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Promoting sustainable development;
addressing climate change

Southern African Climate Finance Partnership

Botswana Country Diagnostic

May 2017





Contents

Context	3
Climate context.....	3
Socioeconomic context	3
Intended Nationally Determined Contribution.....	4
Mitigation	4
Adaptation	4
Policy and planning documents.....	5
National Development Plan	5
National Communications to the UNFCCC	5
National Climate Change Policy and Strategy and Action Plan (NCCSAP)	6
Climate finance stakeholders	7
References	8



Context

Climate context

Botswana is arid to semi-arid, with warm winters and hot summers, and erratic rainfall. Surface water is the main source of water supply for urban areas, but there is little surface water, except in the far north. Some 66% of the country depends entirely on groundwater. Population increases and urbanisation aggravate water threats.

Over 60% of Botswana is sparse savannah woodland and scrub. Forests – notably the hardwood forests in the north – provide a range of economic, social, and environmental benefits and services. Human activities, particularly burning wood for fuel, put pressure on forest resources.

Botswana is vulnerable to climate change impacts. According to Botswana's Second National Communication (SNC) to the UNFCCC, rainfall has been highly variable, and droughts of projected to increase in frequency and severity. Note the following region variations in precipitation:

- North suffers droughts in terms of rainfall deficits;
- South-west suffers extreme droughts based on low rainfall and soil conditions; and
- Northeast suffers high rainfall events and risks of floods.

Botswana is already suffering constrained agricultural production, increasing food insecurity, and increasing water stress. These effects are expected to increase with climate change.

Socioeconomic context

Botswana attained independence from Britain in 1966. The most recent general election was in 2014, and the next is due in 2019. It is a parliamentary democracy, with the President serving as both Head of State and Head of Government. The 63 member National Assembly serves as legislature, which is also advised by a 35 member House of Chiefs (Nachmany et al. 2015). Population was 1.68 million as of the 2001 census, with a growth rate of 2.5% from the 1991 census. Most of the population is concentrated along the railway line in the east of the country, owing both to historical factors and the availability of water and arable soils.

Despite having one of the world's fastest growing economies over the past 50 years, Botswana remains reliant on diamonds and the public sector, making it vulnerable to short term shocks and structural changes (Matambo 2016). Although poverty has been declining rapidly, it remains high in rural areas, and low job creation means inequality levels are still some of the world's highest. Urban-rural gaps are significant in basic services, especially sanitation and electricity. In addition to jobs-intensive, broad-based growth, Botswana would benefit from wider notions of human development encompassing health, human capital, freedom, and representation at the individual level (World Bank Group 2015).

Botswana is a lower middle-income country, with GNP per capita of US\$3,166 in 2002, and average annual economic growth in 2000 at 5.9%. In 2000, GDP and GNP were US\$5.8 billion and US\$5.1 billion respectively, and with GDP split as follows: 51% services; 45% industry; and 4% agriculture. Agriculture meets only a small portion of total food needs, and contributes to GDP mostly through beef exports. In 2004, agricultural imports (mainly cereals) exceeded agricultural exports by US\$102.5 million. Only 0.7% of total land area is arable, and poor soils, inadequate economic infrastructure, scarce water resources, and recurrent drought hamper crop production.

GHG emissions per capita are 10.56tn CO₂eq. Total national emissions are 0.068% of the global total. Coal (34%), petroleum products (32%), and biomass (30%) dominated Botswana's primary energy supply in 2000. Major energy consumers were residential (42%), transport (27%), and industry (23%). Growth in car ownership has increased urban congestion, and operating costs of busses, while reducing their efficiency.



Intended Nationally Determined Contribution

Botswana submitted its Intended Nationally Determined Contribution (INDC) in 2015. It was converted to a Nationally Determined Contribution (NDC) in 2016.

Mitigation

Botswana intends to reduce overall emissions by 15%, from the base year of 2010, by 2030, at an anticipated cost of US\$18.4 billion. The INDC does not specify sources of funding for implementation of mitigation measures, or share of government and international contribution to support mitigation measures, but identifies the need to clarify these points. Mitigation estimations were based on three sectors: energy (mobile and stationary), waste, and agriculture. The calculation does not include CH₄ emissions from livestock farming – mostly from enteric fermentation – but Botswana will implement mitigation measures for this sector (Botswana Government 2015).

Adaptation

Botswana's Government is implementing the following adaptation actions (Botswana Government 2015):

Sector	Action
Water	Transmit water to demand centres, by constructing pipelines and connecting to existing pipelines
	Reduce water loss during transmission, by investing in telemetric monitoring systems
	Enhance conjunctive groundwater-surface water use
Agriculture	Improve genetic characteristics of livestock breed (e.g. Masi breed)
	Improve livestock diet, through supplementary feeding [?]
	Switch to crops with drought resistance, high temperature tolerance, and short growing times
Health	Malaria strategy, public education and malaria campaigns
	Control diarrhoeal diseases



Policy and planning documents

Developing a response to climate change is an objective in several policy documents, including the National Development Plan (NDP), and Vision 2016.

Botswana is developing a NAP and Action Plan, which will highlight priority areas, including Climate Smart Agriculture. NAP development calls for broader stakeholder consultation. The Ministry of Environment Wildlife and Tourism coordinate NAP development, with support from the National Committee on Climate Change.

National Development Plan

The 10th National Development Plan (NDP 10) ran for eight years up to 2016, thereby coinciding with the end of Vision 2016 and the formulation of Vision 2036 (Botswana Ministry of Finance and Development Planning 2009). As NDP 10 was written within the uncertain context of the 2008 Global Financial Crisis, the Ministry of Finance and Development Planning also compiled a midterm-review of NDP 10 in 2013 (Botswana Ministry of Finance and Development Planning, 2013). The Ministry of Finance and Economic Development delivered the draft 11th National Development Plan (NDP 11) in 2016, to cover the period from 2017 to 2023 (Matambo, 2016). NDP 11 acknowledges that climate change has become a topical issue, noting periodic severe droughts and their effect on Botswana's wildlife and livestock assets, landscape, and biodiversity. NDP 11 forecasts growth of 18.4% in the water and electricity sector, far surpassing the expected overall GDP growth of 4.4%.

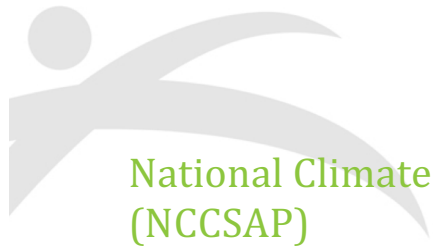
Four thematic working groups coordinated both the NDP 10 mid-term review and NDP 11: economy and employment; social upliftment; governance, safety, and security; and sustainable environment. As sustainable environment is the most relevant to climate finance considerations, the table below expands on the implementation strategies for this thematic area under the various NDPs:

NDP	Sustainable environment implementation strategies
Mid-term review of NDP 10	Increase public awareness of issues, including: habitat destruction and over-consumption of natural resources; encroachment into agricultural land-use areas; water management; and climate change.
	Implement a Biodiversity Strategy and Action Plan, and Community Based Natural Resource Management Plan, in the remaining years of NDP 10.
	Compile a list of policies and legislation relating to water, and safeguard national interests in shared water resources.
	Encourage water reuse, recycling, and harvesting.
	Amend Mines and Minerals Act to address mine closures, rehabilitations, and illegal mining.
NDP 11	Environmental protection, including effects of environmental health on human health
	Sustainable management of natural and cultural resources, including: climate change adaptation and mitigation; sustainable human settlements; and financing of sustainable environment programmes

National Communications to the UNFCCC

Botswana was a founding signatory of the UNFCCC in 1992, and ratified the Convention in 1994. The Ministry of Works, Transport, and Communication submitted Botswana's Initial National Communication (INC) to the UNFCCC in 2001 (Botswana Ministry of Works Transport and Communication 2001, p.11).

The Ministry of Environment, Wildlife, and Tourism submitted Botswana's Second National Communication (SNC) to the UNFCCC in 2011. The SNC lists a range of potential adaptation actions (dealing with crops, health, water, grassland and livestock, and forestry) and mitigation actions (dealing with energy, waste, agriculture, LULUCF, industrial processes, and transport) (Botswana Ministry of Environment Wildlife and Tourism 2011).



National Climate Change Policy and Strategy and Action Plan (NCCSAP)

Botswana is developing its NCCSAP, to be implemented through the Ministry of Environment, Wildlife and Tourism in cooperation with the UNDP. The objectives of the NCCSAP are (Nachmany et al. 2015, p.2):

- Develop and implement appropriate adaptation strategies and actions that will lower the vulnerability of Botswana and various sectors of the economy to the impacts of climate change;
- Develop action and strategies for climate change mitigation;
- Integrate climate change effectively into policies, and institutional and development frameworks, in recognition of the cross-cutting nature of climate change; and
- Ensure that Botswana is ready for the post-2015 climate regime when a new Protocol applicable to all parties will be finalised.

Other national initiatives exist, such as the ongoing Sustainable Land Management in Ngamiland and Central Districts, designed to enhance resilience and reduce vulnerability of communities to climate change.

Relevant executive legislation includes (Nachmany et al. 2015):

- National Development Plan 10 for 2009-2016 (2009)
- Botswana Biomass Energy Strategy (2009)



Climate finance stakeholders

The Ministry of Environment, Wildlife, and Tourism is responsible for NAP development, with support from the NCCC. The Ministry's Department of Meteorological Services is the Nationally Designated Authority (NDA) to the GCF; and its Principal Meteorological Officer, Mr Balisi Gopolang is the Focal Point (FP) to the GCF).



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