting their views on how the country should respond to the impacts experienced by Batswana. It has also received input from the technical experts in the country from all concerned sectors including government, non-governmental organisations, intergovernmental organisations, Faith-Based organisations, farmers organisations to mention but a few.

Let me therefore present the policy that contains our general approach to responding to the impacts of climate change and building of resilience of key economic sectors. It commits both the government and non-state actors to adopt adaptation and mitigation measures that would facilitate sustainability and building of resilience of all sectors.

The policy is also characterised by an inclusive approach to social, economic, development and governance modalities that would enable the country to achieve a sustainable development pathway. It provides opportunities for improved livelihoods through creation of green jobs, development and transfer of relevant technologies as well as creation and ease of access to markets at national and international levels.

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LIST OF ABBREVIATIONS

CBNRM	Community Based Natural Resource Management
CBO	Community Based Organization
COP	Conference of Parties
DPSP	Derivative Principles of State Policy
DCCC	District Climate Change Committees
FBO	Faith Based Organization
GDP	Gross Domestic Production
GHG	Green House Gases
IPCC	Intergovernmental Panel on Climate Change
KP	Kyoto Protocol
MDG	Millennium Development Goals
NGO	Non-Governmental Organization
NDP	National Development Plan
NCCC	National Climate Change Committee
NCCU	National Climate Change Unit
PA	Paris Agreement
PPCWTNRCC	Parliamentary Portfolio Committee on Wildlife, Tourism, Natural Resources and Climate Change
REDD+	Reduction of Emission from Reforestation and Forest Degradation
SDG	Sustainable Development Goal
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change

1. Introduction

Climate change has become a real threat to humanity with scientific evidence progressively establishing its reality with a high degree of certainty. Therefore, precautionary measures should be undertaken to manage the risks and uncertainties posed by climate change. The international community's efforts to combat adverse effects of climate change can be traced from promulgation of the United Nations Framework Convention on Climate Change (UNFCCC) and its related implementation mechanisms, including the Kyoto Protocol (KP), Paris Agreement and Conference of Parties (COP) decisions, which Botswana is party to. The process of defining a common ground for all the Parties has translated through negotiations into Climate Change response mechanisms addressing both socio-economic and policy considerations.

The general willingness to protect the human and natural systems from global warming with meaningful adaptation and mitigation measures require national responses through policies, strategies and action plans. While the KP prescribes mitigation targets for developed countries, UNFCCC requires developing countries to adopt policies that would enhance their adaptation capacities and capabilities as well as non-legally binding mitigation measures.

Through negotiations and policy development, the international community has indicated its commitment and willingness to adapt to the adverse effects of Climate Change, which has proven to be a reality that can no longer be underestimated. The effects of Climate Change are experienced in various economic sectors such as water, agriculture, energy, natural resources and infrastructure development with devastating socio-economic repercussions.

Climate Change reverses National development gains already made, and most countries adversely affected by Climate Change are compelled to prioritize their resource allocation decisions to sectors, particularly those that directly affect human subsistence. The impacts necessitated the enactment of Climate Change policies as national response frameworks for directly addressing existing and potential climate change impacts, and for

integrating climate change into development planning and implementation as well as achieving Sustainable Development Goals (SDG's).

The fifth (5^{th}) Assessment report of the Inter-governmental Panel on Climate Change (IPCC AR5) of 2014 suggests that continued emissions of Greenhouse Gases will cause further warming and changes in all components of the climate system. In Botswana, climate change manifests itself in increased variability of key climate elements such as temperature and rainfall and also an increase of the frequency and severity of extreme events such as heat waves, destructive rainfall and droughts that will pose a serious risk and threat to human and natural systems, including health, rangelands, agriculture, wildlife, energy and water resources. The main concerns for Botswana are increased energy and water stress because of rising temperature and changing rainfall patterns, losses in rangeland productivity and reduced agricultural yields, which are profoundly threatening food security.

In an effort to respond to existing and potential climate change effects, Botswana has made a decision to develop the Climate Change Response Policy, which sets out the major political intents and actionable commitments, setting the stage for formulating specific strategies and action plans to address climate change. The policy provides for a national vision that establishes a climate compatible development pathway that builds the resilience of the country to climate shocks while minimizing our contribution to global warming.

The objective is achieved through established principles, policy considerations and approaches, identified response measures, as well as their support systems. Such a climate compatible development pathway that is based on SDG's anchored on a national development framework that ensures building and maintaining the resilience of Botswana to endogenous and exogenous shocks. This approach will also provide the opportunity to mainstream climate change considerations into national macro-economic and sectoral policies.

2. Background

The global response to Climate Change is embodied in UNFCCC and the KP whose main objective is; "to achieve stabilization of greenhouse gas concentrations in the atmosphere at levels that would prevent dangerous anthropogenic interferences with the climate system allowing ecosystems to adapt naturally, ensuring that food production is not compromised and at the same time, allowing development to continue in a sustainable manner". Botswana ratified both the Convention and the Protocol in 1994 and 2004 respectively.

In the Second National Communications of 2012 to the UNFCCC, Botswana undertook vulnerability and adaptation assessments of the following sectors: - crops, health, water, forestry, grassland and livestock. Mitigation assessments were undertaken on energy, waste, agriculture, land use land use change and forestry (LULUCF), industrial processes as well as transport. These assessments established that Climate Change affects Botswana and response measures are therefore required.

In terms of the Derivative Principles of State Policy, public affectedness, acceptance, opportunities, justice, and equity should inform the development of national policies. To this end, public consultations were conducted to model the gathered information as per above-mentioned principles. The consultations facilitated broad-based participation from members of the general public in district and kgotla meetings, sectoral representations and thematic technical expert sessions.

The district consultations report outlined the themes to be included in the policy as suggested by the general public. The themes further informed the formulation and guidance of thematic working groups to offer detailed scientific and technical guidance. These ensured that the policy is informed by the general public and the required climate actions are strategically responsive and relevant to the national circumstances and needs of Batswana as outlined under Vision 2036 and SDG's. The information gathered informed the drafting of the policy in line with international best practices in particular on the essential elements of Climate Change policy as outlined in the UNFCCC and related instruments.

3. Vision

Botswana through Vision 2036 strives to be a society that is sustainable, climate resilient, and whose development follows a low carbon development pathway, in pursuit of prosperity for all.

4. Objective

To mainstream sustainability and Climate Change into development planning and in so doing, enhance Botswana's resilience and capacity to respond to existing and anticipated Climate Change impacts. The policy also promotes low carbon development pathways and approaches that significantly contribute to socio economic development, environmental protection, poverty eradication and global goal for reduction of Green-house-Gases (GHG) from the atmosphere and SDG's.

5. Climate Change in Botswana

5.1. Vulnerability and Impacts of Climate Change in Botswana

Vulnerability to Climate Change is not only caused by Climate Change but is a combination of social, economic and other environmental factors that interact with climate change. The vulnerability of Botswana to the effects of Climate Change across economic sectors and society is indicative from the magnitude of stress on major drivers of the Gross Domestic Production (GDP) such as ***agriculture, water, biodiversity and ecosystems*** as they are climate-dependent. The stress is likely to increase due to increased variability in precipitation, which has implications on flooding risks and reduced water availability and quality in districts. The country continues to experience extreme temperatures as well as emerging environmental impacts and changes related to health in the areas not naturally having such phenomena.

Botswana's National Communications, vulnerability studies and academic publications provide evidence that indeed Botswana is highly vulnerable to climate change, and that the vulnerability of the above-mentioned economic drivers will continue to increase if effective adaptation and mitigation actions are not implemented. The studies further indicate probable increase in daily temperatures that is likely to have negative

impacts on ecosystems and human health and exacerbate the spread of climate related diseases.

An increase in droughts frequency and severity observed exacerbate the poverty levels especially amongst rainfed small-scale farmers, the majority of the population who can no longer produce food through traditional crop production and animal rearing methods. This situation has increased the number of dependents on government social grant Programmes that aimed at eradicating poverty.

The low and changed rainfall patterns have also largely affected the agriculture sector leading to reduction in hectarage ploughed due to the unreliability of rainfall. It has been observed that when rain falls, Botswana no longer experiences "soft" rains that allow for conditioned soil moisture but rather heavy rains that wash away top soil and seeds and result in low yields. Such trends also have the effect of exerting undue pressure on disaster risk management and mitigation practices, as more resources are required for coping strategies.

The increase in temperatures also contributes to the increase in the incidences of veld fires destroying large areas that support the community's social and economic activities especially for livestock grazing and harvesting of wood for rural energy needs. The destroyed pastures consequently become unsuitable for livestock resulting in displacement of cattle posts to avoid livestock mortality.

The tourism, transport and beef production sectors are some of the major economic sectors that are vulnerable to climate change. Due to increased frequency of droughts, wild animals and livestock mortalities are on the increase. Livestock and wildlife tend to migrate to other areas where there is suitable grazing conditions and water. This alone has the tendency to shift the nature-based tourism dynamics to follow the tourist attraction elements mainly wild animals. Such movements affect the revenue generation from tourism activities including loss of jobs.

The current infrastructure developments are prone to floods and high temperatures especially at local levels, rendering our local communities to be more vulnerable due to their low adaptive capabilities to deal with natural disasters.

5.2. Botswana's GHG Emissions

Data and information on Botswana's greenhouse gas (GHG) emissions is summarized in the Initial National Communications and the Second National Communications reports to the UNFCCC. Botswana's GHG emissions sum up to 5% of Africa's 3.8% of global emissions. Botswana's GHG emissions were 7,168.7Gg CO_2 eq in 2000 and removal by forests acting as carbon dioxide sinks was 42,941 Gg CO_2 eq. The net emission after accounting for the removal was -35,506.777 Gg CO_2 eq, thus indicating that Botswana was a net sink of GHGs in 2000.

Table 1: Greenhouse gas (GHG) inventory of Botswana for 2000 (source SNC, MEWT, 2009)

	Emissions Gg CO_2 eq		**Sink Gg CO_2 eq**
Energy	Transport	755.374	
	Industry and transformation (including mining)	1945.3	
	Government (including emissions from biomass)	335	
	Agriculture	55.249	
	Residential (including emissions from biomass)	2447	
	Total Energy 5,537.923		
Waste	111.3		
Land-use change and Forestry			-42,941
Total emissions	7434.223		
Net Total (after subtracting sink)	-35506.777		

The GHG emissions are increasing with time mainly because of an increase in the future energy demand. A comparison of the 1994 and 2000 aggregated carbon dioxide emissions shows an increase of about 74%. This increase is attributed to an increase in the use of biomass by households for cooking, in 1994 households only contributed about 2% of GHG emissions but in 2000 households contributed 46%.

The main sectors in terms of GHG emissions and energy consumption are transport, mining, commercial sector, agriculture and residential sector. If any GHG emission reductions were to be instituted in Botswana, the above sectors would offer opportunities to enhance technology transfer, employment and foreign direct investment.

6. Guiding Principles

6.1. Sustainable Development

Botswana's Climate Change response shall contribute towards the realization of the goal of sustainable development. This contribution shall be achieved through development activities including adaptation and mitigation response measures as well as building national resilience that balances social, economic and environmental objectives to meet the needs of current and future generations.

6.2. Precautionary Principle

Botswana shall adopt a risk averse and cautionary approach in its decisions and actions required to address Climate Change resilience and sustainability in recognition of the risks posed by climate change, the scientific uncertainties in the available climate information as well as in the effects of adaptation and mitigation response measures.

6.3. Public Participation

The broad participation of all interested parties in Climate Change actions shall be promoted across all levels and sectors in order to ensure that adaptation and mitigation decisions and response measures are in the best interest of the general public and that their desired output is achieved.

6.4. Vulnerability

Resources for mitigating and adapting to Climate Change and sustainability shall be fairly distributed across all sectors and population groups taking into consideration their vulnerabilities, responsibilities and associated costs and benefits.

6.5. Polluter Pay Principle

Botswana intends in principle, which the costs of remedying pollution and environmental degradation leading to Climate Change shall be borne by those responsible for harming the environment including the costs of consequent adaptation and mitigation actions.

6.6. Common but Differentiated Responsibilities and Respective Capabilities

The response measures shall be implemented bearing in mind Botswana's specific ecological circumstances, stage of development and capability to reduce GHG emissions and in line with her Sustainable Development Goals.

7. General Considerations

Taking into account Botswana's specific ecological circumstance, vulnerability, needs and contribution to GHG emissions, priority shall be accorded to adaptation actions. The mitigation actions shall be undertaken within the framework of building national resilience with priority being given to those mitigation measures that have adaptation and development co-benefits. The Climate Change response mechanisms include, but are not limited to ecosystem, market and community based actions, which involve actors and all sectors.

7.1. Comprehensiveness

The need for adaption and mitigation of Climate Change impacts is to reduce Botswana's vulnerability and provide an enabling environment for Social upliftment, Economy and Employment, Governance, Safety and Security and Sustainable Environment. This comprehensiveness shall be achieved through response measures that take into account the following:

7.1.1. Environmental Considerations

Climate Change response measures shall accelerate protection of the environment against further degradation and minimize the adverse effects on habitats, protection and management of biodiversity and forest covers and other landscapes such as rivers, lakes and land due to their contributions on mitigation and adaptation to unforeseen and foreseeable impacts. The response measures should also address trans-boundary environmental considerations.

7.1.2. Social Considerations

The required response measures and the associated policy instruments shall be employed in a manner that results in social transformation and does not lead to a decline in living standards nor reduction in the flow of investments. There shall be prioritization of adaptation and mitigation measures that facilitate achievement of food security, job creation and protection of carbon sinks. This co-beneficiation shall be achieved through activities such as Climate Smart Agriculture (CSA), forest management, reduction of emissions from reforestation and forest degradation (REDD+), biodiversity protection and community based natural resource management (CBNRM) which have direct incentives to local communities.

7.1.3. Economic Considerations

A wide range of policies, laws, planning and programmes, measures, shall guide national development and strategies that are climate compatible, resilient and can ensure sustainability. Climate Change measures should be geared towards achieving resilience, low carbon development and economic sustainability. This low carbon development shall be achieved through robust public and private sector investments in and access to clean technology development and transfer for commercial and domestic purposes, including promotion of the green-economy concept leading to the creation of green-jobs.

7.2. Integration

Mainstreaming Climate Change into development planning at local, district and national level and cross-sectoral policies shall be prioritized and anchored on building national resilience and sustainability through budgetary provisions. The interrelatedness of both adaptation and mitigation measures with development needs should be harmonized when formulating and implementing National Development Plans (NDP's) in order to ensure certainty and consistency in Climate Change related decisions. There shall be holistic approach to implementation and monitoring of response measures with the view to achieving coordination and realizability.

7.3. Coordination

Climate Change response mechanisms must be coordinated. They must place responsibilities on all government sectors, private sector and civil society. This is achieved through cooperation that must be coordinated and integrated for purposes of effective implementation and cooperation at national, regional and international levels.

7.3.1. National Cooperation

The government is committed to ensuring that all national stakeholders are involved in the formulation and implementation of the policy and action plan and that there is substantive engagement through cooperation between all economic sectors in a manner that enhances national coordination. This coordination shall be achieved by amongst others establishment of institutions and use of cooperation agreements that would spell out individual sectors' commitment to achieving resilience and sustainability, low carbon development and adaptation to Climate Change impacts.

7.3.2. Regional Cooperation

Cooperation and participation in regional programmes aimed at minimizing the impacts of Climate Change shall be promoted. The government recognizes the use of integrated development plans and trans-boundary biodiversity conservation as instrumental to mitigation of trans-boundary

impacts and maintaining the integrity of Botswana's ecosystems. The government will actively promote adoption of incentives and opening up of market opportunities and trading of green-products at regional levels.

The government shall therefore cooperate with the region through bilateral and regional blocks to ensure that Climate Change is regionally integrated into development planning processes and where possible, harmonization of regulatory instruments is achieved in a regionally coordinated manner.

7.3.3. International Cooperation

The government is committed to its international obligation for contributing to the stabilization of GHG concentrations in the atmosphere that requires concerted efforts of the international community to adopt effective Climate Change and resilience response measures. This commitment shall be achieved by promotion and cooperation in the development, application, diffusion, and transfer of technologies, practices and controls that can minimize any adverse effects of climate change. Such efforts must be done in such a way that facilitate opening and access to market opportunities in accordance with international trade practices.

The policy would promote private sector participation in international markets and public participation in international engagements including negotiations for conventions, protocols and international environmental legislative proposals. The government would engage in a robust approach to building capacity that would enhance the country's competency to implement international treaties and decisions that are foundational to domestic Climate Change actions.

8. Adaptation and Mitigation Measures

8.1. Adaptation

Adaptation to Climate Change will involve specific and dedicated measures, which must be integrated into existing development processes and activities. This integration will be achieved through formulation of strategies, Programmes and regulatory frameworks that will create an enabling environment for wide-stakeholder participation in implementation.

A broad range of adaptation measures can be implemented in response to observed and anticipated Climate Change and impacts. The measures will be managed in such a manner that provides benefits under current climate, climate variability and long term Climate Change for sustainability and resilience. Such measures include adoption of relevant strategies in key national priority areas that this policy will prioritize as follows:

8.1.1. Agriculture and Food Security

The production of food in Botswana depends on agricultural activities which largely rely on rainfall. The unpredictability of rainfall in Botswana is viewed with most concern as the majority of rural communities derive their livelihoods from rainfed small scale agriculture. In order to cushion agriculture from Climate Change impacts the policy will promote sustainable and climate smart agriculture through:

a) Enhancement of food production and agricultural sustainability. Food security and sustainability must be achieved in the context of integrated development planning and land use reforms that can reduce natural resources degradation, human wildlife conflicts and significantly contribute to job creation and poverty eradication;

b) Exploration and development of innovative agricultural initiatives that can enhance income generation such as agro-tourism thereby significantly contributing to improvement of individual and community livelihoods;

c) Adoption of strategies that will enhance the application of water and nutrient conservation technologies and create an enabling environment for investments in use of renewable energy for agricultural activities;

d) Enhancement of the country's competiveness and access to existing and new markets for green initiatives through low carbon production systems;

e) Enhancement of resilience in the livestock sector through acceleration of sustainability measures such as rangeland efficiency and management practices; and

f) Promotion of access to existing and new information and use of early warning system for agricultural planning and management purposes.

8.1.2. Water

The country's development and growth potential depends on the availability of water for domestic and economic purposes. The varied and low rainfalls have largely affected most sectors of the economy especially major economic drivers such as agriculture, mining and wildlife. There is therefore a need to reduce the vulnerability on the economy and communities to water related Climate Change impacts and enhance the country's resilience to such impacts through water efficiency.

The government also recognizes that food production is closely linked to water availability and will face increased stress in districts where water stress is exacerbated and therefore commit to adopting water management strategies that would achieve sustainable water conservation and use efficiency including;

a) utilization of shared water courses for the benefit of Batswana;

b) Integrating Climate Change response measures in the water planning processes across all economic sectors;

c) Consideration of defining potential water aquifers and adopting appropriate measures of protection for water security and sustainability;

d) Promotion of rain water harvesting, water re-use and recycling for domestic, agriculture, industrial and commercial purposes;

e) Promotion of integrated watering systems for livestock particularly in rural areas; and

f) Employing accounting and valuation tools to support water management systems for decision-making.

8.1.3. Human Health

Climate Change is likely to negatively affect human health directly through increased temperatures, drought and floods and indirectly through its effect on the spread of water borne, water related and vector borne diseases, malnutrition among others in order to increase the country's vulnerability and resilience to such impacts, there shall be;

a) Climate Change related research on the impacts of extreme weather events such as increased temperatures, droughts and floods on human health so as to ensure that informed decisions and necessary health sector reforms are made;

b) Acceleration of development and implementation of Programmes and plans that will increase the countries resilience to nutrition-related, respiratory and communicable diseases; and

c) Acceleration of community's involvement in building resilience to Climate Change related public health concerns.

8.1.4. Human settlements

In an effort to increase the country's resilience to adverse impacts of Climate Change and achieve a low carbon development objective without compromising the living conditions of Batswana in rural and urban areas; recognizing the role of urban settlements in both adaptation and mitigation, the policy will promote the;

(a) Incorporation of water conservation planning as part of development approval processes;

(b) Adoption of conservation agriculture practices that would contribute to increasing both the resilience of rural settlements and the country's food production potential;

(c) Conduct of research on development and use of relevant technologies for water use irrigation systems and improved roll-out of rainwater harvesting strategies at both rural and urban areas;

(d) Provision of finance targeted at increasing the adaptive capacity and capability of rural livelihoods; and

(e) Harmonization of relevant human settlement related policies to enhance resilience and sustainability.

8.1.5. Forest Management

The government recognises the value of forests and its dual role for adaptation and mitigation to adverse impacts of climate change. Land rehabilitation and forest management are instrumental in maintaining the integrity of forests as providers of ecosystem services and carbon sinks. In order to increase the integrity and sustainability of our forest and ensure that the threats of human and induced interventions are minimized, the Policy will;

a) Strengthen the implementation of the forest policy with the view to ensuring that best practices based on available climate information and technology are adopted;

b) Prioritize climate research and feasibility studies on forest conservation, restoration of ecosystems and the use of modern technologies for controlling invasive species and veld fires;

c) Promote the use of indigenous knowledge and traditional forest management practices that contributes to increased forest cover and land rehabilitation;

d) Empower communities to monitor the implementation of forest climate related interventions with the view to minimize contravention to the identified adaptation and mitigation measures including illegal logging and uncontrolled fire wood collection that can lead to deforestation and land degradation; and

e) Promote alternative livelihood and REDD+ mechanisms that can reduce pressure on forests.

8.1.6. Land use and Land Use Allocation

Climate Change related conflicts are likely to ensue because of competing interests on the use of land and land allocation. This anticipated conflict stems from climate variability and extreme weather events that result in migration of human settlements, livestock and wildlife in search for suitable land and environment for socio-economic purposes. In order to enhance the sustainability and resilience of this sector, the land use and land use allocation will be;

a) Ecosystem land use planning; not only to minimize the location of residential, farming and industrial plots on sensitive ecosystems such as well fields and watershed but also avoid places vulnerable to Climate Change disasters such flood prone floodplains;

b) Aligned and guidelines will be developed for the mainstreaming and implementation of Climate Change development measures in rural development, wildlife and land use planning policies made to achieve an integrated approach to land allocation and land use management; and

c) Supported by the establishment of climate decision-making systems that balance the interest between food production, climate smart agriculture and development needs and ensure appropriate allocation of land within the balanced environment.

8.1.7. Disaster Risk Reduction

Climate Change impacts are likely to increase vulnerability to disaster risk factors such as heatwaves, veldt fires, floods and droughts caused by extreme weather events, and will also increase pressure on resource allocation towards disaster risk management. This increase therefore calls for comprehensive approaches to Disaster Risk Reduction programmes and plans to enhance societal adaptive capacity and capability through:

a) Continued research and promotion of use of information on climate change, early warning systems for extreme weather and climate to inform disaster risk reduction plans and allocation of resources.

b) Strengthening collaboration with the regional and international forecasting centres to share early warning systems for national application and benefit.

c) Strengthening and monitoring the implementation of disaster reduction plans through guidelines on Climate Change induced disasters.

d) Continued interaction with communities, NGO's and other institutions committed to raising awareness on adaptation, technology transfer and capacity building so as to enhance the communities adaptation capacity and reduce vulnerability to natural disasters.

e) Building the country's resilience and coping mechanisms to disasters, through interventions of key actors.

8.1.8. Biodiversity and Ecosystems

The integrity of our biodiversity and ecosystems continue to contribute significantly to the country's GDP particularly from wildlife and tourism activities. Any increased pressure on the adaptive capacity of our ecosystems is likely to have significant negative impact on our economy and human livelihoods.

The government therefore commits to promoting conservation and sustainable use of biodiversity and effective management of ecosystems, as well as promotion of equitable sharing of benefits from natural resources. In order to enhance our biodiversity's sustainability and adaptation capability, the Policy will:

a) Accelerate the prioritization of Climate Change related research on species richness changes, migration, pests and diseases;

b) Support the coordinated implementation and integration of Climate Change into existing biodiversity and ecosystem related policies and community based Programmes;

c) Promote use of ecosystem based adaptation approaches in order to take into consideration the full range of possible climate outcomes;

d) Adopt Climate Change guidelines for designing and monitoring of development activities within and adjacent to sensitive ecosystems in order to enhance their resilience under changing climates;

e) Where possible avoid human settlements adjacent to sensitive ecosystems that may interfere with the natural rehabilitation cycles of such ecosystems especially large water bodies; and

f) Promote the implementation of natural capital accounting measures.

8.1.9. Infrastructure Development

The impacts of Climate Change on infrastructure are magnified in places where housing and settlements are improperly planned and developed. The economic costs of impacts on infrastructure are likely to be high especially on repairs and reconstruction of infrastructure drivers including buildings, roads, dams, water reticulation systems and electricity connection.

The policy intends to achieve sustainable development and climate resilient infrastructure through:

a) Integration of Climate Change considerations into infrastructure planning, designing and development processes;

b) Providing incentives for the use of clean climate technologies for water supply and electricity in domestic, industrial and commercial buildings;

c) Supporting climate related research on infrastructure that could guide development plans and priority actions;

d) Promoting private public partnerships on the development and transfer of clean climate technologies required for supporting climate resilient infrastructure and energy saving innovations; and

e) Strengthening education and awareness on efficient, cost effective, easily accessible and implementable infrastructure development and management methods.

8.1.10. Gender

The government in recognizing the need to mainstream gender into development planning intends to ensure that Climate Change response measures are gender sensitive particularly the recognition of youth, women, children and people living with disability and vulnerability to Climate Change impacts. This shall be achieved through:

(a) Empowering communities especially women, youth and people living with disability to actively participate in the implementation of Climate Change response measures at both rural and urban areas;

(b) Adoption of strategies that are targeted at increasing resilience of most vulnerable groups such as women, youth, children and people living with disability to Climate Change impacts through provision of means of implementation such as technologies, finance and capacity building; and

(c) Including gender and Climate Change into academic curriculum at all levels.

8.2. Mitigation

8.2.1. Mitigation Plans

The government shall require its sectors, institutions, parastatals, companies and NGO's for which emission potentials have been established to prepare and submit mitigation plans that outline how they intend to reduce their carbon footprint potential and sustainably achieve the desired emission reductions.

A broad approach to implementation of mitigation plans shall be promoted in order to achieve the desired emission reductions in each identified company, institution, sector and sub-sector of the economy by ensuring that required actions are relevant and adhere to best practices taking into consideration the best available technology and solutions.

8.2.2. Carbon Budgets

Formulation of carbon budgets is instrumental in ensuring that sectoral and sustainability mitigation plans are implemented within allocated resources based on the capacity and capability of individual sectors to mitigate their carbon emissions. The carbon budgets will set into motion the implementation of cooperation agreements on Climate Change within the country as good governance practice. In order to achieve this, the government will:

a) Establish and implement of short-term and long-term carbon budgets which are sector driven, including implementation and reporting guidelines for major economic sectors; and

b) Adopt and integrate carbon budgets into existing resource deployment planning processes to avoid duplication of efforts.

8.2.3. Carbon Markets

The government will explore the feasibility of developing a wide range of enabling instruments to support mitigation plans and carbon budgets that would assist in realization of desired emission reductions to ensure that Botswana participate in the carbon markets.

In order to establish sufficient carbon markets, the government will:

a) Adopt and enforce carbon taxes and their compounded effect on the standard of living on ordinary citizens;

b) Use carbon emission offsets and emission trading scheme for all major economic sectors where a carbon approach and cooperation agreements have been selected and adopted; and

c) Develop legal framework for emission trading and access to new and existing markets at national, regional and international level including establishment of cap on trade for carbon where possible.

8.2.4. Sustainable Energy

Effective mitigation requires a robust approach to reduction of GHG from development activities in a manner that would not compromise development and food production. This compromise must be achieved through integration of environmental protection, social and economic development into decision making processes including investments in green technologies to facilitate realization of low carbon development. Green technologies particularly in the energy sector must be explored, developed and their transfer facilitated to ensure that energy uses meet the needs of future generation.

To achieve sustainable energy and low carbon development in Botswana as a means of sustainable development, the policy will:

a) Promote and facilitate access to appropriate technologies for GHG emission reductions across major economic sectors such as transport, industry and mining;

b) Promote the development of low-carbon economic development pathways, market-based strategies and cooperation agreements across all major economic sectors outlining plans and Programmes relevant to each sector on their mitigation pathway;

c) Facilitate investment and access to clean technologies such as solar energy and wind power for domestic, industrial and commercial purposes; and

d) Promote the development of guidelines including reporting mechanisms for transition of society to green economy, sustainable energy consumptions and production patterns.

8.2.5. Transport Emissions

The growth of transport sector is likely to increase its carbon emission potential due to the increase of motor vehicles on public roads. Considering that transport is one of the leading sectors in carbon emissions, there is a need for a robust approach towards reforming the transport sector with the view to mitigating its carbon potential whilst improving its performance.

With the view to instituting climate related transport reforms, the policy will promote:

a) Development of a public transport network that is reliable and can advocate for GHG emission reductions;

b) Enhancement of the safety and operational standards for public transport and roads to attract commuters into using public transport;

c) Setting of guidelines for the contribution of the aviation sector towards reduction of GHG emissions;

d) Establishment of legal frameworks for the transformation and regulation of climate related transport elements; and

e) Formulation, implementation and enforcement of emission standards for motor vehicle emissions.

8.2.6. Waste Management

The available information suggests that waste contributes to global warming through emission of methane and other anthropogenic gases that have a carbon potential especially those released from decomposition of waste and reaction of gases. Waste management must therefore be an integral part of development planning in order to ensure that an integrated and sustainable approach to waste disposal planning is achieved. Environmental impact assessments will be used to identify potential impacts from waste on the environment and climate. The policy will:

a) Promote integrated approaches and best practices in management of waste with the view to reducing GHG emissions; and

b) Promote and support the recycling of waste for economic benefits.

8.2.7. Procurement

The manual procurement processes have the propensity to increase carbon footprints especially from paper. The government is therefore committed to taking a lead in reducing carbon footprint and in so doing, enjoins all stakeholders to:

(a) Re-engineer procurement processes to ensure that low carbon footprint is achieved and this includes minimal use of paper;

(b) Streamline procurement processes into Accounting Budgeting Systems that facilitates implementation and realization of green economy; and

(c) Promote and incentivize procurement of environmentally friendly products including clean technologies.

9. Stakeholder Involvement

9.1. Role of the Private Sector

Recognizing that the private sector is affected by Climate Change and is instrumental in green-technologies-investments as well as providing finance for access and transfer of technologies, the policy shall promote active participation of private sector through incentives, facilitating easy access to markets and formulating and monitoring carbon budgets.

The achievement of integrated development planning at national, regional and international levels could provide broader market opportunities for green products and technologies required for mitigation and adaptation. The private sector need to critically evaluate, comment on and respond to Climate Change response measures. The sector must take the lead in identification of market opportunities and assist communities with business development initiatives that can significantly contribute to job creation and social upliftment.

The government will continue to maintain effective partnerships with the business community to enhance their capacity to achieve a climate resilient, sustainable and internationally competitive Botswana with a low carbon footprint economy.

9.2. Role of Communities

Strengthening of community's participation in the planning and implementation of Climate Change response measures shall be promoted. This participation shall be facilitated through promotion of community-based investment, rural and urban development and joint venture partnerships between the private sector and community based organizations.

The media, traditional leadership and district management authorities shall take the lead in creating awareness of sustainable Climate Change response measures as well as measures of environmental protection that could enhance rural livelihoods. The communities must actively participate in capacity building initiatives that could assist with the necessary expertise to implement the required Climate Change actions.

Consideration shall be made for resource deployment to communities that are adjacent to forest reserves and vulnerable ecosystems particularly for forest management activities and control of veld fires as identified under the local adaptation and mitigation plans.

9.3. Role of Non-Governmental Organizations and Faith-Based Organization

Non-Governmental and faith based organizations are important for acting in the interest of the public in advocating for greater climate protection. They are also instrumental for seeking redress for transgression of the public's fundamental environmental rights and interests.

The government is committed to partnering with NGO's and FBO's in the implementation of sustainable Climate Change response measures particularly on education and awareness, information dissemination, Climate Change activism and climate good governance.

NGO's will be encouraged to actively participate in needs analysis and Climate Change research and further contribute significantly to the development of strategies and development Programmes that are aimed at achieving low carbon development and inform the public about such initiatives. They are further encouraged to support government and communities in implementing adaptation and mitigation interventions through technology transfer, technical skills and financial support.

10. Realizability

10.1. Resources

The government is committed to mobilizing support necessary for realization of Climate Change response measures. This support includes financial resources, technical cooperation and technology transfer at local, national, bilateral, regional and international levels. Further efforts shall be made to accelerate access to international financial resources facilitated by UNFCCC and other funding mechanisms to compliment national resources for financing the cost of achieving a low carbon development and sustainable climate resilient economy.

10.2. Technology Development and Transfer

The government recognizes that efficient emission reduction and effective adaptation should be supported by appropriate technology. Climate Change will therefore require development, diffusion and transfer of new and clean energy technologies that can contribute to reduction of the country's carbon footprint. In order to identify and adopt appropriate technologies for climate compatible development, the policy will:

a) Promote broad based participation in technology development and transfer including private and public-sector investment through market and non-market mechanisms;

b) Promote research on technology needs assessments to inform adaptation and mitigation strategies and plans in order to ensure that technology development prioritizes most vulnerable groups and sectors of the economy;

c) Collaborate with climate technology centres at national, regional and international level to facilitate provision of information, training and support for Programmes aimed at strengthening national capacity and capability to implement adaptation and mitigation response measures; and

d) Invest in innovation of clean technologies as well as dissemination of such technologies, their financing and commercialization.

11. Education, Research and Development

Climate Change decisions shall be informed by research and as a cross sectoral discipline, its understanding is imperative to effectively adapt to the varied circumstances and mitigate potential impacts. Botswana is therefore committed to allocating resources for Climate Change research and further collaborate with institutions of learning at national, regional and international levels to promote adaptation and mitigation related research. Priority shall be given to the establishment of Climate Change related Programmes, impact identification; risk analysis and management and information dissemination in existing and new institutes subject to available resources and needs.

In order to achieve this, a robust research agenda that focuses on quantitative and qualitative research, enhancement of predictability, vulnerabilities impacts and other sustainable societal adaptation strategies shall be developed. This agenda includes consideration of incorporation of Climate Change factors and elements into academic curriculum at all levels of education systems.

The government will also develop Climate Change research strategy as a cross sectoral mechanism that will ensure that Climate Change elements are added into formal, informal and non-formal sectors of education and training as a scare skill. This strategy will assist in exploring and utilizing indigenous knowledge and technical expertise in decision making mechanisms.

12. Institutional Arrangements

12.1. National Climate Change Coordinating Structure

The central government shall take the lead in implementation of Climate Change response policy. There shall be a legal framework to establish a National Climate Change Coordinating Organisational Structure, that will be responsible for implementation, monitoring and evaluation and compliance with Climate Change response measures as defined by the policy.

The Organisational Structure shall be strategically placed under a ministerial portfolio responsible for coordinating cross-sectorial national business. This shall be supported with human and other resources that would enable it to achieve its mandate.

12.2. National Climate Change Committee

The National Climate Change Committee has been established as an advisory body to government. The committee shall comprise members with technical expertise on Climate Change that could facilitate credible advice to inform government decisions.

The committee advises on matters relating to national responsibilities with respect to Climate Change and international obligations and implementation of response measures. The National Climate Change Unit shall develop guidelines and methods of engagement for facilitation of NCCC's work.

12.3. Parliamentary Portfolio Committee on Natural Resources and Environment

Parliament shall provide an oversight role for realization of the policy response measures. A Parliamentary Portfolio Committee on Wildlife, Tourism, Natural Resources and Climate Change shall take the lead in promoting establishment of enabling environment that would facilitate the implementation of the policy. Primarily, the committee shall review existing legislation to determine legal requirements to support institutional and regulatory requirements.

12.4. Focal Points

All the major sectors of the economy, government and private sector, are required to appoint focal persons that would monitor and report on the implementation of the sustainability response measures especially adaptation and mitigation plans as well as carbon budgets. The focal points will take the lead and provide guidance to their sectors on socio-economic and environmental reforms required for efficient adaptation and mitigation of Climate Change impacts.

The Climate Change Unit shall facilitate effective functioning of Focal Points through capacity building initiatives and other related resources needs that could create an enabling environment for execution of their mandate.

12.5. District Climate Change Committees

The District Climate Change Committees will be established to support the implementation of sustainable Climate Change response measures at village, sub district, urban and district levels. The committee will be responsible for integrating Climate Change issues into village, urban and district development plans and assist in building climate resilient development planning at local levels.

The committee will be accountable to local authorities and indirectly linked and supported by National Climate Change Organisational Structure on strategy development, resource mobilization, capacity building, education and awareness.

13. Monitoring and Evaluation

The Climate Change Strategy and Action Plan was developed alongside this policy. The Action Plan shall serve as an implementation Framework within which cross-sectoral response measures shall be based and evaluated.

There shall be continuous evaluation of Climate Change response measures and development plans to adjust to the dynamic nature of socio-economic transformation and transition to low carbon economy and development. These actions would enable the private and public sectors to access new

market-based instruments and reforms that can enhance climate resilient economy and society.

The National Communications and Bi-annual Reports will be used to evaluate progress of implementation of response measures for all sectors covered under this Policy. This would include conduct of vulnerability assessments and review of adaptation and mitigation plans.

14. Review of the Policy

The Policy shall be reviewed after every 10 years. The review process shall be informed by the monitoring and evaluation on effectiveness of deployed interventions as well as international developments on Climate Change jurisprudence.