



# Background Paper on Botswana's Draft Drought Management Strategy

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# Background Paper on Botswana's Draft Drought Management Strategy

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# List of Acronyms

<b>ACCRA</b>	Africa Climate Change Resilience Alliance
<b>ARC -</b>	Africa Risk Capacity
<b>ASSAR</b>	Adaptation at Scales in Semi-Arid Regions
<b>BVAC</b>	Botswana Vulnerability Assessment Committee
<b>BVAC</b>	Botswana Vulnerability Assessment Committee
<b>CILSS</b>	<a href="#">Permanent Inter-State Committee against Drought in the Sahel</a>
<b>DDC</b>	District Development Committee
<b>DDMC</b>	District Disaster Management Committee
<b>DLCI-HoA</b>	Drylands Learning and Capacity Building Initiative (Horn of Africa)
<b>DMS</b>	Drought Management Strategy
<b>DRAPA -</b>	Drought Resilient and Prepared Africa
<b>DRAPA</b>	Drought Resilience and Preparedness in Africa
<b>DRP</b>	Drought Relief Programme
<b>EWTC</b>	Early Warning Technical Committee
<b>GCM</b>	Global Climate Model
<b>GMST</b>	Global Mean Surface Temperature
<b>IDMP</b>	<a href="#">Integrated Drought Management Programme</a>
<b>IGAD</b>	Intergovernmental Authority on Development
<b>IPC</b>	Integrated Phased Classification system
<b>M, E &amp; R</b>	Monitoring, Evaluation and Reporting
<b>MSCFSPR</b>	Multisectoral Committee for Food Security and Poverty Reduction
<b>NDP</b>	National Development Plan
<b>NDRMP</b>	National Disaster Risk Management Plan
<b>SDG</b>	Sustainable Development Goal
<b>UCT</b>	University of Cape Town
<b>VDC</b>	Village Development Committee

# Glossary of Terms

- **Adaptation:** the decision-making process and the set of actions undertaken to maintain the capacity to deal with current or future predicted change<sup>1</sup>
- **Adaptive capacity:** the preconditions necessary to enable adaptation, including social and physical elements, and the ability to mobilize these elements<sup>1</sup>
- **Drought:** a deficiency of precipitation over an extended period of time (usually a season or more) resulting in a water shortage for some activity, group, or environmental sector<sup>2</sup>
- **Drought risk management:** a continuous process of analysis, adjustment and adaptation of policies and actions to reduce drought risk, including modifying the probability of a drought and reducing the vulnerability and enhancing the resilience of the receptors threatened. It focuses on delivering a drought-resilient society by reducing drought risks and promoting environmental, societal and economic opportunities now and in the longer term<sup>3</sup>
- **Drought mitigation:** the effort to reduce loss of life and property by lessening the impact of disasters
- **Resilience:** the amount of change a system can undergo and still retain the same function and structure while maintaining options to develop<sup>1</sup>
- **Transformation:** a fundamental alteration of the nature of a system once the current ecological, social, or economic conditions become untenable or are undesirable<sup>1</sup>
- **Vulnerability:** the degree to which people, sectors, assets or systems are susceptible to the impact of hazards<sup>4</sup>

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<sup>1</sup> Nelson et al. (2007)

<sup>2</sup> Tadesse (2016)

<sup>3</sup> Sayers et al. (2016)

<sup>4</sup> Spear et al. (2015)

# Executive Summary

This 'strategy ready' Background Paper was developed to build on and extend the outline of the existing draft Drought Management Strategy (DMS). The outline of the Background Paper follows a proposed revised outline for the next version of the DMS, in order to provide maximum assistance to the Technical Team as they revise the DMS.

Drought is largely seen as a 'normal' part of Botswana's climate, with multiple, multi-year droughts having been recorded since the 1950s. Historically, government has taken a reactive approach to dealing with drought crises. However, climate change is now causing the frequency, severity, duration and spatial extent of droughts to increase, and a 'crisis-driven' approach is no longer appropriate.

The Government of Botswana recognizes the need to develop a strategy that will enable the implementation of a more proactive and integrated approach to drought management. Shifting to this approach will be neither quick nor easy. However, a first step in this direction is creating an enabling institutional environment, which is being initiated through the development of the DMS.

The following are **key messages** that should be considered going forward:

- a) **Drought is multidimensional:** The effects of drought do not act in isolation but intersect in a myriad of ways to impact national and local economies, affecting all sectors, livelihoods and wellbeing. The impacts of drought are also not bounded in time or space.
- b) **Coordination and collaboration is key:** effective drought management will require improved and ongoing coordination at the national and subnational levels, as well as collective and collaborative efforts among both state and non-state actors.
- c) **Long- and short-term responses are needed:** Resources that are provided by government and donors should be redirected toward long-term developmental activities that deal with planning, mitigation and disaster readiness. New strategies that build long-term drought-resilience should not replace, but complement, short-term (emergency) response measures.
- d) **The underlying causes of drought risk and vulnerability must be addressed:** For drought risk management to be effective and sustained in the long-term, the underlying drivers of drought risk need to be reduced. This requires addressing the underlying causes of vulnerability to drought, which is a function of the existing environmental and climatic conditions coupled with governance, socio-economic, health, education, culture and human demography issues.
- e) **Mainstreaming the DMS into policy and planning:** Drought management and drought risk management need to be embedded in the country's policy formulation and mainstreamed into management plans across sectors.
- f) **Building the resilience of local communities:** Drought relief helps vulnerable communities to cope with drought in the short-term. However, if not properly managed, it can make them dependent on government and undermine their ability to innovate and adapt autonomously. Drought relief does play a role in emergency responses, but should be coupled with more visionary programmes that build people's adaptive capacity and resilience to drought.

- g) **Effective adaptation to drought needs to be implemented:** Effective adaptation is context-specific but, in general, encompasses a number of key principles (see section 6). In some cases, transformation of attitudes, governance structures and ways of working may be necessary.
- h) **Capacity for monitoring and early warning:** Capacity-building is fundamental to effectively managing drought risk. It requires an integrated system of decision makers, practitioners, scientists, local authorities and communities working together across different scales of governance. Information needs to be disseminated to affected stakeholders in an understandable and useful format. The data that is collected and disseminated should include socio-economic and environmental variables.
- i) **Building awareness:** Awareness, knowledge and education are essential for managing drought risk and enhancing resilience. Data should not only be collected and compiled as part of monitoring, but jointly analysed with communities and disseminated and used in community drought risk management awareness campaigns. To enhance the utility of the information, there should be interaction between end users and producers of data.
- j) **Vulnerability assessments:** Understanding who is vulnerable to what stressors, hazards and issues is a very important starting point in deciding how to adapt to climate and other hazards, and to reduce vulnerability.
- k) **Non-state actors are important:** Government plays a critical role in drought risk management. However, in order to develop and implement more effective strategies that build resilience in the long-term, government will require assistance from non-state actors including NGOs and other development partners; the private sector; civil society; the scientific community and the media
- l) **Seek innovative sources of funding:** Establishing a portfolio of funds, predefining where and how funds will be allocated and disbursed, and setting up good accounting and financial systems to ensure quick disbursement and effective monitoring are critical for any drought management strategy to function in practice. However, the funding portfolio should be flexible enough to allow funds to be rapidly re-allocated across ministries in the event of an emergency. Measures should also be included that allow any support programmes to be quickly scaled up in the face of an emergency, for instance through shock-responsive social protection mechanisms.
- m) **Establish integrated institutions:** Institutional arrangements of the DMS will need to be designed to promote collaborative, multi-scalar implementation across sectors, with the aim of increasing alignment over time
- n) **'Set a direction and test it' rather than 'make a plan and stick to it':** A comprehensive monitoring, evaluation and reporting (M, E and R) system is one of the key components of an effective drought management strategy. M, E and R systems should promote 'learning by doing' and flexibility to allow for improvement over time.

# Part A: CONTEXT AND STRATEGIC APPROACH

*This section explains the purpose and origins of, as well as the outline for, this 'strategy ready' background paper.*

## 1. Introduction

Over the past few decades, recurrent drought conditions have had significant and, at times, devastating impacts on Botswana's food security, human health and the national economy (Seekings et al, 2016). Historically, government has taken a reactive approach to dealing with drought crises. However, climate change has caused an increase in the frequency and intensity of droughts, and a 'crisis-driven' approach is no longer appropriate. Moreover, historical records of drought, coupled with the increasing availability of regional climate forecast data, means that authorities now have greater capacity to anticipate and prepare for drought (Kusangaya et al, 2014). The Government of Botswana thus recognizes the need to develop a strategy that will enable the implementation of a more proactive and integrated approach to drought management. In this light, and on the basis of recurring extreme drought conditions, the Rural Development Council resolved to set up a "task team to conceptualize drought and its levels of severity with a view to contribute to the subsequent development of a National Drought Management Strategy".

The strategy is required to be comprehensive enough to address all key issues directly and indirectly impacted by drought, covering the short-, medium- and long-term horizons.

In the context of the [ASSAR](#) project, the University of Cape Town (UCT), in collaboration with Oxfam, have produced this background paper to support the Botswanan authorities in their thinking as they prepare the country's Drought Management Strategy (DMS). UCT has been responsible for conducting the majority of the work herein. However, the government of Botswana expressed an interest in receiving Oxfam's perspectives on the lessons learned from other African countries in the design and implementation of a DMS. The 2016 White Paper on Drought Risk Management and Enhancing Resilience in Africa (Tadesse, 2016) identified the need for African nations to "establish a drought risk management and resilience strategy framework that is more focused on the human dimensions of drought and proactive drought risk reduction measures." In this light, and given its limited experience in Botswana, Oxfam has provided a 'non-technical' assessment of drought management in other countries. This assessment looks at: the importance of flexible, adaptable and transformative approaches; power issues; knowledge systems for drought risk management; stakeholder involvement; the importance of inclusiveness and building agency, as well as approaching decision making with fresh thinking, as key elements in making drought responses equitable and effective. This may be complemented with 'technical' inputs, as appropriate.

Oxfam's assessment brings in an international perspective on drought risk management, which contributes toward the technical task team's emphasis on the need to benchmark the national DMS against international standards. UCT has further contributed to this objective by highlighting key international policy linkages within which the DMS should be situated. Importantly, Botswana's DMS also should be aligned with other relevant

national and sectoral policies so as to ensure policy coherence, and avoid wasted efforts and resources resulting from policies pushing in opposite directions.

### **1.1 A 'strategy ready' background paper**

The outline of this 'strategy ready' Background Paper was developed to build on and extend the outline of the existing draft DMS as well as ASSAR's experience in this area, and was informed by a review of other relevant strategies, including the [Strategic Framework for Drought Risk Management and Enhancing Resilience to Drought in Africa](#). An initial version of this outline was presented to the Technical Team at a meeting in Gaborone on 17<sup>th</sup> October 2017, and approved by the Team.

The outline of the Background Paper follows a proposed revised outline for the next version of the DMS, in order to provide maximum assistance to the Technical Team as they revise the DMS. The proposed outline has been developed after review of the structure of the Zero Draft of the DMS, in order to improve logical flow – thus, Part A begins by first clarifying the problem statement (sections 2 and 3), then locating the Strategy within the relevant policy context (section 4), after which the broad orientation of the strategy is set out (sections 5 and 6). Part B then sets out the three pillars of drought management: drought monitoring and early warning systems (section 7), vulnerability and risk assessment (section 8), and drought preparedness, mitigation and response (section 9). Part C contains the different components for implementing the strategy, namely the Role of non-state actors (section 10); Capacity development, knowledge management and drought awareness (section 11); Resourcing and innovative financing for drought management in Botswana (section 12); Institutional arrangements for implementing the strategy (section 13); Monitoring the implementation of the strategy (section 15); and Moving from the strategy to the Action Plan (section 16). In addition, section 14 contains a summary of 'Lessons learned from the design and implementation of DMSs in other African countries', with the separate study contained in full in Annex A.

Different sections of the Background Paper adopt different formats - in some cases, we provide a consolidated summary that combines text from the existing DMS with other knowledge, and which could potentially be directly used in the next draft of the DMS; in others we provide a set of options for the Technical Team to consider and discuss in Botswana - for example, different options to consider for the Implementation Framework; and in other sections we provide a review of the existing text in the draft DMS and suggest a way forward to fill any gaps, but do not provide any further analysis or develop any specific text to be used in the DMS.

## 2. Context and challenges

*In this section, we draw on text from the existing draft DMS to provide a brief history and context of drought in Botswana, and the approach taken to drought management, since the 1950s. We also highlight current and emerging drought management challenges, including the link between drought and climate change. This section is written to provide specific text that can be fine-tuned and directly included in the DMS.*

### 2.1 The history and context of drought management in Botswana

Since the 1950s, Botswana has experienced multiple, multi-year droughts. Records show that drought has occurred in the following years: 1959/60, 1961/62, 1963/64, 1964/65, 1969/70, 1972/73, 1978/79, 1981/82, 1982/83, 1983/84, 1984/85, 1985/86, 1991/92, 1993/94, 1994/95, 1995/96, 1997/98, 1998/99, 2001/02, 2004/5, 2005/06, 2007/08 as well as 2012 (Juana et al, 2014; Mogotsi et al, 2011). These figures indicate that the return period between droughts has shortened, meaning that over time, the frequency of drought has increased.

#### i. Drought management in the 1950s and 1960s

Just prior to its 1966 independence, Botswana (the then Bechuanaland) was hit by an exceptionally severe drought that necessitated emergency drought relief and the importation of maize and other supplies in growing volumes. The severe drought conditions prevailed throughout the decade, resulting in devastating crop losses, low yields and great mortality among livestock. In April 1966, founding president Sir Seretse Khama told the new parliament that this was “the worst drought in living memory.” An urgent and effective response was needed, and the newly independent Botswanan government established a National Famine Relief Committee and a National Relief Fund to raise funds from the public. Drought relief support measures were delivered by the World Food Programme and the government was also permitted to use the remaining balance of a relief grant, which had been provided by Oxfam in 1964, on public works programmes. The aim of these programmes was to provide resources to poor communities and to build roads and dams. The *Ipelegeng* programme was introduced (meaning ‘self-help’ in Setswana), which provided food to poor but able-bodied Botswanans in exchange for their work on community development projects.

#### ii. Drought management in the 1970s and 1980s

The drought conditions of the previous decade finally abated in 1973, when relatively good rainfall allowed the land to slowly begin recovering. However, in 1978, Botswana once again fell victim to the impacts of drought. The severe drought lasted until 1987/8, causing acute food shortages, particularly in rural areas. Despite its previous experience of drought, the government was once again ill prepared and treated the drought as an emergency. Food had to be imported from neighbouring countries and extensive emergency drought relief aid was provided by international donors. In an effort to ‘solve’ the ongoing drought problem, the government introduced a structured Drought Relief Programme (DRP). The programme, which began in the 1980s, comprised three key aspects: 1) formalisation of the existing *Ipelegeng* programme, also called ‘food for work’; 2) a feeding programme

for vulnerable groups and school going children; and 3) a destitute programme for the elderly and abandoned people (Seekings, 2016).

### **iii. Drought management in the 1990s and 2000s**

Following a brief respite from the debilitating drought of the 1980s, Botswana continued to experience recurrent droughts throughout the 1990s and 2000s. In 1991, the DRP was formally institutionalized in the government planning instruments and a budget was allocated for its implementation through the National Development Plan 7 (NDP7) (Seekings, 2016). Although still strongly reliant on donor support, the capacity of Botswanan people to cope with the impacts of drought began to improve. This was largely due to responsible investment of the country's recently-established diamond wealth into infrastructure, education, and other social and economic development efforts. However, the approach to dealing with drought continued to be reactive rather than anticipatory. This type of emergency response tends to be implemented inefficiently due to the urgency of a drought crisis (IPCC, 2014). Significant loss and damage from drought therefore continued to impact the country, with marginal communities being worst affected. Moreover, while the DRP has received much praise, the country's response to drought was critiqued for creating state dependence and thus undermining the resilience of communities.

## **2.2 Current and emerging drought management challenges**

The recent 2015/16 drought was declared the worst in 30 years, given that it was the first drought since 1984 to affect the entire country so severely. The intensity of this drought, and the increased frequency with which droughts have occurred in Botswana in general, can be attributed to a changing climate (discussed in section 2.3). Climate change and other emerging challenges such as population growth and urbanization make it more difficult for government to respond effectively to drought. Low infrastructural capacity, inadequate planning, poor water-demand management and a lack of specialized skills have also been recognized as some of the main problems underlying the country's drought management challenges (Ziervogel, 2017).

Drought is commonly understood to be a 'normal' part of Botswana's climate system. Yet, it continues to be treated as an emergency and responded to through crisis-based programs that encourage the dependency of producers and communities on state aid and support. Moreover, such programs have largely taken a generalized approach that do not account for differential vulnerability, which is linked to social and economic issues such as race, class, income and gender. For instance, blanket drought declarations that lead to subsidies for livestock feed regardless of the economic status of the recipient, rather than targeting the most vulnerable people within communities.

The persistence of a reactionary and generalized response to drought means that neither response times nor risks have been reduced, indicating that there is room for additional learning. This is important as a lack of preparedness means that drought continues to have severe consequences, particularly for marginal population groups. There is a strong need to move away from a reactionary drought response to a more holistic and proactive approach that works to mitigate the impacts of drought, for example through improved monitoring and early warning systems, and the decentralization of drought management efforts. To achieve this, resources that are

provided by government and donors should be redirected toward long-term developmental activities that deal with planning, mitigation and disaster readiness. New strategies that build long-term drought-resilience should not replace, but complement, short-term response measures. This will require improved coordination at the national and subnational levels, as well as for drought management to be embedded in the country's policy formulation and mainstreamed into management plans across sectors. Achieving such an integrated approach is itself a challenge that will require collective and collaborative efforts. A first step in this direction is an enabling policy environment in which the importance of an integrated, forward-thinking and collaborative approach to drought management, as well as other impacts resulting from climate change, is emphasized.

### **2.3 Climate projections and implications for drought**

Global climate change is now deemed 'unequivocal' by scientists. Extensive evidence indicates that, despite their minimal contribution to the problem, developing countries are most vulnerable to the impacts of this change, yet have the least capacity to adapt (IPCC, 2014). Several studies have signalled a significant warming and drying trend over southern Africa (Daron, 2014; Kusangaya et al, 2014). In the semi-arid areas of this region, temperatures are predicted to increase by between 1° and 4° Celsius by 2050, and substantial multi-decadal variability in rainfall is predicted to continue into the future. These changes will have serious implications for both human and natural systems (Spear et al, 2015).

The recent work of (IPCC, 2014) shows that, of all the countries on the African continent, Botswana is among those expected to experience the largest warming in the coming decades. In addition to longer-term shifts in key climate indicators such as temperature and rainfall, climate change also manifests as greater inter-annual and seasonal variability, as well as an increase in the frequency and intensity of extreme events such as heat waves, flash floods and droughts (Nkemelang et al., n.d.). In Botswana, a significant decline in annual precipitation and shortening of the rainfall season is expected to occur (Nkemelang et al., n.d.). This is worrying, given that the country's present-day climate is characterized by existing water scarcity, erratic rainfall patterns and high evapotranspiration rates (Driver & Reason, 2017).

Botswana's arid to semi-arid climate can be attributed largely to the semi-permanent high-pressure system that persists over the region, due to its latitudinal position and the subsiding limb of the Hadley Cell (Driver & Reason, 2017). As a result, Botswana is naturally prone to drought. The occurrence of drought has also been linked closely with that of the El-Nino Southern Oscillation (ENSO), a climate anomaly that moderates rainfall variability over southern Africa (IPCC, 2014). Given the climate projections for southern Africa, the pattern of recurrent drought in Botswana is unlikely to improve. Conversely, the threat of climate change may increase the frequency, severity, duration, and spatial extent of drought events in the future (IPCC, 2014). In fact, evidence from historical records has shown that drought years in Botswana are already becoming more frequent and that the intensity of droughts is also increasing (Juana et al, 2014).

Global Climate Model (GCM) simulations of future drought conditions based on Standard Precipitation Index (SPI) show a significant increase in the 5 month drought duration during the period of 2046 to 2065, particularly in Northern and Central Botswana, as well as more severe negative impacts for the 2081-2100 time period. Projections based on the Palmer Drought Severity Index (PDSI) indicate that, for the same two time periods,

droughts are expected to worsen with time, especially in the Western and South Western parts of the country (MEWT, 2012).

In recognition of the impacts of climate change on the global economy, and in an effort to mitigate the effects thereof, world leaders have agreed to limit the rise in Global Mean Surface Temperature (GMST) to 2° Celsius above preindustrial levels. They have also strongly advocated that the rise in GMST be limited to a maximum of 1.5° Celsius above preindustrial levels (UNFCCC, 2015). The current trajectory of global greenhouse gas emissions does not match the proposed mitigation target and enormous effort will be required to achieve this. However, a recent study by Nkemelang et al. (n.d) shows that even if nations are indeed successful in reducing their emissions enough to limit warming to this degree, Botswana is likely to remain highly vulnerable to climate variability and change. As a consequence, Botswana will need to upscale its adaptation efforts and prepare for possible future impacts in advance. Drought is a priority in this regard due to its significant impact across sectors and livelihoods, as discussed in the following section.

### **3. Impacts of drought across sectors**

*In this section, we begin by highlighting how the multiple dimensions of drought interact to undermine the adaptive capacity of vulnerable communities. We then provide an overview of how drought impacts different socio-economic sectors in Botswana. This section is written to provide specific text that can be fine-tuned and directly included in the DMS.*

#### **3.1 The multidimensional nature of drought**

Drought is considered to be one of the most pervasive and debilitating climate-related challenges as it is a complex, slow-onset issue that impacts multiple sectors and has both natural and human dimensions (Wilhite et al, 2014; Tadesse, 2016). The effects of drought do not act in isolation but intersect in a myriad of ways to impact national and local economies, affecting all sectors, livelihoods and wellbeing. The impacts of drought are also not bounded in time, for example significant inertia may be experienced in terms of economic recovery after consecutive drought years. The ‘creeping’ nature of drought further means that, if it is not proactively addressed, critical social, ecological or economic thresholds may be breached, resulting in impacts that accumulate over an extended period of time (Pulwarty & Sivakumar, 2014; Wilhite et al, 2014). The impacts of drought are not confined spatially either. For instance in Botswana, the North-South Carrier Water Scheme diverts water to the capital city, Gaborone, where there is a high demand for water. When the most recent drought of 2015/2016 resulted in the drying up of the Gaborone dam, increased pressure was placed on northern water resources. As a result, a rapid reduction in dam levels in the north was observed, the implication of which is decreased water security in this region. The intersecting nature of drought impacts, and their pervasiveness in both time and space, calls for a more holistic approach to drought management.

### 3.2 Vulnerability to drought and adaptive capacity

Vulnerability is “the degree to which people, sectors, assets or systems are susceptible to the impact of hazards” (Spear et al, 2015). In most instances, a hazard does not become a disaster until a social dimension is introduced. Wilhite et al. (2014) explain that, in terms of drought, the risk of a disaster depends on two factors: (1) the degree of a region’s exposure to the hazard (i.e.: the probability of drought occurring and the various levels of severity at which it may occur); and (2) the vulnerability of society to the hazard.

As discussed in previous sections, the probability of severe drought in Botswana is high, and exposure to the risk of drought is therefore significant. However, the impacts of drought are not uniform across all sectors or socio-economic groups, and drought may therefore not always spell disaster for the population as a whole. In Botswana, like in other semi-arid regions of southern Africa, vulnerability to drought is a function of the existing environmental and climatic conditions coupled with governance, socio-economic, health, education, culture and human demography issues (Spear et al, 2015). The most vulnerable groups are the poor and marginal communities, such as subsistence farmers, whose livelihoods depend strongly on natural resources and who lack the capacity to adapt to drought conditions. These vulnerable communities are generally characterised by: dependence on primary production and natural resources; reliance on rainfed agriculture; a low diversity of livelihoods; dependence on activities that are sensitive to the impacts of climate change; limited availability of or access to infrastructure and services; limited institutional capacity and high levels of poverty (Dougill et al., 2010; Sallu et al., 2010). Gender and age also play a key role in vulnerability. In Botswana, women tend to be more vulnerable to drought, and climate change in general, than men. In the past women did not have the right to be allocated land, they are often not represented in decision making, some laws discriminate against women and there are many women-headed households that are poorer than other households (Statistics Botswana 2014). Children and the elderly are also particularly sensitive. Children can be left home alone without food while parents are in the fields and succumb to risky behaviour to obtain food. In some cases, young adults who take out loans for an agriculture business cannot repay them during a drought resulting in further hardship. In some families, during drought periods, the youth are not needed to help in the fields or to harvest phane and so they are unoccupied and get into trouble. When there is a drought the elderly have to use their old-age grants for food instead of other vital supplies and services. This is made worse by their limited physical fitness (Omari, 2010).

The various factors contributing to vulnerability tend to change over time and vulnerability can therefore increase or decrease in response to these changes (Wilhite et al, 2014). In order to decrease vulnerability, the adaptive capacity of vulnerable groups must be enhanced. In the context of drought, adaptive capacity “represents the potential to implement adaptation measures that help to avert potential impacts” (Singh et al, 2014). A society or community’s capacity to adapt to drought depends not only on its autonomous ability to implement adaptation measures, but on its access to resources and the degree to which it is empowered to do so through an enabling institutional environment. The existing, reactive approach to drought management in Botswana has thus far served to undermine the adaptive capacity of vulnerable communities. Whilst food security has remained relatively high in drought years thanks to the provision of aid relief, this has made people dependent on hand-outs (e.g. see Maru et al. 2014). Shifting toward a more proactive drought management paradigm will help to build the resilience of vulnerable groups. Because drought impacts occur across sectors, an integrated approach is also required. The following section provides an overview of how drought affects different sectors in Botswana.

### **3.3 Cross-sectoral impact of drought in Botswana**

Water plays a very important role in driving the national economy of Botswana, sustaining its natural ecosystems and maintaining human welfare. Water scarcity as a consequence of drought impacts multiple sectors. The impact of drought on different sectors may be primary (direct), secondary (indirect) or even tertiary. The following sub-sections briefly describe the impact of drought on several different sectors of Botswana's economy and society.

#### **i. Impact of drought on water resources**

With its semi-arid climate, Botswana is naturally water-stressed. Groundwater is the main source of potable water supply in the country. Groundwater recharge is very limited, making the resource finite and non-renewable. Drought causes a decrease in annual dam yields and an increase in average unmet water needs (MEWT, 2012). Increasing demands for consumptive water uses such as domestic, mining, industrial, commercial and agricultural water demands makes water a very valuable commodity. The impact of drought on the country's scarce water resources is therefore significant. In addition to a reduced quantity of water for consumption, drought also affects the quality of water resources. This may be due to shifts in or depletion of vegetation, which provides ecosystem services such as water filtration and purification. Lower flows in rivers also lead to lower dilution of effluent discharges. This may lead to a high concentration of pollutants in river systems. An example is downstream of Notwane River after Gen Valley Wastewater treatment plant, where the effluent from the plant is discharged into the river. When the flow of the river is insufficient, the effluent is not diluted effectively. This has implications for both human and ecosystem health. A lack of water resources also has implications for sanitation and the health sector.

#### **ii. Impact of drought on agriculture**

According to the (Nkemelang et al., n.d.), the livelihood activity most at risk from climate change impacts in the semi-arid regions of Africa is agriculture. In Botswana, climate change is likely to cause an increase in the frequency and intensity of drought (Batisani & Yarnal, 2010). As a major share of Botswana's population is highly reliant on arable rain-fed agriculture for its livelihood, impacts will be severe (Batisani & Yarnal, 2010). Changes in the length of growing seasons and changes in crop productivity are already being observed, and expected to increase in the future (MEWT, 2012). Most staple cereals such as maize and sorghum yields tend to fluctuate in response to rainfall variability. (Ziervogel, 2016) found that droughts in Botswana reduce yields of maize and sorghum by as much as 10 - 35%. Drought therefore has significant implications for food security in Botswana. Livestock production is also likely to be negatively impacted by drought. The rural economy of the country is largely based on animal production, particularly cattle farming. Increased livestock mortality due to a combination of heat stress, reduced availability of drinking water, increased distances to water livestock, as well as greater spread of diseases all contribute in this regard. Drought also affects rangeland resources. The composition of preferred plant species changes to undesirable plants, and degraded soils reduces pasture productivity. This reduces the availability of fodder for livestock (MEWT, 2012). In addition to arable farmers and livestock keepers, phane harvesters are also highly vulnerable to drought because a lack of water reduces the supply of mopane worms (DEA, 2016).

### **iii. Impact of drought on biodiversity**

The Botswana National Biodiversity Strategy and Action Plan (DEA, 2016) identifies climate change and changes to the hydrology and water quality of inflowing rivers as one of the major causes of biodiversity loss in Botswana. With an increasing drying trend and greater number of severe dry spells, shifts in species suitability for specific areas have been observed. A decline in rainfall significantly reduces rangeland productivity leading to less biomass. Thorn and shrub savannas are predicted to expand in the future, at the expense of grasslands and moister forests and woodlands (MEWT, 2012). Endemic species, including plants and wildlife, are also at risk of extinction due to recurrent drought. Aquatic and marginal plants struggle to survive when river flows are low, and dried floodplains and low flows lead to a reduction in fish spawning areas and can reduce fish migration. Lower flows in rivers as a result of drought lead to lower levels of dissolved oxygen and lower dilution of human and industrial effluent discharges. This may lead to a high concentration of pollutants in river systems, which will negatively impact natural ecosystems and the services that they provide. Low flows can also lead to algal bloom, which is dangerous for the survival of fish species due to a lack of oxygen.

### **iv. Impact of drought on human health and wellbeing**

Drought has significant implications for food, water and financial security, particularly for the rural poor who depend directly on natural resources to support their livelihoods. The lack of food and income associated with drought can have far reaching social consequences and may erode relationships with family, neighbours and friends. Hunger and poverty may drive people to adopt risky behaviours such as drug and alcohol abuse, truancy, criminal activities, theft and corruption (ASSAR, 2016; Ziervogel, 2016). Drought also increases the spread of diseases such as malaria, whilst diminished water quality and access increases sanitation problems. Associated with drought is an increase in the rate of morbidity and mortality in children under 5 years of age (Juana et al., 2014).

### **v. Impact of drought on tourism**

Botswana's tourism sector primarily depends on the country's renewable natural resource base. The viability of this sector is therefore closely linked to the availability of water. Associated with drought is a decline in nature-based tourism due to ecosystem degradation and shifts in wildlife localization (Juana et al., 2014). Water-based tourism activities such as boating in the Okavango Delta are also negatively affected when water levels are low. This is particularly worrying for locals who depend on the income from transporting tourists around the Okavango swamps in *mekoro* (canoes) (Reinstein, 2016). Drought also has indirect impacts on tourism. For example, the agricultural sector provides the primary inputs for food and beverages, which supply hotels and restaurants. A decline in agricultural productivity due to drought may therefore affect the tourism industry (Wilhite & Pulwarty, 2005).

### **vi. Impact of drought on industry**

The production, sales and business operations in a variety of economic sectors are negatively affected by water deficiency (Dung et al, 2010). Juana et al. (2014) identify the impact of drought on various industries. The direct impacts are evidenced predominantly by the reduction in agricultural outputs of crops and livestock. Because the

traditional sector relies more heavily on rainfed agriculture, it is more adversely affected than its commercial or freehold counterpart. However, a decline in agricultural productivity in the commercial sector has knock-on effects for related agro-processing industries including for meat, dairy and fish processing, hunting, bakery products and beverage processing. Also affected are textiles, chemicals, leather, wood and paper, village industries, electricity, hotels and restaurants and miscellaneous services, amongst others. Informal and formal traders are moderately affected by drought, not only because some items are scarcer in a drought but because households have less income to spend (ASSAR, 2016). The impact of drought on the mining, metal products and construction sectors are less significant, as these industries require less water to operate than the more heavily impacted sectors. They also have poor inter-sectoral linkages with the agriculture sector.

## 4. Policy and legislative context for drought management in Botswana

*In this section, we provide a rationale for locating the DMS within the relevant policy context, with a brief analysis of key overarching policies relevant for the DMS, written to provide specific text that can be fine-tuned and directly included in the DMS.*

### 4.1 Rationale and discussion

It is important that the Botswana DMS is clearly located within the overarching national policy framework, to display and ensure policy coherence. Similarly, it should also make the required linkages with key sectoral policies. And, in the interests of international best practice and benchmarking, as well as coherence with selected international frameworks that Botswana has signed up to, it is advisable to highlight key international policy linkages as well.

The above was discussed and agreed with the Technical Team at the meeting in Gaborone on 17<sup>th</sup> October 2017. Consequently, the ASSAR team has conducted a review of relevant overarching policy frameworks at the international and national levels, as well as the country's evolving national policy response to climate change, and developed text for inclusion into the DMS that makes the required linkages with these policy frameworks. Key sectoral policies have been identified with which the DMS should show articulation – however, a detailed review of these was beyond the scope of this assignment. It is recommended that the Technical Team discuss and provide a summary of the required linkages with sectoral policies in the next version of the DMS.

The following are the sectoral policies with which the DMS should show articulation:

- ◆ Rural Development Policy
- ◆ Community Development Strategy
- ◆ Wildlife Management Strategy
- ◆ Land policies
- ◆ Disaster risk management strategy
- ◆ Agricultural policies
- ◆ Water policies
- ◆ Social protection policies

Regarding the Sustainable Development Goals (SDGs), attainment of a number of them is very closely linked to proactive and integrated drought management in a dry and drought-prone country like Botswana. Moreover, paragraph 33 of the 2030 Agenda for Sustainable Development focuses on the linkage between sustainable management of natural resources and social and economic development as well as on the need to “strengthen cooperation on desertification, dust storms, land degradation and drought and promote resilience and disaster risk reduction”. While some related text is provided for potential inclusion into the DMS, it will be important for the Technical Team to engage in the ongoing process of domestication of the SDGs in Botswana, as they develop the final draft of the DMS.

It will be important to ensure that the Disaster Risk Reduction Strategy, which is due to be revised soon (the current strategy extends from 2013 to 2018) is harmonised with the DMS, as currently the DRR Strategy does not fully mirror the need for a proactive and integrated approach to drought, although it does highlight the need to reduce underlying risk factors.

## **4.2 Suggested text for the DMS**

In the light of the above, the following text is proposed for discussion by the Technical Team and potential inclusion in the Botswana DMS:

The Botswana DMS has been developed to show alignment with relevant international and regional policy frameworks. Thus the DMS is aligned with the Sendai Framework for Disaster Risk Reduction 2015-2030, the 2016 [Strategic Framework for Drought Risk Management and Enhancing Resilience to Drought in Africa](#), as well as the contextualisation of Agenda 2030 for Sustainable Development and the associated Sustainable Development Goals (SDGs) in Botswana.

The orientation of the DMS aligns with the 2016 African Strategic Framework’s recognition that new measures to anticipate and cope with drought by focusing on long-term drought-resilience in addition to short-term response are needed, in the light of the evolving climate conditions. Similarly, the DMS concurs with the African Strategic Framework’s call for African nations to establish a drought risk management and resilience strategy framework that is more focused on the human dimensions of drought and on proactive drought risk reduction measures, including addressing the socioeconomic and gender asymmetries of drought impacts.

The African Framework is part of a proposed regional strategic framework called “Drought Resilient and Prepared Africa (DRAPA)”, which itself is in line with the global disaster reduction frameworks such as the Sendai Framework and the High-level Meeting on National Drought Policy (HMNDP). The DRAPA is designed to build effective drought risk management and enhanced resilience at continental, regional, national, or local/community levels for Africa. The DMS is aligned with the six main elements of the DRAPA strategic framework, namely: (i) drought policy and governance for drought risk management, (ii) drought monitoring and early warning; (iii) drought vulnerability and impact assessment, (iv) drought mitigation, preparedness, and response, (v) knowledge management and drought awareness, and (vi) reducing underlying factors of drought risk, as well as cross-cutting issues such as capacity development and reducing gender and income inequality.

The implementation of the DMS will take into account the ongoing process for domestication of the SDGs in Botswana. Attainment of a number of the SDGs is very closely linked to proactive and integrated drought management in a dry and drought-prone country like Botswana – specifically SDG 1 on No poverty, SDG 2 on Zero hunger, SDG 3 on Good health and wellbeing, SDG 6 on Clean water and sanitation, SDG 10 on Reduced inequality, SDG 13 on Climate action and SDG 15 on Life on land. Moreover, paragraph 33 of the 2030 Agenda for Sustainable Development focuses on the linkage between sustainable management of natural resources and social and economic development, as well as on the need to “strengthen cooperation on desertification, dust storms, land degradation and drought and promote resilience and disaster risk reduction”. Both Vision 2036 and NDP-11 were formulated whilst the SDGs were being finalized, and thus both frameworks internalise the SDGs (Republic of Botswana, 2017).

The DMS contributes to the development of a coherent national policy framework, and should not be seen as an *ad hoc* strategy. It is aligned with the overarching Botswana policy frameworks under which it falls, including Vision 2036, the National Poverty Reduction Strategy, and Botswana’s Eleventh National Development Plan (NDP-11).

The DMS has been developed so that its implementation will contribute to the realisation of the Vision 2036, which aims to transform Botswana from a middle-income country to a high-income country by 2036, through the key imperatives of transformation, implementation, sustainability, flexibility and resilience, innovation and research, and national values. Effective and proactive drought management is critical to the achievement of the biodiversity, food security and water security goals of Vision 2036, as well as the economic diversification drive. By aligning with Vision 2036, the DMS is also aligned with the global agenda for sustainable development and the principles of Africa’s agenda 2063.

The DMS will be an important element of the country’s national development planning. NDP-11 notes that building resilient rural communities to mitigate droughts, and developing long-term drought mitigation strategies and contingency plans are required for implementation of the Rural Development Strategy, and makes a link between drought and climate change.

The DMS is aligned with the National Disaster Risk Reduction Strategy 2013-2018, which recognises that drought is a frequent phenomenon countrywide, and highlights the need to reduce underlying risk factors for drought and other extreme events.

Given the links between drought and climate change set out in section 2.3 above, the DMS has been developed to provide a coherent element within the country’s evolving policy response to climate change. Of relevance are the Draft National Climate Change Policy, the Third National Communication to the United Nations Framework Convention on Climate Change (UNFCCC), the National Adaptation Planning (NAP) process, and the Nationally Determined Contribution (NDC). Thus, in accordance with the Climate Change Policy, the DMS recognises the links between drought and climate change, and related health impacts. The guiding principles of the DMS and the Climate Change Policy are aligned. Drought management interventions in the agricultural sector will contribute to the realisation of climate-smart agriculture, which is to be an important component of the National Adaptation Plan.

As stated in the NDC and further elaborated upon in the draft National Climate Change Response Policy, Botswana is developing an Institutional Framework which will be supported by a Strategy and Action Plan to operationalize the Climate Change Policy. The intention is to develop a long term low carbon strategy, a national adaptation plan,

nationally appropriate mitigation actions, identification of technologies, plan for knowledge management, capacity development, education and public awareness and a financial mechanism. This package will be dovetailed with the DMS, for policy coherence and efficient implementation.

The implementation of the DMS will be regularly reviewed, as spelled out below, and steps taken to resolve any identified policy conflicts that work against the effective, equitable and sustainable implementation of the Strategy. Institutional arrangements of the DMS have been designed to promote collaborative multi-scalar implementation across sectors, with the aim of increasing alignment over time.

## 5. Recommended key elements of the strategy

*In this section, we provide a rationale for developing a clear set of fundamental elements, or backbone, to the strategy, and suggest relevant content for the DMS. This is written to provide specific text that could be fine-tuned and directly included in the DMS. Key elements such as the goal and strategic objectives would need to be further discussed and developed with the broader stakeholder group in Botswana.*

### 5.1 Rationale and discussion

The Zero Draft of the DMS does not include a clear set of fundamental elements - or what may be seen as the backbone of a strategy, such as a specified purpose and scope, goal, strategic objectives, and guiding principles. While there are a number of different ways in which the underpinning elements of a strategy may be formulated, there is generally a statement of the overall purpose of the strategy, which may be accompanied by a more precise and time-bound goal. Other common strategic elements are a set of strategic objectives, which provide a more detailed, although still high level, set of sub-goals. With respect to international benchmarking, both policies and strategies increasingly include a set of guiding principles, which are useful as they allow for a commonality of values to be threaded throughout the policy and legislative framework of a country. For example, South Africa included a set of guiding principles in the framework legislation National Environmental Management Act, which were then taken through into related biodiversity, waste management and other legislation and policy. More specifically to the DMS, the Manitoba Drought Management Strategy contains the following five principles to guide drought management:

- ◆ Partnership
- ◆ Science and knowledge
- ◆ Communication and coordination
- ◆ Stewardship/ownership
- ◆ Proactive approach

We suggest that a further principle to consider is the role of strong and effective leadership in drought management. This is important, as developing, implementing, monitoring and reviewing the DMS will require ongoing integration with other ministries / agencies, as well as their buy-in to the process.

The idea is that the guiding principles have informed the development of the strategy, and that they are also to be taken into account in the implementation of the strategy.

Botswana has adopted this approach too, with relevant examples being the principles contained within the draft National Climate Change Response Policy and the National Disaster Risk Reduction Strategy. Moreover, the five national principles set out in Vision 2036 and the NDP-11 priorities provide important guidance for the underlying orientation of the DMS.

The five national principles that have characterised post-independence Botswana, as set out in Vision 2036, are:

- ◆ Democracy
- ◆ Development
- ◆ Self-reliance
- ◆ Unity
- ◆ *Botho*

All of the above, together with other relevant international policies and strategies, have been consulted to develop the suggested wording for the key elements of Botswana’s DMS, as provided below.

In addition to the five national principles, the concept of sustainability and integrated development runs strongly throughout the more recent national policy framework. The notion of inclusiveness, which is in line with the Leaving No-one Behind principle of Agenda 2030, is also central to Botswana’s overarching policy framework, as evident in Vision 2036, from the national principles through to the statements under Pillar 2 which deals with ‘Human and Social Development’. A further key theme running through the policy and legislation consulted is decentralisation.

Regarding the structure and level of complexity of the key elements backbone for the DMS, this could range from very simple – e.g. merely stating a purpose and providing priority actions or programmes, to more complex with several different layers of elements. For example, the Botswana National Disaster Risk Reduction Strategy has a relatively complex set of fundamental elements, including six objectives, a vision, mission statement, 10 success factors, five priorities for change, six specific strategic goals, and 14 general principles.

Taking into account the fact that this is Botswana’s first DMS, and from the review of international best practice, it is recommended to keep the key elements for the DMS relatively simple to start with. This can be assessed at the first major review – ideally in five years time – and adjustments made should this be necessary.

Thus the following key elements are recommended:

- ◆ Purpose
- ◆ Goal
- ◆ Principles
- ◆ A clear strategic approach (with clear leadership to obtain buy-in and integrate the approach across ministries) - see section 6 below.

In developing the content of the fundamental elements for the Botswana DMS, it is useful to consider the existing content of the zero draft DMS, as well as the strategic objectives of the African DRAPA framework, which include: “encouraging the development of national drought policy for drought risk management and enhancing capacity

at all levels of government to mitigate the effects of drought; institutionalizing a systematic approach for drought monitoring and early warning systems to enhance drought resilience as well as establishing best practices for drought risk management to enable the sharing of experiences among countries; identifying drought vulnerability and improving risk assessment; improving public awareness of drought risk management and focusing national, regional, continental, and international attention on the issue of enhancing resilience to drought impacts; and strengthening partnerships and cooperation for enhanced drought resilience” (African Strategic Framework, 2016).

Regarding the purpose and/or goal of the DMS, it is useful to examine the approach taken by other strategies and policies in Botswana. For example, the draft National Climate Change Response Policy provides the following 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 reduction of Green-house-Gases (GHG) from the atmosphere”.<sup>5</sup>

## **5.2 Suggested text for the DMS**

In the light of the above, the following text is proposed for discussion and refinement by the Technical Team and other stakeholders, for potential inclusion in the Botswana DMS:

### **Purpose**

The purpose of the Botswana DMS is to provide a systematic and strategic framework to guide an inclusive, proactive and integrated response to drought across sectors and scales, that moves away from treating drought as an emergency, and integrates technical responses with social protection, health, climate risk management and behavioural change, and aligning it with wellbeing and with people’s aspirations.

### **Goal**

By 2025, Botswana has mainstreamed a proactive and integrated response to drought and worked with existing structures or developed new ones to achieve inclusive, efficient and effective institutional structures for drought management at all scales, which has resulted in increased resilience, adaptation and wellbeing of communities across the country, contributed to gender equality, enhanced drought research and knowledge management, integrated early warning systems and monitoring of drought management, and more resilient food production systems.

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<sup>5</sup> Botswana Draft Climate Change Response Policy, zero-zero draft, page 8 (of 27).

## Principles

Botswana's drought management response is guided by seven principles<sup>6</sup>, which are consistent with the existing national policy framework, aligned to the United Nations Framework Convention on Climate Change and the Strategic Framework for Drought Management and enhancing Resilience in Africa, and have been informed by relevant international best practice.

The guiding principles have informed the development of the strategy, and are to be taken into account in the implementation of the strategy, including in decision making concerning choice of drought management actions at different levels and across sectors.

- i. **Proactive and evidence-based:** Drought risk reduction and drought management responses should be guided by proactive planning that is based on credible scientific information, underpinned by enhanced research capabilities.
- ii. **Equity and social inclusion:** Inclusive participation in the development process, striving for gender equality and a balance and fairness for all stakeholders, and across men, women, boys and girls, taking into account the need to address disproportionate vulnerabilities, capabilities, responsibilities and disparities, in a way that promotes social cohesion, upholds justice, and fosters transparency and accountability.
- iii. **Precautionary and preventive:** Anticipating and minimizing the known risks of drought and offsetting predicted impacts through developmental and risk-averse approaches that reduce the underlying drivers of drought risk.
- iv. **Partnerships and cooperation:** Strengthening partnerships and collaboration for enhanced drought resilience and management across the sectors and groups to encourage the role of civil society, academia and business as partners in proactive drought management. To enable this, strong leadership and champions are needed.
- v. **Sustainable Development:** implementing drought management in a manner that promotes sustainable development, through drought risk reduction and resilience building that balances social, economic and environmental objectives to meet the needs of current and future generations.
- vi. **Informed participation:** enabling stakeholder participation in decision-making and enhanced action at all levels, through capacity building, genuine openness to integrating inputs and diverse knowledge sources from all stakeholders (including marginalised groups), and enhanced communication of drought management, as well as related climate change impacts and responses.
- vii. **Healthy ecosystems and sustainable utilisation of natural resources:** Managing drought in a way that promotes sustainable land use management, acknowledges a rights-based approach and availability of and equitable access to water resources.

Importantly, the goal and principles of the DMS, as well as the elements of the strategic approach set out in section 6 below, are designed to contribute to the realisation of the transformational agenda set out in Vision 2036.

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<sup>6</sup> Note that the wording of these principles reflects in many cases precise wording from relevant policy documents, such as Vision 2036, the National Climate Change Policy, etc.

## 6. Moving towards an Integrated and proactive approach to drought management

*This section draws on information provided in the existing Draft DMS, as well as on best practices for drought management described in the broader literature, to discuss the importance of shifting toward an integrated and proactive approach to drought management. The text provided in this section may be fine-tuned and directly included in the DMS. However, the points made here are suggestions only and would need to be workshopped with stakeholders in Botswana.*

*Key elements such as the goal and strategic objectives would need to be further discussed and developed with the broader stakeholder group in Botswana.*

Important considerations for implementing an integrated and proactive approach to drought management include:

1. Drought risk needs to be managed, in addition to drought itself.
2. The multiple dimensions of vulnerability (including gender-based, socio-economic, structural/governance) and the distinct ways climate impacts different social groups should be understood and incorporated into managing drought risk and drought itself.
3. The underlying drivers of drought risk need to be understood and reduced.
4. Effective adaptation to drought needs to be implemented. In some cases, transformation of attitudes, governance structures and ways of working may be necessary.
5. A proactive and integrated approach to drought management will be critical for the development of the “sustainable, technology-driven and commercially viable” agricultural sector envisaged in Vision 2036.
6. Participatory engagement with multiple stakeholders from different sectors and levels is necessary.
7. To reduce underlying vulnerabilities and enable adaptation, integrated management of drought across sectors and levels is required.

Historically, the Botswanan government has taken a reactive approach to dealing with drought crises. This is not unique but is a reflection of the approach often taken in the past by other drought-prone countries around the world (Wilhite et al., 2014). Reactive, ‘crisis-led’ drought management is usually poorly coordinated, poorly targeted to specific impacts or population groups, untimely and treats only the symptoms of drought impacts, rather than the underlying factors (such as poverty and inequality) which cause people to be vulnerable to these impacts (Manthe-Tsuaneng, 2014). Under this reactive paradigm, a typical strategy for assisting vulnerable communities to cope with the impacts of drought is for government to provide emergency drought relief. The types and forms of emergency relief include: increasing the employment quota for intensive labour works (*Ipelegeng*); purchase of additional water bowsers to help augment human water supply shortages (emergency water supply); free supplementary feeding of vulnerable groups in schools and direct feeding for all children under the age of five years who attend child welfare clinics and other vulnerable groups. Provision of drought relief subsidies on selected livestock feeds, vaccines and supplements, cattle purchase schemes and monitoring of food supplies with the view of importing more if the need be are some additional measures undertaken (Manthe-Tsuaneng, 2014).

Whilst drought relief helps communities to cope in the short-term, it can breed a problem of dependency whereby people become less self-reliant and more dependent on government and donor organizations to provide aid. This practice hinders the expression and further development of adaptive capacities by groups receiving aid systematically. Hence, if improperly managed, drought relief can ultimately increase people's vulnerability by undermining their autonomous ability to adapt (Maru et al., 2014; Wilhite et al., 2014). It is important to recognise that vulnerability is multidimensional and includes socio-economic and structural underpinnings. For instance, the underlying causes of vulnerability include inappropriate economic policies, gender inequality and a history of colonialization.

Assisting vulnerable communities to both prepare for and adapt more effectively to drought, which should include promoting an environment of trust, transparency and partnerships where community members feel a rightful architect of their development pathway, should therefore be a key component of a more proactive strategy for drought management. 'Effective adaptation,' however, is not a standardized concept but is specific to the context in which adaptation efforts are being implemented. Hence, the aspirations, identity and values of people in these communities should be understood as relevant elements for determining effectiveness, in addition to more traditional agricultural and livelihood indicators. This is because drought is not merely a physical phenomenon but has both conceptual and operational components, which are not universally applicable (Tadesse, 2016). For instance in Botswana, drought may be conceptualized predominantly in relation to the impact of deficient precipitation on agriculture (with the understanding that this affects social and economic systems). Operationally, this would translate into defining the onset, severity and end of the drought, measured perhaps in terms of crop yields and livestock losses (with an understanding of the consequential impact of this on food and financial security, livelihoods, etc.). Hence, the effectiveness of adaptation in this context may be, at its most narrow, determined in relation to the degree to which stakeholders are successful in reducing agriculture losses in the face of drought. Having said this, effective adaptation, in general, is likely to encompass a range of key factors. These include the following:

- ◆ Resilient, sustained livelihoods
- ◆ Access to finance and markets
- ◆ Access to resources, including data and information
- ◆ Human capacity
- ◆ Mainstreamed policies
- ◆ Food security, poverty alleviation and wellbeing
- ◆ Equity (diversity), participation and inclusion
- ◆ Ability to draw on multiple knowledges
- ◆ Integrated spatial scales and aligned temporal scales
- ◆ Integration across sectors
- ◆ Agency
- ◆ Institutional support
- ◆ Monitoring and Learning from experience, with the ability to be flexible
- ◆ A sense of trust in institutions and optimism in the future

The Government of Botswana recognizes the need to develop a strategy that will enable more effective adaptation to drought across scales. This is important, given the uncertainty associated with climate change, as well as the observed and expected increase in the frequency and intensity of droughts. In this context, a ‘crisis-driven’ approach is no longer appropriate. In line with a broader paradigm shift in drought management, the approach advocated herein is one that is both proactive and integrated. This approach is termed ‘drought risk management’ and is a process of identifying and understanding the relevant components of drought risk, and analyzing alternative strategies to manage drought. Whilst emergency responses (crisis management) do indeed play a role in drought risk management, these should be coupled with mitigation measures that include pre-impact programmes and address the underlying causes of risk and vulnerability to drought. Key to this is sustainable stewardship of natural resources and effective social and economic development practices, land-use planning and other technical measures. As noted in sections 4 and 5 above, these measures should align with, and be reflected in, other policies and strategies such as NDP11, Vision36, the National Poverty Eradication Policy and Strategies, National Environmental Policy, National Climate Change Policy and other sector development plans. Tadesse (2016) provide some guidance on how to reduce the underlying drivers of drought risk - which we suggest should be an integral part of Botswana’s approach, and be included in one of the guiding principles of the DMS (see section 5 above). The guidance includes:

1. Establishing mechanisms to systematically bring together practitioners in drought risk management (e.g., national platform members) and key institutions involved in environmental management (e.g., adaptation to climate change, desertification, and biodiversity);
2. Areas of overlap and synergy should be identified between existing environmental programs and drought risk management activities;
3. A mechanism for carrying out joint assessments should be institutionalized to integrate drought risk management and environmental protection parameters (e.g., integrated risk and environmental impact assessments);
4. Specific attention should be given to socio-economic high-risk factors such as age, disabilities, social disparities, and gender. By focusing on protection of the most vulnerable groups, the impacts of droughts can be reduced;
5. Post-drought recovery planning can incorporate drought risk management strategies for the future; and
6. Safety nets such as insurance mechanisms for properties as well as microcredit and financing for ensuring minimum livelihood means can accelerate post-drought recovery processes.

However, a top-down approach should be avoided. Rather, solutions should be achieved in a participatory manner to engender a sense of partnership and ownership from all sides.

A proactive and integrated approach to drought risk management will be critical for the development of the “sustainable, technology-driven and commercially viable” agricultural sector envisaged in Botswana’s Vision 2036. However, whilst this approach has a number of benefits, several challenges are likely to be encountered in the planning, implementation, management and monitoring of drought risk. It is also fundamentally important to consider the most vulnerable groups that may not have access to technology or be economically active. Table 1 summarizes some of the benefits and challenges in this regard, as identified in the literature (Kruse & Seidl, 2013;

Martin-Carrasco et al., 2013; Pulwarty & Sivakumar, 2014; Tadesse, 2016; Wilhite & Pulwarty, 2005; Wilhite et al., 2014).

**Table 1:** Benefits and challenges of a proactive and integrated approach to drought risk management

Benefits	Challenges
Promotes wise stewardship of natural resources for sustainable development, thereby leading to more resilient agricultural and water systems in the long-term	Difficulty of defining drought in terms of its physical, conceptual and operational components, which are not universally applicable
Reduces the need for governmental assistance. This allows resources to be invested more wisely and helps communities to help themselves – i.e.: to adapt more effectively and become resilient to drought	Difficult for all the affected parties and decision makers to consider all the factors that influence drought preparedness
Mitigation and pre-impact preparation for drought results in improved disaster response and recovery and fewer economic losses	Difficult for people to envision and plan for more severe droughts than those experienced in the decision maker's memory or the historic record
Reduces conflicts between different water users as solutions are broadly accepted by stakeholders	Difficult to stay focused on droughts amidst other challenges, as they occur sporadically and management efforts therefore face inevitable time and budgetary constraints

## Part B: THE THREE PILLARS OF DROUGHT MANAGEMENT

As noted in the [Strategic Framework for Drought Risk Management and Enhancing Resilience to Drought in Africa](#), the “three pillars” of a drought preparedness plan include: (1) Drought Monitoring and Early Warning Systems, (2) Vulnerability and Risk Assessment, and (3) Drought Preparedness, Mitigation, and Response.

### 7. Drought monitoring and early warning systems

Capacity in monitoring and early warning is fundamental to effectively managing drought risk (Tadesse 2016). It requires an integrated system of decision makers, practitioners, scientists, local authorities and communities working together across different scales of governance. The purpose of monitoring an early warning is to initiate early action to prevent a crisis situation. Ideally, therefore, affordable systems are required wherein relevant and understandable data flows between stakeholders at different levels, and between different sectors, in a timely manner. Imperative to this is government support and planning to develop sustainable human, infrastructure, technology and institutional capacity to monitor, collate and store data, analyse, map and predict drought vulnerability and impact (Tadesse 2016). In addition to this, information needs to be disseminated to affected stakeholders in an understandable and useful format. The data that is collected and disseminated should include socio-economic and environmental variables. Some of the best systems incorporate a consultative, multidisciplinary approach in generating indicators/triggers and planning for actions. In Kenya, effective early warning systems link local NGOs and community based organisations with other agencies and government departments, facilitating cross-agency dialogue.

Numerous drought monitoring and early warning systems already exist and can be drawn from (UNISDR 2006, WMO 2006). For Example, in Ethiopia the Situational and Response Analysis Framework is used which incorporates the Household Economic Approach which is quite expensive and complex. Many countries choose to link with existing mechanisms such as FEWSNET and IPC that have years of experience, help build systems and can facilitate processes such as inter-departmental or regional cooperation on preparedness, mitigation and response. To monitor, drought indicators are often used as triggers for decision making and provide a means of identify and classify drought conditions. Many countries use integrated indices that incorporate meteorological, water, crop and impact sector parameters. Effective drought monitoring requires sufficient data and some countries use satellite derived data in the absence of on the ground information.

Drought early warning systems are most effective when a bottom-up approach is employed. This includes data collection from local sites which can be aggregated to grids and then to basins or districts. In Uganda, a highly consultative approach is followed involving communities, local authorities and different ministries to identify indicators for integration into output budgeting and local government assessment tools. This process builds consensus, knowledge and skills and integrates different processes linking climate change and development indicators (Kajumba 2016) Traditional knowledge can be incorporated and drought forecasts and warnings should be tailored to the local context. Ideally drought monitoring and early warning should be made specific to different sectors.

## 7.1 People-centred early warning system key elements

(from UNISDR 2006)

1. **Risk Knowledge:** This includes information on hazards and vulnerabilities at a location and requires a systematic collection and analysis of data and consideration of the dynamic nature of risks and hazards. This requires:
  - a. Establishment of organizational arrangements
  - b. Identification of natural hazards
  - c. Analysis of community and sector vulnerability
  - d. Assessment of risks
  - e. Storage and accessibility of information
2. **Monitoring and Warning Service:** This requires robust scientific prediction and forecasting of hazards that operates continuously and in coordination between different institutions to generate accurate and timely warnings. This requires:
  - a. Establishment of institutional mechanisms
  - b. Development of monitoring systems
  - c. Establishment of forecasting and warning systems
3. **Dissemination and Communication:** This is vital for warnings to reach people at risk through multiple channels. It necessitates clear, simple, useful messages that enable responses that protect lives and livelihoods. Community, regional and national communications need to be identified in advance and authoritative voices and lines of communication identified. This requires:
  - a. Institutionalisation of organizational and decision-making processes
  - b. Installation of effective communication systems and equipment
  - c. Recognition and understanding of warning messages
4. **Response capacity:** Education and preparedness programmes are needed so that communities understand their risks, respect the warning information and know how to respond. This requires:
  - a. Respect for warnings
  - b. Establishment of disaster preparedness and response plans
  - c. Assessment and strengthening of community response capacity
  - d. Enhanced public awareness and education

To achieve the above the following is necessary: effective governance and institutional arrangements, a multi-hazard approach, involvement of local communities and consideration of gender perspectives and cultural diversity. In addition to ensuring information flow between different levels of government, the roles and responsibilities of all agencies and ministries needs to be clearly defined (Wilhite et al., 2014).

Important components of these systems are seasonal forecasts which provide an indication of when below normal rainfall is expected. In addition to providing this information to farmers in a format that they understand, and to build capacity in working with probabilities associated with seasonal forecasts, the information provided should include recommendations on how to respond i.e. adaptation responses that can be adopted. It is also important for scientists working on seasonal forecasts to understand and build into their systems the knowledge available at community level.

To implement effective drought monitoring and early warning it is recommended to: i) identify and evaluate existing, comprehensive, integrated drought monitoring systems, ii) assess the adequacy of existing monitoring networks, iii) examine current arrangements and procedures for coordinating the collection and analysis of meteorological, hydrological and ecological data between agencies and ministries at different levels, iv) evaluate existing procedures for data sharing, v) assess the availability of early warning and decision-support tool, vi) assess the current capacities of regional outlooks and forecasts, vii) evaluate the four phases in drought risk management (vulnerability and risk assessment. Monitoring and early warning systems, preparedness and mitigation, and emergency response and recovery), viii) examine the need for the development of useful end products, information and decision support and ix) assess the capacity of delivery systems to disseminate data, information, products and services (UNCCD 2012).

## **8. Vulnerability and risk assessment (VRA)**

*This section aims to (i) provide guidance on principles for conducting such assessments, (ii) explore how the process of conducting the assessment itself can be a highly valuable learning activity for the government and for all stakeholders, (iii) highlight the fact that Oxfam, UCT and UB are at present working with the Office of the President on upscaling assessments nationally, therefore it may be appropriate to link the DMS with this process, and finally (iv) consider what 'high level' outcomes may be expected as a result of running vulnerability & risk assessments.*

The importance of conducting vulnerability and risk assessments is known to the Government of Botswana, evidenced by its inclusion as one of three pillars in its Strategic Framework for Drought Risk Management. Understanding who is vulnerable to what stressors, hazards and issues is a very important starting point in deciding how to adapt to climate and other hazards and reduce vulnerability. Too often, interventions are put in place that do not target the groups or individuals that are most vulnerable and do not understand the local realities of living with and responding to multiple hazards and issues. Vulnerability assessments are tools used to understand the possibility for harm to occur in human and ecological systems as a consequence to the effects of climate change (Adger et al. 2007). In the past, vulnerability assessments have been mostly focused on biophysical impacts on ecosystems and communities and have been driven by expert opinions (Preston et al. 2011). However, more recently, the importance of considering socio-economic drivers of vulnerability including structural vulnerability as well as engaging with stakeholders in vulnerability assessments has been recognised as important (Tschakert et al. 2013). A more holistic vulnerability assessment should therefore include consultation with a variety of stakeholders from different sectors and levels, and should consider issues such as power, inequality, local knowledge, culture and gender.

One example of such an approach is the Vulnerability and Risk Assessment (VRA) methodology (Morchain, 2016) that has been developed by Oxfam to support communities, practitioners, decision makers and researchers to gain a better understanding of the context of landscapes and the communities and stakeholders that inhabit and depend on them or use them. It aims to actively and systematically include women in the joint development of an understanding of risks and ways forward - highlighting women's capacities and the unfair structures that enhance their inequality. There is no preferable moment to conduct a VRA; the information it provides can be used to help design a development programme or project; it can serve to highlight issues facing women groups or marginalised ethnic groups; it can be implemented iteratively at different moments in time to assess the evolution of vulnerability for different social groups; it can help raise awareness to government or donors about specific needs in a landscape; among others uses.

The approach encourages common understanding by engaging a wide range of stakeholders about the main hazards and issues affecting people in a socio-ecological landscape; and subsequently to jointly design measures to reduce risk, enhance wellbeing and promote resilient development in that landscape. The methodology follows a participatory process of identification and prioritization of existing and future vulnerabilities, risks, capacities and ambitions. The VRA brings together actors across scales – community, local, municipal, district, sometimes national – to understand the links between these governance levels. It provides a space for stakeholders to proactively propose ways to move forward and ensure development initiatives are driven by inclusive, locally-relevant decision-making that benefits the poor and marginalised. In doing so, the VRA aims to trigger a sense of empowerment and collaboration among stakeholders. While this is a complex process, there is a flexibility that the VRA methodology is instinctively welcoming of; and one that it addresses with a grassroots and exploratory attitude. In this context, the term 'vulnerability' in VRA is seen to be strongly influenced by structural factors, governance systems and inequalities. Vulnerability is seen in this context as something that even marginalised and poor individuals can act to reduce. Thus, VRA includes an understanding of the hazards, but also the capacities of people and environment to respond, adapt and overcome these hazards.

VRAs can be quantitative or qualitative; large scale or very localised; participatory or top-down; narrowly focused on a sector or holistic; or a mix of several of these qualities. For the development and implementation of the DMS we suggest that VRAs are conducted in a highly participatory and inclusive way, that efforts are made to bring out the voices of marginalised groups, that they link local level actors to higher levels of governance, and that they seek to understand the links between drought risk and drought management to other non-climatic risks and everyday, developmental challenges.

If VRAs explore gender relations – and they should – the result will be a rich understanding of existing circumstances that may be exacerbating drought impacts and may be blocking the effectiveness of drought responses. Addressing gender inequalities can be a way to attain positive results while working toward increased social justice. The same principle should be applied to the engagement of other marginalised groups and their active and fair participation in the VRA process.

The following two tables offer guidance on principles for conducting VRAs; Table 1 (Morchain, 2016) offers general recommendations, and Table 2 (Morchain et al., 2015) focuses on ways to make VRAs gender sensitive.

**Table 2:** General recommendations for conducting VRAs

1	<b>No pre-determined agenda</b> or pre-conceived thematic focus overrules assessment findings (validation, on the other hand, is a legitimate aim of a VA). VAs should be the core driver of decision-making.
2	VAs must be truly <b>inclusive participatory multi-stakeholder processes</b> .
3	Local level information and assessment form the pillars of VAs, but they are insufficient to draw a full picture of vulnerability and, therefore, to address its root causes. An analysis that incorporates <b>input of stakeholders at the local level and above</b> is very important - such as how the <a href="#">VRA</a> has evolved to do, and complements the local level PCVA analyses.
4	VAs have to move from a 'narrow', quantitative analysis of impacts that affect a community, towards a (participatory) <b>multi-hazards understanding of risk</b> that assesses the context and inequalities of the <b>system</b> (governance issues as well as natural hazards, environmental integrity, socio economic characteristics), and uses this ample understanding to determine a <b>qualitative</b> level of vulnerability for different social groups and livelihood activities.
5	Vulnerability is not just inherent to a person, household or community, but is largely <b>determined by structural factors</b> , e.g. inequalities and governance shortcomings. This has to be acknowledged and reflected in the VA process and discussions, and is helped by conducting a <b>power analysis</b> prior to the VA.
6	A VA should be <b>propositional</b> in identifying and suggesting <b>pathways to transformational change</b>
7	The findings of a VA and the proposed measures/pathways resulting from it should <b>feed into existing development plans</b> and be owned by community members and decision makers (local, municipal, district authorities, private sector partners, etc).
8	VAs should, as much as possible, look into the <b>future</b> (scenarios) to try to reduce uncertainty of future planning and enhance the effectiveness of those measures/actions, as well as remain flexible in the pathways chosen.

**Table 3:** Recommendations for making VRAs gender sensitive

1	Consult women’s organizations, women’s groups or leaders within mixed organizations prior to conducting VAs
2	Create a constructive & non-threatening environment for women to express their views
3	Improve women's access to information and knowledge prior to meetings/assessments
4	Keep men informed and encourage their involvement in the process
5	Build the capacity of women to take on specific roles and responsibilities in the VA process
6	Move beyond gender disaggregated data
7	Identify coping mechanisms that are harmful, or that further entrench gender inequalities, and prevent unintentionally celebrating and reinforcing sexual stereotypes that exacerbate women’s disproportionate responsibility for coping with the effects of stresses and shocks
8	Choose a VA methodology with a landscape-wide contextual understanding of vulnerability and the root causes behind it



Finally, it is important to acknowledge that system transformations are likely to be necessary in addressing impacts like droughts. By opening up channels of communication VRAs offer the opportunity to look at the problem under a new light and awaken people's creativity to think differently and feel more engaged: feel a part of the solution.

Of particular interest for drought management are the ideas of transformation in relation to reorganising power structures and reorienting social norms and values, as characterised by (Oxfam, 2016). These transformations may not always necessarily address climate risks or climate-related governance structures, however, because the impacts resulting from drought are a combination of climate and non-climate elements (e.g. governance). Therefore, it is critical to also address non-climate risks in responding to drought and other hazards.

For example, a VRA conducted in Malawi in 2016 to assess the sustainability of the tea industry identified sexual harassment of tea pluckers (unskilled labourers) by industry foremen as a key determinant of vulnerability and an element that could threaten the sustainability of the industry (e.g. by reducing the willingness of labourers to work there). Even though this is clearly not climate related, it was understood as a priority that needed to be addressed in order to overcome the overall problem holding back the tea industry – as well as to address the human rights issues uncovered through the assessment (Oxfam, 2016).

In this same fashion, framing VRAs so that they provide a holistic understanding of the problem and the ways forward is a worthwhile undertaking which could be beneficial for the development and implementation of the DMS, and which can highlight not only the more and less obvious risks and vulnerabilities associated to it, but also the existing capacities within stakeholders to contribute to making the drought challenge less dismal – and more manageable.

## Part C: IMPLEMENTATION FRAMEWORK

### 9. Role of non-state actors

*In this section, we provide some recommendations on the way forward to develop this section of the DMS, but we do not provide any specific analysis or text.*

Government plays a critical role in drought risk management. However, in order to develop and implement more effective strategies that build resilience in the long-term, government will require assistance from non-state actors. NGOs and other development partners may contribute to drought risk management through investing in the sustainable intensification of livelihoods, assisting with stakeholder engagements and providing support for the implementation of drought management programmes. The private sector, on the other hand, may contribute through financial investments and the provision of jobs that enable vulnerable farming communities to diversify their livelihoods away from rain-fed agriculture (Cervigni and Morris, 2016), as well as by ‘greening’ its processes.

Civil society partnerships are also essential for establishing buy-in at the grassroots level, and for encouraging mindset and behavioral change within communities (*ibid.*). Civil society groups, community-based organizations, traditional and religious leaders, church groups and other local-level, non-state actors can play a key role in championing the agenda of drought risk management on the ground. Community participation, both in decision making and implementation, is important for developing a DMS that is relevant, salient, feasible and equitable at the local level. This may also help create a stronger sense of community ownership among stakeholders, thereby fostering commitment and responsibility when implementing the DMS. Community participation is therefore essential for moving from policy to practice (Tadesse, 2016). It is crucial to avoid community engagement to be a tokenistic exercise. Rather, efforts must be made to seek genuine engagement of diverse members or representatives of community groups, including those most at risk and marginalised – even if this proves more difficult than engaging with the more experienced, outspoken and well-spoken members of communities.

Further key to the success of drought risk management is the integration of science and policy. This partnership is particularly important during the planning and review stages, as strategies will need to be informed by recent data on drought, climate change, demographics, etc.; and align with emergent understandings of risk and vulnerability. In turn, policymakers can contribute to setting and prioritizing future research agendas, and synthesizing current understandings around drought management (Wilhite et al., 2014). Finally, the media has a significant responsibility when it comes to managing drought and drought risks (Tadesse, 2016). Communicating early warnings, disseminating information on government or non-government support programmes, advertising stakeholder engagements, promoting dialogue and providing tips for communities to adapt more effectively to drought are some of the ways that the media can contribute to reducing the impacts of drought. Radio is a particularly effective means of communicating information to rural communities in Africa, including in Botswana.

Given the importance of non-state actors in managing drought and drought risk, the team tasked with planning and implementing the DMS should consider innovative ways of bringing diverse groups of stakeholders together. Maintaining strong working relationships and networks between government bodies (from the local to national

level and across sectors); NGOs and other development partners; the private sector; civil society; the scientific community and the media; will be essential for ensuring a more proactive and integrated drought response.

## **10. Capacity development, knowledge management and drought awareness**

*In this section, we provide some recommendations on the way forward to develop this section of the DMS, but we do not provide any specific analysis or text.*

Botswana's Vision 2036 makes a call for the country to become a knowledge-based economy. It is important to provide for the development of broad capacity on different aspects of drought management in the DMS. Capacities need to be built at different levels, and across stakeholder groupings. For an integrated and proactive drought management strategy to be successfully implemented in Botswana, capacity needs to be developed at different levels of the system. This is important for enabling early warning systems to function, adaptive capacity to be built and adaptation to be implemented effectively. For early warning systems to function properly, information must be managed and transferred. To enable the proactive management of drought and drought risk, which includes the reduction of multiple dimensions of vulnerability, knowledge on how to reduce vulnerability needs to be generated and made available in a suitable format. This includes adaptation options such as livelihood diversification or climate smart agriculture practices, which could be employed when a dry season is expected. Moreover, a governance structure that is open, transparent and inclusive needs to be in place in order to ensure that the proposed adaptation options are representative and have considered social elements (e.g. of vulnerability and of wellbeing) thoroughly. For integrated and coordinated efforts to be realized, capacity development is required at different levels of government and across sectors. This includes awareness of how a more proactive response to drought risk can be realized. To inform such awareness there should also be support for research on drought management.

Tadesse (2016) stresses the importance of drought awareness, knowledge and education for managing drought risk and enhancing resilience. Data should not only be collected and compiled as part of monitoring, but jointly analysed with communities and disseminated and used in community drought risk management awareness campaigns. To enhance the utility of the information, there should be interaction between end users and producers of data.

## **11. Resourcing and innovative financing for drought management in Botswana**

*In this section, we provide some recommendations on issues to include when developing this section of the DMS, but we do not provide any specific analysis or text.*

One of the key challenges of implementing effective drought risk management programmes is mobilizing enough resources to do so in a timely and equitable manner. This is particularly challenging in the developing country context where an array of other development challenges, which also require budget, can overshadow the imperative of drought mitigation and preparedness in non-drought years. Implementing effective drought risk management programmes is also made difficult by the potentially high up-front costs, even though investments

in water security are likely to pay for themselves many times over in the long term (WACDEP, 2016). In this context, and in line with a more a proactive and integrated approach to drought management, it will be important for the Government of Botswana to identify and leverage innovative sources of financing.

Drawing on WACDEP (2016), Tadesse (2016) explains that several options should be considered for funding to be available. These include the following sources: private, community, national, continental, and international financial resources that involve different stakeholders. In addition, public initiative and financing; subsidies and taxes to compensate for drought impact losses; and philanthropic investments may be considered. A combination of diverse sources of funding is likely to provide the most benefit. In applying to different funding mechanisms, it should also be noted that many drought and water-related projects may be eligible for climate adaptation and mitigation financing.

Establishing a portfolio of funds, predefining where and how funds will be allocated and disbursed, and setting up good accounting and financial systems to ensure quick disbursement and effective monitoring are critical for any drought management strategy to function in practice. Developing such a portfolio is crucial for avoiding any power dynamics that may cause the disbursement of funds to be delayed or blocked by internal processes, by political wrangling over where the funding should go, or by a lack of agreement on how funds should be spent. However, the funding portfolio should be flexible enough to allow funds to be rapidly re-allocated across ministries in the event of an emergency. Measures should also be included that allow any support programmes to be quickly scaled up in the face of an emergency, for instance through shock-responsive social protection mechanisms.

Section i) of Oxfam's 'Lessons and Learning' chapter (Annex X) provides some examples of innovative financing for drought management in other countries.

## 12. Institutional arrangements for implementing the strategy

*This section provides a summary of the current institutional arrangements for drought management in Botswana at the national, district and local levels. It provides brief comments on key operational gaps and challenges, and summarizes some recommendations. No specific analysis or text is provided.*

The [White Paper on Drought Risk Management and Enhancing Resilience in Africa](#) calls for clear processes and institutions in a DMS. Because the impacts of drought are pervasive across society, comprehensive management systems that incorporate all levels of government and community should be developed. Drought also affects all sectors; hence an integrated drought management strategy also means employing a cross-sectoral approach. Drought risk management is therefore a cross-cutting activity that values active participation by relevant stakeholders in all aspects related to planning and responding to drought, with the objective of managing both the risks and impacts thereof. This requires that drought responses focus on diversifying livelihoods, creating economic opportunities, creating markets and building adaptive capacity. To reduce the vulnerability and increase the adaptive capacity of communities, it is necessary for steps to be taken to change conventional mindsets, hierarchical governance systems and traditional ways of working (e.g.: in 'silos') (O'Donovan & Rimland, 2013). For example, through the SmartAgri<sup>7</sup> project the Department of Agriculture in the Western Cape of South Africa

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<sup>7</sup> <http://www.greenagri.org.za/>

has worked with multiple partners from different sectors and levels to develop plans to deal with and adapt to drought.

In this light, the DMS should seek to ensure that different sectors work well together when facing a drought – but much of the work needs to happen outside the DMS within policies and strategies sitting in other ministries. However, the DMS itself should spell out the institutional coordination mechanisms that will promote the alignment of responses. Institutional arrangements of the DMS will need to be designed to promote collaborative, multi-scalar implementation across sectors, with the aim of increasing alignment over time. This can be promoted through effective multi-stakeholder and multi-sectoral platforms. Importantly, non-state actors play a key role in implementing the DMS, as discussed in section 10.

The following sub-sections identify key institutions for implementing the DMS. This information is drawn partially from the existing draft of the DMS (draft zero), but is informed predominantly by ASSAR research on drought governance in Botswana. The technical team may wish to add further detail on the specifics of these institutional arrangements in the next version of the strategy.

#### **i. Rural Development Council**

The Rural Development Council (RDC) was established in 1972 through a presidential directive to serve as the highest national consultative body mandated to promote and coordinate rural development in the country. The RDC works through the Rural Development Policy (RDP) across various sectors and levels of Government and governance, as well as across the various stakeholders within the economy. Membership of the RDC is high level, consisting of Permanent Secretaries (PS) of relevant ministries, chaired by the Vice President.

With regards to drought management, the RDC works through its various technical sub-committees that are outlined below. The council gives instructions to the sub-committee to carry out the annual drought assessments. Once that is completed, the RDC receives the recommendations from the sub-committees and then provides their recommendations to cabinet and the President for a final decision and a declaration on drought.

#### **ii. Inter-Ministerial Drought Committee (IMDC)**

The IMDC is a national coordinating committee for drought. It comprises representatives of ministries / departments with a lead role in drought monitoring and relief operations. Its mandate is to monitor the food security situation through the Early Warning Technical Committee and advise the Rural Development Council (RDC) on issues of resource allocation during periods of drought. The Committee has close contact with Districts through the District Drought Committees (DDRC). The current mandate of the DDRC is:

- a. To provide early warning signals, on the general agricultural situation to the RDC for a timely response and decision;
- b. To recommend priorities for resource allocation during drought periods;
- c. To organize funding for drought support;
- d. To monitor the activities undertaken by the Food Nutrition, Social Welfare and Agricultural Committees at the Districts and to coordinate their overall operations;
- e. To promote the effectiveness of early warning systems; and

- f. To receive and assess reports of the early warning systems for informed decisions by the RDC.

### **iii. Multisectoral Committee for Food Security and Poverty Reduction**

The Multisectoral Committee for Food Security and Poverty Reduction (MSCFSPR) is a sub-committee of the RDC with a mandate of coordinating long term food and poverty policy issues at a national level. The committee facilitates and coordinates the formulation, implementation, monitoring and evaluation of food security and poverty reduction policies at a national level. Specific to drought management, the MSCFSPR has the responsibility of assessing the impact of drought on livelihoods and makes recommendations to the RDC on government responses (and interventions) that will reduce the impact of drought. While the committee membership is at director level, the initial technical assessment is carried out by the technical team members belonging to the same ministries.

### **iv. Early Warning Technical Committee**

The Early Warning Technical Committee (EWTC) under the current arrangement reports to MSCFSPR. Its mandate is to undertake assessment of the income and food security situation of the country. It also monitors the strategic food resources, food commodity pricing, food aid commitments and the availability of funds for food purchases under the government feeding programmes. Specific to drought management, the committee has a responsibility of assessing the agro-meteorological, rainfall and agricultural situations as it relates to drought, as well as the nutritional, supplementary feeding programmes and trends in human nutritional status. It achieves this by producing monthly reports and recommendations on policy issues for consideration by the MSCFSPR. The EWTC receives, assesses and makes recommendations using the reports of the early warning systems for the RDC.

Effective drought early warning systems are an integral part of addressing drought management and preparedness in any situation and must be the foundation of the Botswana Drought Management Strategy. Strengthening the early warning system in Botswana would require integrating multiple physical indicators, climatic indices and social vulnerability indicators. It would also require developing a collaborative framework for early warning system that would enable easy flow of information across different scale and levels, from national levels all the way to community and household levels and vice-versa.

### **v. Botswana Vulnerability Assessment Committee**

The Botswana Vulnerability Assessment Committee (BVAC), whose function is to undertake vulnerability assessments and analysis, is currently under the Office of the President (OP). In the past, the BVAC was under the RDC in the Ministry of Local Government. The restructuring that took place in 2012 moved the committee to the OP. Since the reform, the role of the BVAC has been somewhat unclear, and currently only provides information to the SADC Regional Vulnerability Assessment and Analysis Programme (RVAA). The membership of this committee is similar to the technical team of the MSCFSPR, but the difference is the tool that is used to collect and analyse the data. The BVAC conducts the assessment using a vulnerability lens, while the MSCFSPR uses an impact assessment lens. Botswana would need to think about how to merge these two approaches in drought assessment so that they are conducted by one committee and that there's no duplication of resources.

Initial discussions with the Botswana drought management team have indicated their preference to merge the current process of drought management (through the drought relief programme) with the work of the BVAC. The goal would be to ensure that the drought management programme provides a safety net to those most vulnerable and most affected by drought, while promoting self-reliance and building resilience.

#### **vi. District Disaster Management Committees**

The District (City/ Town) Disaster Management Committee (DDMC) were established by the 1966 National Policy on Disaster Management, and further reinforced by the 2005 National Disaster Risk Management Plan (NDRMP). The DDMC is found in each District Administration (DA) and it comprises of representatives from all relevant ministries. The committee, chaired by the District Commissioner (or his representative), is a subcommittee of District Development Committee (DDC).

The functions of the DDMC relate to the implementation of the Disaster Risk Management Plan at a local level, including ensuring that there is sufficient capacity to implement the plan. The DDMC plays a pivotal role at the local level when it comes to all disasters, including drought management. They serve as the first point for data collection at the local level. The committee prepares reports on drought conditions and its impact on livelihoods in the village. It is this report that is used by the MSCFSPR to inform the recommendations and decisions that will be made on drought responses. Also with drought management, the DDMC is responsible for assessing the implementation of drought relief measures at the local level. In addition, the committee provides technical support and guidance to the VDC as they prepare the community-based or village Disaster Risk Management Plan.

A major omission with the local level arrangement is the lack of an early warning system/process that reaches the local officers. A critical component of dealing with drought is the provision of timely and accurate information that will assist communities in making decisions that will minimize the impact of drought on their lives of the communities. Without an effective early warning system that is connected to the local level of governance, it becomes challenging to provide accurate and reliable information to the communities that are most at risk.

#### **vii. District Climate Change Committees**

Botswana's National Climate Change Policy makes provision for the establishment of District Climate Change Committees to support the implementation of sustainable climate change response measures at village and district levels. The committees will be responsible for integrating climate change into district development plans and assist in building climate resilient development planning at local levels. The committees will be accountable to district councils and indirectly linked and supported by National Climate Change Unit on resource mobilization, capacity building and education and awareness.

As discussed in the meeting at the secretariat of the Rural Development Council in Gaborone on 18th October 2017, it is critical to avoid duplication and proliferation of institutions and structures, especially at sub-national level. Hence, it is imperative for the institutions responsible for drought and drought risk management to link closely with the proposed District Climate Change Committees (as set out in the draft National CC Policy).

#### **viii. The Village Development Committee**

The Village Development Committee (VDCs) are village level organizational structure that coordinate development issues at the village/ household level. Regarding drought and disaster risk management, the VDCs have the responsibility of coordinating disaster risk management activities at the village level. Their primary role is to provide a link with the communities at the village level, to ensure that their voices are heard and incorporated into the disaster risk management plans. Their other role is to support the District Administration, District Disaster Management Committee and the National Disaster Management Office in their efforts to address disaster response and preparedness at a local level. The involvement of the VDC in disaster management is well articulated in the NDRMP, however, there is very little evidence of this happening on the ground.

#### **ix. Non-state actors**

As discussed in section 10, non-state actors play a key role in ensuring the effective implementation of the DMS. However to date, the involvement of non-state actors in drought management has been very limited under Botswana's current institutional arrangement. Community consultations took place in May and June 2017, but no national stakeholder consultative meeting has taken place. Currently, NGOs and researchers may get involved but this on an *ad hoc* and on a need basis. NGOs such as the Red Cross mostly get involved in disaster management, such as floods and epidemics, but no formal involvement with drought management. There is a role that NGOs and researchers could play in drought management, such as providing scientific information and research, building local capacity and reaching communities that government alone would not reach. There are opportunities to involve non-state actors which may include NGOs, researchers, media and parastatals such as the National Development Bank and Botswana Meat Commission. This needs to be explored further.

### **Summary of recommendations to improve the institutional arrangements for implementing the DMS:**

- ❖ Institutional arrangements of the DMS will need to be designed to promote collaborative, multi-scalar implementation across sectors, with the aim of increasing alignment over time.
- ❖ To strengthen early warning systems:
  - Integrate multiple physical indicators, climatic indices and social vulnerability indicators.
  - Develop a collaborative framework for early warning system that would enable easy flow of information across different scale and levels, from national levels all the way to community and household levels and vice-versa.
- ❖ Consider how the two different approaches to drought assessment used by the BVAC (a vulnerability lens) and the MSCFSPR (an impact assessment lens) can be merged, so that they are conducted by one committee and so that there is no duplication of resources.
- ❖ Avoid duplication and proliferation of institutions and structures, especially at sub-national level. In this vein, ensure that the institutions responsible for drought and drought risk management are linked closely with the proposed District Climate Change Committees (as set out in the draft National CC Policy).
- ❖ Consider how to enhance the role of the VDCs and build their capacity, so as to improve the implementation of disaster management (and the DMS) on the ground.
- ❖ Explore innovative opportunities for upscaling the role of non-state actors in drought and drought risk management.

## **13. Lessons learned from the design and implementation of DMSs in other African Countries**

*This section is a summary of Oxfam's 'lessons learnt' section. Please refer to Annex A for the complete section.*

The development of a Botswana Drought Management Strategy is a positive step towards addressing the issues related to drought. To date, there are very few national drought management strategies across Africa, and the DMS will provide a leading example of how to develop and implement a strategy. The following are the key lessons from experiences in drought management across Africa:

- a. Be clear about the process followed to develop the strategy – including consultations undertaken, research conducted, and stakeholders involved – and make efforts to be inclusive at all steps: this will ensure stakeholders feel committed to and represented in the strategy.

- b. Within the strategy, focus on setting up institutionalised but flexible systems and clear processes rather than providing detailed technical solutions.
- c. Link the DMS to climate change adaptation and sustainable development strategies both at national and sub-national levels, such as the District Development Plans.
- d. Work across sectors and ministries in a broader and more holistic way, involve non-government sectoral players at different levels, and identify responsibilities and coordination mechanisms that apply across the DMS.
- e. Discuss with different stakeholders (including communities, civil society organisations, NGOs, and the private sector) how they can and want to be involved in the DMS. Be clear about expectations and time commitments.
- f. Set up processes and facilitate mechanisms that specifically address gender inequality and give voice to marginalised groups, providing a space for women, women’s organisations, youth, persons with disabilities and others to be involved in the development and implementation of the DMS.
- g. Develop a contingency planning process that provides regular and intensive consultations with a broad range of stakeholders on drought situations, with clear triggers and decision making points.
- h. Identify and refer to existing mechanisms to operationalise the strategy. Avoid ‘re-inventing’ the wheel or going into detailed technical explanations in the strategy.
- i. Clearly define funding mechanisms for financing preparations, responses and recovery activities in a drought.
- j. Connect at an emotional level with people affected by drought.
- k. Develop various communication outputs of the DMS for different audiences.

The complexity and increased frequency and intensity of drought and climate change calls for flexible, adaptable and transformative approaches, and a strategy which provides a framework for collaboration, partnerships and fresh thinking about decision making, rather than specific technical solutions for drought management.

## **14. Monitoring the implementation of the strategy**

*In this section, we provide some recommendations on issues to include when developing this section of the DMS, but we do not provide any specific analysis or text.*

### **i. Why is M & E important?**

A comprehensive monitoring, evaluation and reporting (M, E and R) system is one of the key components of an effective drought management strategy. It provides a framework through which decision makers can learn from past successes and failures, and subsequently adapt elements of the strategy to improve implementation procedures. M, E and R also provides a basis for accountability, whereby responsible individuals or institutions can be held accountable for the achievement of agreed performance targets. If ongoing and effective monitoring does not occur alongside other important drought management measures such as impact assessment, risk

management and emergency response programs, then countries are at risk of falling back into a reactive, crisis management mode (Wilhite et al., 2014).

The importance of monitoring and evaluation is recognized in overarching national policies in Botswana, including both the NDP-11 and Vision 2036. The M, E and R system for drought management will need to be aligned with, and contribute to, the overall national M, E and R system as set out in these national policies. NDP-11 emphasizes the need to develop a policy framework and review guidelines for M&E, build capacity for M&E, ensure that policies and strategies are harmonized, and provide a means for information to be disseminated. Vision 2036 aims to transform Botswana from a middle-income country to a high-income country by 2036 through a number of key imperatives. These include flexibility and resilience which are, in part, built through an effective M & E system. Vision 2036 also highlights the need for capacity development for monitoring and evaluation in general, which will need to be expanded in the drought management arena as well.

## **ii. The role of adaptive management in drought response**

Traditionally, planning and management processes have been based on the assumption that the past is a good indicator of the future. According to this paradigm, strategic plans are developed around static sets of data and meaningful engagement with stakeholders is limited due to 'top-down' management approaches. Conversely, adaptive strategies recognize the role of complexity and uncertainty, emphasize the importance of prototyping to learn about what works and what doesn't, and promote decentralisation and teamwork to achieve success. In other words, adaptive strategies call on organisations to 'set a direction and test it' rather than 'make a plan and stick to it' (O'Donovan & Rimland, 2013).

The complexity and uncertainty of drought under a changing climate means that it is essential for drought management strategies to be adaptive. M & E is at the heart of adaptive management (AM). Holling (1978) defines AM as "*an integrated, multidisciplinary and systematic approach to improving management and accommodating change by learning from the outcomes of management policies and practices*" (cited in Medema et al., 2008). This approach accepts uncertainty and emphasizes learning-by-doing. It enables flexible decisions to be made based on a recognition of emergent information, events and patterns, alongside good practice.

In practice, AM generally takes the form of an action learning cycle ('plan, do, check, act'). Adopting this approach is important for ensuring that the DMS is a 'living' strategy that is iteratively improved and adjusted as the lessons from M&E are fed into it. The DMS will need to spell out at least some minimum points about how this will be assured. A suggestion in this regard would be for the DMS to be monitored and adjusted annually, with a major review after 5 years. As with the planning and development of the strategy, the review process should involve multiple key stakeholders. Inclusive M, E & R systems build broader ownership of the DMS, and consideration should therefore be given as to how - and to what degree - different stakeholders at various levels could be involved.

## **iii. Developing indicators for M & E**

An effective M, E and R system should be coupled with a set of indicators against which implemented actions can be measured. These indicators should be developed collaboratively and agreed upon by stakeholders so as to avoid conflict when monitoring and evaluating progress. Importantly, the indicators should align with the strategic

vision, objectives and operational goals of the DMS. Based on their review of monitoring and evaluation literature, (Nelson, Adger, & Brown, 2007) list a number of best practices for indicator development. According to these principles, indicators for M and E should be:

- ◆ Robust (able to stand up to critique and interrogation)
- ◆ Clear / explicit in intent and language
- ◆ Contextualised (well suited to the context in which they are being used)
- ◆ Meaningful (you have a reason for measuring it and the information is useful to you)
- ◆ Quick and simple to measure
- ◆ Useable (linked to accessible data)
- ◆ Valid (it measures what it claims)
- ◆ Coherent (linked to the original problem and objectives/outcomes, and embedded within an overarching Theory of Change)
- ◆ Used alongside other indicators for an indicator set or 'basket'
- ◆ Durable: have longevity (being able to compare results over time)
- ◆ Described in terms that are themselves defined
- ◆ SMART (Specific, Measurable, Attainable, Relevant and Time-bound)

## 15. Moving from the strategy to the Action Plan

*In this section, we provide some recommendations on issues to include when developing this section of the DMS, and provide some text that could be included in the next version of the DMS.*

While the revised DMS would set out the overall strategy for managing drought in a proactive and integrated fashion in Botswana, it is advisable to develop a concrete Action Plan, that sets time-bound goals for implementation of the DMS in an iterative fashion. This should ideally specify targets for each year of implementation over the next three years, and state that action planning will be an ongoing process. The Technical Team would drive the development of the Action Plan, in conjunction with other key stakeholders with primary drought management responsibility.

*Suggested text to be included is the following:*

The Botswana Drought Management Strategy sets out the strategic approach for managing drought in a proactive and integrated fashion in Botswana, guided by a goal and guiding principles. Annex X includes a concrete Action Plan, that sets time-bound goals for implementation of the DMS in an iterative fashion. This specifies targets for each year of implementation over the next three years. In conjunction with the approach to M, E and R described above, action planning will be an ongoing process, which will be responsive to lessons learned from early implementation. The Action Plan provides a costed operational framework, with clear responsibilities, to guide further implementation and investment.

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## **ANNEX A:**

# **Lessons learned from the design and implementation of DMSs in other African countries**

## Summary

This annex intends to provide inputs and lessons from experiences in drought management across Africa. It examines four leading questions to support the Botswanan authorities in their thinking as they prepare the country's Drought Management Strategy. The research reviews examples of drought risk management policies, practices and approaches across Africa at continental, regional as well as national and local levels. It has focused predominately on experiences since 2010, assuming that earlier lessons have fed into subsequent developments (a few notable exceptions are included). The research is based on published secondary materials, and on conversations with a handful of key informants from three Non-Governmental Organisations (NGOs) Oxfam, Save the Children and Concern Worldwide.

The development of a Botswana DMS is a positive step towards addressing the issues related to drought. To date, there are very few national drought management strategies across Africa, and the DMS will provide a leading example of how to develop and implement a strategy. Lessons and conclusions drawn from a cross section of programmes, policies, and processes applicable to the development of the DMS are summarised in the following set of recommendations, and elaborated in the next section backing up the message with examples and evidence.

- a. Be clear about the process followed to develop the strategy – including consultations undertaken, research conducted, and stakeholders involved – and make efforts to be inclusive at all steps: this will ensure stakeholders feel committed to and represented in the strategy.
- b. Within the strategy, focus on setting up institutionalised but flexible systems and clear processes rather than providing detailed technical solutions.
- c. Link the DMS to climate change adaptation and sustainable development strategies both at national and sub-national levels, such as the District Development Plans.
- d. Work across sectors and ministries in a broader and more holistic way, involve non-government sectoral players at different levels, and identify responsibilities and coordination mechanisms that apply across the DMS.
- e. Discuss with different stakeholders (including communities, civil society organisations, NGOs, and the private sector) how they can and want to be involved in the DMS. Be clear about expectations and time commitments.
- f. Set up processes and facilitate mechanisms that specifically address gender inequality and give voice to marginalised groups, providing a space for women, women's organisations, youth, persons with disabilities and others to be involved in the development and implementation of the DMS.
- g. Develop a contingency planning process that provides regular and intensive consultations with a broad range of stakeholders on drought situations, with clear triggers and decision making points.

- h. Identify and refer to existing mechanisms to operationalise the strategy. Avoid ‘re-inventing’ the wheel or going into detailed technical explanations in the strategy.
- i. Clearly define funding mechanisms for financing preparations, responses and recovery activities in a drought.
- j. Connect at an emotional level with people affected by drought.
- k. Develop various communication outputs of the DMS for different audiences.

The complexity and increased frequency and intensity of drought and climate change calls for flexible, adaptable and transformative approaches, and a strategy which provides a framework for collaboration, partnerships and fresh thinking about decision making, rather than specific technical solutions for drought management.

## 1. Recommendations and findings

### a. Be clear about the process followed to develop the strategy.

The process of developing any DMS is as important as the content of the strategy itself. There are still very few actual Drought Management Strategies in Africa, and those strategies which are in existence took years to develop during changing political and economic times. Ethiopia has been addressing drought alongside rapid and ambitious economic plans across its semi-autonomous regions; Uganda’s turbulent history has seen the country emerge from a highly centralised system with internal conflict and abject poverty, into one with greater local governance; in Kenya the historic marginalisation of the ‘northern territories’ gave way to devolution and an increase in local responsibility in drought.

The changing contexts and heterogeneity of stakeholders required spaces for open dialogue as well as coordination. This was often provided at regional levels, such as through the Intergovernmental Authority on Development (IGAD) or through extensive bottom-up evidence gathering, dialogue and influencing by NGOs, as well as learning institutions such as the Drylands Learning and Capacity Building Initiative (DLCI). While not extensively documented, understanding the processes followed in developing strategies helps position them within a given context, and clearly elucidate the role of different actors – particularly local communities – in the development of the strategies.

Developing a clear understanding about the stakeholders that can contribute to and will be impacted (positively or negatively) by the strategy, particularly at sub-national levels, could ensure the strategy covers the appropriate scope and make links between national goals and local realities.

Local participation in vulnerability assessments, consultations, and project development also provide the foundations on which national strategies and programmes are developed. Botswana is in an ideal position to build on its consultative approaches, such as the Vulnerability & Risk Assessments (which it is presently planning to upgrade by building capacity of its economic and district planners nationwide, in collaboration with Oxfam and the Universities of Botswana and Cape Town), and direct these towards defining key components of a Drought Management Strategy.

**b. Focus on setting up institutionalised but flexible systems and clear processes rather than providing detailed technical solutions.**

This research confirms the recommendations in the [White Paper on Drought Risk Management and Enhancing Resilience in Africa](#) calling for clear processes and institutions in a DMS. Drought has different connotations for different groups, and impacts and experiences of drought are vastly different depending on many geo-political, social and economic factors. While technology and standardised approaches play important roles in monitoring, preparations, planning, funding, and relief work, they can never capture all the nuanced meanings and experiences of drought on their own.

The consequences of drought – food insecurity, water access related issues, loss of livelihoods, and conflict – are influenced by other political, social and economic forces. In fragile states, such as Somalia or South Sudan, these interconnections are perhaps clearest and harshest – repeated drought and conflict in Somalia continuously lead to famine or famine-like conditions and in South Sudan, ongoing conflict has led to destruction of livelihoods, coping mechanisms and blockages of relief operations. Despite Early Warning systems, vulnerability assessments, and relief mechanisms, political processes block the effective early prevention of crises related to drought.

It is not only in fragile states where these parallel processes have led to critical tipping points in people’s lives – history is full of examples where political interests and social injustice have led to crises such as the great famine in Ethiopia in the 1980’s. In Ethiopia, political motivations continue to influence reporting of the effects of drought and have in the past led to delayed and insufficient responses. Despite having some extensive warning systems and drought management experience and mechanisms in the world, Ethiopia continuously requires external support to undertake drought management:

There is a clear sense among members of the humanitarian community that the (Ethiopian) government is reluctant for accurate figures on food needs to be released, as they might contradict its preferred growth narrative. This in turn means that the twice-yearly assessments that feed into the annual Humanitarian Requirements Document (HRD) (a consolidated appeal framework compiled late each year and released early the next) perennially understate need, and subsequently require upward revisions – resulting in delayed deployment of assistance. The understatement significantly undermines the ability to turn EW into early action, since needs are downplayed until they manifest around April/May or later – by which time early intervention is no longer possible. (Mosley, 2012., page 7)

More recently, limitations of purely technical approaches were demonstrated in the case of the African Risk Capacity Insurance Company Limited (ARC) and the delayed response in Malawi in 2017. Indicators under-reported the extent of the drought and failed to trigger pay-outs by the insurers, leaving the government to pursue other means of funding relief – which took additional time. A process which reports actual situations on the ground would have provided a more useful trigger for pay-outs and was employed by the government, however reliance on weather-indexes meant that the overall response was greatly delayed.

These examples show that technical solutions alone will not resolve drought related issues, and there is a need for continued involvement of different stakeholders in providing information, analysing situations, identifying responses and in decision making. This also suggests the need for transparency and

inclusiveness in the process led by government. Situation and response analyses demands bringing together different sources of data, checking against the actual situation on the ground, and making decisions on concrete ways forward.

Uganda has developed and piloted such a highly consultative approach involving communities, local authorities and different ministries to identify standard climate change indicators for integration into its output budgeting tool (OBT) and local government assessment tool (LGAT). The indicators are used to measure climate change adaptation (CCA) and mitigation processes in the National Development Plan, sector plans and local government development plans. In addition to providing these indicators, the highly consultative process built consensus, knowledge and skills and harmonised different processes linking climate change and development indicators (Kajumba, 2016).

A framework showing how Early Warning, Contingency Planning, and response mechanisms would be integrated into District Development Plans and used by local government authorities as well as national ministries would contribute to more efficient use and application of any technical systems.

**c. Link the DMS to climate change adaptation and sustainable development strategies at national and sub-national levels.**

Drought is a long-term development challenge, and requires multi-sectoral strategies that build up resilience and reduce the risk and vulnerability of communities, farmers and businesses. The complex linkages between drought, poverty and vulnerability led donors such as ECHO and DFID, and NGOs like Oxfam, Mercy Corps, and Concern to seek ways to overcome divisions between humanitarian and development sectors, reorient programming it towards resilience and building in greater involvement and cooperation between agencies, government departments, and across sectors.

[Oxfam's](#) Framework for Resilient Development sets out three inter-linked resilience outcomes which respond to climate change and other challenges through building adaptive, transformative and absorptive capacity. The history of the NGO in countries like Kenya outlines how over the years the organisation has worked with communities, local and national government, as well as international agencies to support communities, learn and build on interventions, and synthesise this learning for eventual translation into national policies, such as the Hunger Safety Net Programme (HSNP) programme. (Oxfam, 2016).

Other examples from Oxfam's experience include:

In Zimbabwe, Oxfam found that harnessing diverse expertise from technical bodies at national level, local government and communities, including indigenous knowledge, significantly improved the quality and effectiveness of the services provided to manage drought, adapt agricultural methods and sustainably manage natural resources. In this case, agro-met experts from Zimbabwe played a key role in supporting the understanding and application of climate information by end-users through advisory messages.

In Ghana, working hand in hand with national and local governments and other agencies has provided opportunities for cross learning and stimulated ownership of good practices. There, after taking part in capacity building workshops led by Oxfam, District Assemblies themselves co-delivered participatory

Vulnerability and Risk Assessments (VRA) in a number of districts, which are being used to develop disaster risk and climate change adaptation plans for the districts.

Finally, the Africa Climate Change Resilience Alliance's (ACCRA) combined approach to research, capacity building and influencing in its three focus countries - Ethiopia, Mozambique and Uganda - has promoted inclusiveness and contributed to a transformative process in the governance and planning systems for adaptation and risk management, including through the mainstreaming of CCA in local and national planning processes. ACCRA has also initiated a process of adapting existing Early Warning Systems to make them accessible and relevant to small scale farmers.

Capacity building efforts, we have found, should also include powerful actors, with the aim of shifting and influencing their worldviews - for example, ACCRA has done so by partnering up with Ethiopia's Ministry of Environmental protection and Forests to operationalise the Climate Resilient Green Economy strategy, as well as by training district governments to access CRGE funds to implement adaptation measures locally.

[Mercy Corps](#) has been implementing the USAID-funded Pastoralist Areas Resilience Improvement through Market Expansion (PRIME) project in Ethiopia, taking a systems approach for a specific livelihoods group – pastoralists. Food security is achieved through strengthening and diversifying livelihoods and promoting economic development through adaptive and responsive activities. A review of PRIME in 2016 showed how providing support to “systems approaches” (markets, ecological, livelihood) can bring transformative changes in the market, ecological, and governance systems that underpin people's ability to effectively manage shocks and stresses like drought. (Sagara & Hudner, 2017)

[Concern's Building Resilient Communities in Somalia \(BRCiS\)](#) has been working in southern and central Somalia with partners to help communities build resilience to shocks such as drought. The aim is to support poverty reduction in the long run without allowing such shocks to derail longer term activities. Through combining technical tools gathering weather and vulnerability data about communities, with building local agency through community based activities such as disaster risk reduction and livelihoods development, the BRCiS programme was able to ensure communities were better able to cope with crises compared to neighbouring communities. Concern's grass-root approach means that people are active participants in programmes and decision making processes – with the agency's adversarial role critical to influencing internal and external stakeholders towards early and appropriate responses. (Concern-DFID BRCiS, 2017).

We suggest that in understanding the 'appropriateness' of a response, the government considers its differentiated impacts on populations and pay special attention to understanding the impact (positive or negative) on groups most at risk or dispossessed. The design of the drought response should incorporate the findings of this thorough analysis. These are just a few of the many examples of holistic approaches to drought management, moving from a risk-reduction and management, to a more developmental approach. They seek to address some of the lessons from DRR/ DRM which showed how recovery strategies which returned people to a pre-drought situation resulted in repeats of the same crises in the long run. The involvement of different sectors is coupled with approaches which build the capacity of and empower communities to become agents of change, and integrate with development strategies.

#### **d. Work across sectors and ministries in a broader and more holistic way.**

In order to address all the complex facets of drought, management needs to be integrated into different government departments and plans. Drought outcomes are intricately connected to development patterns, effective and inclusive governance practices, the provision of services and infrastructure, resource management and trade policies and practices. No single ministry or department has the answers to all the issues associated with drought and with climate change, and a holistic approach that genuinely involves different sectors and levels of society is called for. The role of a DMS is to set up a proper and socially just structure which ensures that different functions are coordinated and implemented transparently and can respond quickly to the needs of the most vulnerable sectors of society, particularly, avoiding delays due to inter-ministerial or sectoral wrangling, or excessive bureaucracy in general.

Centralised decision making, marginalisation of vulnerable groups, power inequalities, sectoral divides and highly politicised government agendas have been shown to detract from early, effective responses to droughts. In reports by Chatham House, delay tactics, bureaucratic risk aversion, over-centralized and 'ponderous decision-making' and the humanitarian and development 'sector' divide were shown to be leading factors to the 2011 crisis in the Horn and East Africa (Bailey, 2013; Mosley, 2012).

Addressing these challenges has involved a combination of measures. The Kenyan constitutional reform and devolution has begun to address some of the earlier geographical inequalities across the country, and the KDMS's coordination functions to link up not only national level sectors, but also encourage local level collaboration. However even with such measures, local level challenges such as land rights and access to water persist. In Laikipia and Samburu, northern Kenya, herdsman and land-owners clashed violently in 2016-2017. Historical claims over land, rising population pressures, divisions and enclosures of land and a lack of funds and support for livestock interventions has led to the loss of human life and wildlife. (Guardian, 2017) The case illustrates how local issues which underpin how drought is managed by different communities cannot be ignored, and as such the government needs to facilitate the integration of different sources of knowledge into the DMS and in its implementation.

Locally led drought management approaches have been developed and tested successfully elsewhere in East Africa. The Uganda National Disaster Preparedness & Management Policy (2011) outlines the institutional structure and responsibilities, including governmental, non-governmental, and donor roles. The Office of the Prime Minister and Department of Relief and Disaster are responsible for coordination of activities across different sectors and administrative levels, from community up through national government levels. Gender equity and child safety are included through the direct link to the responsible ministry, and social protection mechanisms have been developed with contingency funding committed by the government at the earliest sign of a crisis. The Uganda experience has seen a successful response in 2016 and a reduction in cross-border conflict on the Karamoja-Turkana border – and is referred to again in the section on multi-stakeholders.

The lessons from the different experiences of cross-sectoral challenges as well as collaborations is that a drought management strategy cannot address all social, economic, ecological, and political issues. The DMS should seek to ensure that different sectors work well together when facing a drought – but much of the work needs to happen outside the DMS within policies and strategies sitting in other ministries.

But we would like to stress the point that the DMS itself should spell out the institutional coordination mechanisms that will promote the alignment of responses – and the government should pay special attention to this.

**e. Discuss with different stakeholders (including communities, civil society organisations, NGOs, and the private sector) how they can and want to be involved in the DMS.**

The White Paper, 2016 highlights the importance of multi-stakeholder involvement and processes to manage drought:

Drought impact reduction requires an all-of-society engagement and partnership. It also requires empowerment and inclusive, accessible, and non-discriminatory participation, paying special attention to people disproportionately affected by droughts, especially the poorest. A gender, age, disability, and cultural perspective should be integrated in all policies and practices; women and youth leadership should be promoted; and subsidiarity should be encouraged. In this context, special attention should be paid to the improvement of organized voluntary work of citizens. (White Paper, 2016)

Despite widespread acknowledgement of the value of multi-stakeholder processes, facilitating such processes is challenging. Findings from the Africa Climate Change Resilience Alliance (ACCRA) study in Kenya, Uganda and Mozambique highlighted these difficulties at local levels where planning, budgeting and consultative cycles are often at odds with each other. While local authorities hold extensive climate change adaptation responsibilities, decision making rests at a national level, and the linkages between local and central level departments are tenuous. (Kajumba et al, 2016)

Participatory methodologies, such as the one which was followed for the Botswana Vulnerability and Risk Assessment (VRA) – and which will be scaled up nationally in 2018 - can provide a valuable vehicle for engaging different stakeholders and especially, involving local communities in the analysis, prioritisation and design of drought preparedness and response measures. Vulnerability assessments differ and can range from externally directed approaches which ‘consult’ communities primarily to gain information, to processes which involve local communities in the drought management process. We strongly discourage the former approach, and promote an inclusive and consultative one where all stakeholders have an equal opportunity to influence the outcome. Instrumental exercises which focus on obtaining data can miss some vulnerable groups (e.g. especially marginalised groups of women) and risk entrenching vulnerabilities and disrupting local coping mechanisms. (Ray 2017 and OPM 2016)

One approach which has seen a level of success is the *Cadre Harmonise* employed in West Africa and the Sahel. The Cadre Harmonisé (CH) has been developed by a group of food and nutrition security experts including Permanent Inter-State Committee against Drought in the Sahel (CILSS), Food and Agriculture Organisation (FAO), World Food Programme (WFP), Food Early Warning System (FEWS NET), AFD, Integrated Phased Integrated Phased Classification (IPC), JRC/EC and UNICEF, and from international NGOs Oxfam International, Save the Children and Action Contra la Famme (ACF). It provides an integrated analytical framework seeks technical consensus using data from different systems or methods, namely food consumption surveys, nutrition surveys, the Household Economy Approach (HEA) or other

information provided by agricultural surveys and market monitoring. (ARGHYMET, 2016) The CH sets out roles and responsibilities of participating stakeholders, principles of engagement, and sets out a specific calendar of consultations, meetings, and events throughout the year along in order to meet the assessment objectives.

The multi-stakeholder approach extends all the way to the regional level, where the permanent Inter-State Committee against Drought in the Sahel (CILSS) /AGRHYMET), the Integrated Drought Management Programme (IDMP) and the *Cadre Harmonise* monitor, plan for and respond to drought across the Sahel. Additionally measures include joint political frameworks formulating policies through to pilot projects to build risk reduction and resilience into programming across the region.

As a member of the SADC, Botswana can link the DMS to drought management processes at a regional level as has been done in West and East Africa where a complex web of institutions has historically been involved in all functions relating to drought. As an ASSAR country, Botswana also has access to expertise and networks of other member countries, and can also link to the SADC drought monitoring and support mechanisms.

### **Stakeholders or partners? The role of NGOs and the Private Sector**

NGOs such as the Norwegian Refugee Council, Save the Children, Oxfam, Action Against Hunger and local Red Cross Societies play a key role at sub-national and national levels in disaster preparedness and response. They provide technical assistance, contribute to contingency planning, preparedness and response planning, and support the development of disaster management policies. They also carry out independent research and analysis, develop and pilot new systems, learn from their successes and failures and put forward evidence for developing new policies. The Kenyan HSNP programme was developed in this way, with close collaboration between funders (DFID), NGOs (in particular Oxfam, Save and Concern), the private sector (Equity Bank) and the Government (various ministries including Devolution and Planning, Labour and Social Protection).

The private sector includes specific companies, private sector bodies (trade bodies, chambers of commerce, trade unions), social enterprises as well as NGOs specialising in working with companies on issues such as human rights or poverty reduction. Research in Africa shows that the private sector has been most visible in drought related activities through the supply of specific goods or services – such as transporters / truckers in WASH interventions, or the provision of technology for early warning systems (e.g. GIS systems) and cash disbursement systems. Private consultancies have in recent years grown their ‘development’ services. There is still a lot more scope for working with the private sector in drought management, collaborating to help build capacity, innovate, fundraise and also contribute to sustainable development and resilience. This opportunity should be pursued actively because investments, markets and partnership depend on the private sector. For instance, financial institutions could work with local businesses and farmers, to extend credit on favourable terms during drought, or the private sector could be involved in investing in climate change adaptation activities such as land restoration. For instance, the reduced purchasing power of farmers during drought conditions leads markets to shrink as traders lose business and cash flow to invest in stock and extend credit. Credit lines for small traders can help overcome the consequences of drought.

**f. Set up processes and facilitate mechanisms that specifically address gender inequality and give voice to marginalised groups.**

Despite extensive evidence of the disproportionate impact of drought on women, children and other marginalised groups like persons with disabilities, ethnic minorities and people living in extreme poverty, there is little evidence of ‘gender’ or ‘women’s empowerment’ or any concrete focus on disposed groups in policies and strategies relating to drought management. High-level calls to integrate gender into drought management exist, but the failure to institutionalise gender at national policy level leaves a gap that has to be filled, often *post-facto*, by NGOs or communities themselves. Without clear lessons from the Drought Management field of practice on building gender equity, one needs to look to other frameworks for guidance on how to best integrate gender. This would include the UN Working Groups on Gender, Inter-agency networks on Gender, and UN Women, as well as NGO-led work of community empowerment at local levels and linking them to higher governance.

For example, let us focus on the struggle to promote gender equality. While there is progress in the ratification of international and regional conventions and commitments by African countries, gender inequality still prevails. (Wekwete, 2014). The Sendai framework demands that *gender, age, disability and cultural perspective should be integrated in all policies and practices, and women and youth leadership should be promoted.* (Sendai Framework p. 13) The DRAPA report calls for *Significant efforts (...) in making drought risk management gender sensitive at all levels* and calls on governments to conduct gender-sensitive drought risk assessments, implementing gender-sensitive early warning systems, and using gender-sensitive indicators to monitor gender mainstreaming progress. (*Drought Risk Management and Enhancing Resilience in Africa*. Pp 34 & 36).

Kenya’s National Drought Management Authority Act (2016) stipulates a degree of gender (and diversity) balance in the appointment of women to various drought management institutions, but the resulting authority says nothing about gender impacts of climate change. UN women (2017) are ‘working with’ the Kenyan government to ensure drought response interventions address gender – but women and girls continue to experience higher food insecurity than men. Studies in Tanzania and Uganda continue to show ‘gender gap’ policies and practices despite years of legal and constitutional commitment to gender equality. In both countries’ policies, gender issues were mostly seen as women’s issues, neglecting the fact that gender equality is about reshaping the way women and men interact at different levels (from household upwards) in such a way that redefines their identities and breaks down stereotypes: what women and men believe to be expected of them in order to gain respect and social acceptance.

Women were generally stereotypically portrayed as vulnerable and marginalised by society with limited access to land and resources. These characterisations reinforce gender inequalities. (...) The studies also found gaps in gender planning and implementation. This was for both national and lower governance levels. (Conversation, 2017)

An exploration into gender relations also highlights the misconception that there is a group of ‘women’ that are vulnerable, but rather that vulnerability – as well as capacity to respond and adapt – is determined

by the combination of several attributes, of which gender is just one: age, marital status, caste, income, ethnicity, etc.

Other countries in the IGAD region have national level policies on Gender mainstreaming, however few have expressly institutionalised gender into drought management plans. It is not clear how extensively women – especially vulnerable women in high risk areas - were involved in the development of the Ugandan, Kenyan and Ethiopian strategies. The relegation of gender issues to ‘women’s’ ministries or programmes often does little to address the core issues related to gender dynamics – often reinforcing gender based bias and vulnerabilities. As such, the development of the DMS in Botswana should make efforts to liaise with and bring on board from the outset institutions that can support the integration of gender as a foundational element of the strategy. Likewise, similar efforts should be made to incorporate other marginalised voices into the process, as discussed above.

The leading position that Botswana is taking in developing a DMS provides a unique opportunity to ensure the involvement of women from all walks of society, as well as other marginalised groups, in the development of the strategy, and integrating gender equity and other social groups’ needs and priorities across drought management practices. A step in this direction is to establish multi-stakeholder platforms at different levels of governance for drought management.

**g. Develop a contingency planning process that provides regular and intensive consultations with a broad range of stakeholders on drought situations, with clear triggers and decision making points.**

Contingency planning is an important step in preparedness, setting out a process for analysing situations and planning responses to emergencies. The value of contingency planning often lies in the processes followed drawing up the plans which bring stakeholders together, build relationships and understanding, and develop their capacity to act quickly in a crisis. As droughts manifest themselves in different ways, contingency plans need to reflect historical experiences but set out processes to assess current situations and respond accordingly.

NGOs such as Oxfam, Concern and Save the Children, have learned that investing heavily into lengthy and detailed contingency planning documents provides no substitute for developing quick and nimble systems or processes with clear decision making points, engaged stakeholders, agreed responsibilities, and defined triggers for action. (Pers Comms, Yiannopoulos, 2017) This more flexible approach also recognises the imperfection of data and accepts a ‘no regrets’ approach to taking action without certainty about the future outcome of a drought.

One such process is the Situation and Response Analysis Framework (SRAF) which provides a model and tools for detailed analysis of baseline data, forecasts and local knowledge. It emphasises good coordination communication between agencies in order to predict, plan and deliver appropriate, proportionate and timely responses. (ECHO ERC, 2014)

**Appropriate:** The processes involved in applying the framework are built on a detailed understanding of local livelihoods and market systems, which helps to ensure that urgent

humanitarian assistance builds on and supports existing livelihoods strategies and long-term programming.

**Proportionate:** Ensuring that the right people receive the right levels and types of assistance is essential if any intervention is to be effective in meeting the needs of the most vulnerable households (ECHO ERC, 2014, p. 10)

Save the Children's response in Ethiopia in 2017 which used the SRAF helped many early warning actions - however delays still happen in anticipation of 'full evidence'. (SAVE 2017, Pers comms Swift 2017).

The African Risk Capacity initiative (ARC) defines contingency plans in terms of operational (contextual analyses) and final implementation plans, outlining how funds will be spent. ARC's review of contingency plans found that the benefits of drawing up plans outweigh the costs both because the process brings stakeholders together, and because of the predictability and speed of responses which these plans help improve. ARC also found that scaling up of existing interventions - such as social protection - is more cost effective than implementing a suite of new programmes.

In West Africa, the Cadre Harmonise (CH) process provides a coordinated mechanism for monitoring, planning for and responding to drought across the Sahel. It aims to achieve comparability of results across countries and time by instilling analytic rigor, transparency, and data quality and reliability. The mechanism is implemented twice a year based on an agreed timeline and involves many different stakeholders in a set of pre-defined steps that include updating multi-risk contingency plans. The example reinforces the need to combine rigorous processes with technologies within the DMS, and to avoid over-reliance on any one set of tools or technical approaches. A comparable entry point approach across Southern African Development Community (SADC), which Botswana is a member state of, is through the Vulnerability Assessment Committees (VACs) country level reports and the Regional Inter-agency Standing Committee (RIASCO) response plans.

#### **h. Identify and refer to existing mechanisms to operationalise the strategy. Avoid 're-inventing' the wheel or going into detailed technical explanations in the strategy.**

There are many Early Warning systems already in existence and in the long run, working with these will be more beneficial and cost effective than developing or describing new systems. Some are still under development, some are continuously evolving, and other new ones are emerging through innovations and lessons. Linking with existing systems and mechanisms such as FEWSNET and Integrated Phased Classification (IPC) can save years of experience, help build the systems, and can facilitate other processes such as inter-departmental or regional cooperation on preparedness, mitigation and response.

No single mechanism is perfect, and processes adopted to cross-check, interpret and make decisions will always be needed. These will need to be flexible and inclusive enough to reflect the situation on the ground – for affected communities.

West African countries have adopted the IPC system, an evidence-based approach that is based on consensus-building to provide decision makers with a rigorous analysis of food insecurity and its impacts. This Multi-stakeholder approaches give rise to trust and collaboration and can facilitate innovation and learning. In the Sahel collaborative approaches have shared learning and led to standardisation of early

warning and action systems, vulnerability assessments and joint programmes that address and reduce the impacts and occurrences of drought.

### **The Integrated Food Security Phase Classification (IPC)**

The Integrated Phasing Classification (IPC) accepts diversity in methodologies in assessing and analysing vulnerabilities under different scenarios. It uses a set of standardized tools providing a "common currency" for classifying the severity and magnitude of food insecurity ensuring comparability of situations across countries and over time. Importantly, IPC is based on consensus-building processes involving different stakeholders in order to provide a rigorous analysis of food insecurity.

### **FEWSNET**

Famine Early Warning Systems Network is a leading provider of early warning and analysis on food insecurity. Created by USAID in 1985 to help decision-makers plan for humanitarian crises, FEWS NET provides evidence-based analysis on some 34 countries. **FEWSNET** regularly publishes situation reports, holds stakeholder planning and learning meetings, and uses both weather / events inputs as well as market and food security analysis. The system is widely used in the East and West Africa and across the Sahel.

No single set of indicators are ever likely to be complete – and decisions ultimately have to be made on incomplete information.

Analysing the warning signs of drought is not an exact science; by the time, a fully developed picture of the needs and situation is available, the opportunity to act early has often already passed. Donors and agencies should therefore be willing to act on the basis of probabilities rather than certainties. (Concern, 2017)

In other words, triggers on responses need to be based on probabilities not on certain information and need to rely more on the lived experience of communities and other stakeholders. The role of the Botswana DMS should be to present an agreement on which indexes, tools and formal/ informal mechanisms to use and how to use them.

#### **i. Clearly define funding mechanisms for financing preparations, responses and recovery activities in a drought.**

One of the leading obstacles to early responses in crises is the lack of available funding. The 'dangerous delay' that led to the 2011 – 2012 Horn and East Africa crisis was largely attributed to delays in releasing funds for responses. Even where funds were available, disbursements were delayed or blocked by internal processes, by political wrangling over where the funding should go, and a lack of agreement on how funds should be spent. Establishing a portfolio of funds, predefining where and how funds will be allocated and disbursed, and setting up good accounting and financial systems to ensure quick disbursement and effective monitoring are critical for any drought management strategy to function in practice.

Funding options range from national contingency plans for crises to external emergency funds. National strategies involve budgeting for emergencies and setting specific funds aside, or allowing rapid re-allocation across ministries in the event of an emergency. External funds include traditional donors, fund-raising initiatives by NGOs, and a growing body of private or semi-private mechanisms. Regardless of the source of funding, the mechanisms to disburse these funds need to be in place and the programmes of support need to be able to quickly scale up, for instance through shock-responsive social protection mechanisms.

Kenya's strategy consists of just such a portfolio of funding sources including internal budgetary allocations, donor sources, and more recently the ARC insurance premium (see below). The combination of funds is used to scale up disbursement through the HSNP programme and to fund local community initiatives. NGOs and donors also contribute through their own funding sources.

The World Bank is encouraging Contingent Emergency Response Components (CERCs) to fit within standard investment projects, allowing for existing funds to be quickly reallocated to emergency recovery activities in the event of a disaster, without the need for project restructuring, since the line is already included in the budget. Examples include Uganda's set-aside funds to use for drought-related operations in Karamoja, and Ethiopia's PSNP programme draws on pre-allocated financial reserves both from within the government, and from donors.

The (Ethiopian) government manages a contingency budget comprising 20% of the annual PSNP budget. The separate fund of \$160 million, based on an in-principle donor commitment, established a risk financing mechanism (RFM) for mobilisation of up to \$80 million additional funds for a particular crisis each year. These mechanisms are based on an established Early Warning System (EWS) that is in place to monitor the situation and trigger the release of funds. (...) Nevertheless, the Government of Ethiopia remains dependent on donor finances for these mechanisms, and so such provisions, whilst state managed, are only guaranteed for the life of the donor-funded programme (currently to 2020). (OPM 2017a, p. 29).

Under the Third Northern Uganda Social Action Fund (NUSAF III), the Government of Uganda introduced a disaster risk finance (DRF) component allowing the GoU to test and use a rapid response system through scaling up its labour intensive public works safety programme. With World Bank assistance, the DRF mechanism was set up with the following components: a drought index, clear triggering rules for disbursement of funds, a contingency fund to finance the response and a transparent and clear decision making process. During the 2016 El Niño event, the mechanism was put to a test. The index captured the early signs of drought, and in August 2016 a scale-up of the NUSAF was triggered. US\$4 million was drawn from a US\$10 million contingency fund to finance extension of the safety net to an additional 30,000 Karamojong households comprising 150,000 people, over 50 percent of whom are female. A consultant working on the programme described the result:

The response was being led by members of the Ugandan government, ranging from the dynamic project director down to the energetic community facilitators. The public works activities—designed by and for the communities—that were undertaken gave 30,000 Karamojong households much-needed funds to support themselves through the disaster. (<http://blogs.worldbank.org/psd/building-resilience-against-drought-case-uganda>)

Two new risk-management approaches under development in Africa are the Africa Risk Capacity (ARC) and the START Network Drought Finance Facility (DFF). ARC provides a two-pronged approach, one building capacity and encouraging participating states to develop early warning mechanisms and contingency plans for drought, and the other offering a risk-based finance mechanism which countries can buy into, but which is contingent upon the completion of the contingency planning process. To date, Niger, Senegal, Mauritania and Kenya bought into the plan in 2015, and Burkina Faso, Malawi, Mali, The Gambia and Zimbabwe joined in 2016. Payouts to Senegal, Niger, Mauritania, and Malawi covered drought-related support to livestock herders. However, only in Mauritania was the 'contingency plan' carried out. Institutional and process hurdles delayed action in the other countries. (Per Comms, Hillier, 2017). Other countries, such as Mozambique, have developed contingency plans through the ARC capacity building initiative but are less likely to subscribe to the insurance product.

The START DFF works on similar principles to ARC, but with pre-positioned donor funding instead of the insurance mechanism. It is being piloted in Zimbabwe and Pakistan. The question for the START DFF is securing the funds for either a premium based system, or for the payouts. (<https://startnetwork.org/start-labs/drought-risk-financing>, <http://www.africanriskcapacity.org> and OPM 2017a).

Experience in other regions (notably the Caribbean and Latin America) include pooling of risk insurance amongst countries – pooling resources and spreading the risks with regional neighbours reducing premium costs. Index basing payouts further reduces the burden of assessments and can expedite payouts based on particular weather events.

The use of 'crisis modifiers' has allowed a percentage of funding earmarked for 'development' activities to be re-allocated during drought in Ethiopia and Kenya. Crisis modifiers have been now been applied to numerous EU funded development and resilience programmes, and have led to re-allocation of funds in West and East Africa. However, Save's experience with crisis modifiers has shown that despite early warning systems, response mechanisms and crisis modifiers, there is still much room for improvement. Demand for evidence, detailed action plans, and risk-averse decision making require extensive engagement with governments, donors and other stakeholders, which take time. (SAVE 2017 and pers comms Swift, 2017)

Other financial innovations have targeted communities or individuals. ILRI has been piloting index-based livestock insurance mechanisms in Kenya and Ethiopia, with payouts in Borana (Oromia region) in 2017 reaching a total of USD 220,000. Oxfam's Rural Resilience Initiative (R4) designed a framework to enable poor farmers to strengthen their food and income security through a combination of improved resource management (risk reduction), insurance (risk transfer), microcredit (prudent risk taking), and savings (risk reserves). The insurance premium is payed through small deductions from Ethiopia PSNP recipients' benefits and can also be bought voluntarily. However challenges exist in this scheme too and insurance schemes need to be tailored to social, cultural, as well as economic vulnerabilities. Alternatives need to be provided to reach the most vulnerable groups who have no assets to insure, to reach women, and may to comply with local institutions, such as sharia law. Furthermore, programmes are needed to inform and educate people about the value of paying for a scheme which may not reap any direct financial returns, for example after successive year without pay-outs. (Madajewicz 2017).

In summary, the Botswana DMS should outline a portfolio of funding opportunities that will be developed and pursued over the coming years to strengthen contingency planning and help the government fund the strategy, and support different stakeholders in addressing the financial risks associated with drought.

**j. Connect at an emotional level with people affected by drought**

During the development of the DMS, it will be important for everyone to recognise that drought affects people's lives profoundly. Understanding how people connect with and respond emotionally to drought and other developmental challenges, and later incorporating it in the strategy and policies at national and sub-national levels, is important to enhance the relevance, representation and broad ownership of the strategy. Key areas to explore include: what drives people's action/ inaction, what personal/cultural/traditional values may determine their responses, even if such responses may appear irrational, what sources of knowledge are valued by people in relation to drought and drought response.

**k. Develop various communication outputs of the DMS for different audiences**

At various stages of the DMS development and implementation, the government will need to reach out to stakeholders both internally (within government) and externally. Success in engaging these internal and external stakeholders, as well as in the degree of ownership felt by them, will partly depend on a well-thought communications strategy. Try to ensure sufficient budget is assigned to communications, and engage specialists who can be creative in developing different messages and products for different audiences (e.g. consider videos, cartoons, recorded interviews, etc., which can be highly engaging).

## 2. Conclusion

The Botswana Drought Management Strategy provides a promising opportunity for the government to show leadership in institutionalising inclusive and participatory drought management in a country facing the multiple, complex, and changing challenges of climate change. The ever-changing landscape of drought and approaches to dealing with drought outcomes and situations requires a flexible and adaptable set of response options, and the ability for the wide range of stakeholders to engage with and use different mechanisms which exist or may be developed in the future to help them predict, prepare for, respond to and adapt to better dealing with drought. A multi-sectoral approach, with linkages at local, national and regional levels to these different mechanisms will be stronger than prescription of any particular mechanism or any top-down technical fix. The Botswana DMS therefore would benefit from an exemplary process founded on inclusivity and social justice, and which integrates the complexities explored in this document in one single framework.

## 3. Regional / Country Summaries

### a. Global & Regional Summaries

#### WEST Africa

**CILSS:** Permanent Inter-State Committee against Drought in the Sahel (CILSS) was formed in 1974 to have an integrated approach to combating drought across thirteen countries: Benin, Burkina Faso, Cape Verde, Chad, Ivory Coast, Gambia, Guinea, Guinea Bissau, Mali, Mauritania, Niger, Senegal and Togo.

**AGRHYMET:** AGRHYMET is a specialized agency of CILSS with a specific remit to contribute to food security and increased agricultural production in member countries of CILSS and ECOWASO and to help improve the management of natural resources of the Sahel and West Africa. It does this through training, tools development and harmonisation, coordination of data and information flows, documentation, and strengthening coordination across agencies.

**IDMP:** The Integrated Drought Management Programme was formed with support from the World Meteorological Organisation (WMO or OML) and Global Water Partnership (GWP) to improve drought monitoring, prevention and management through providing practical and strategic guidance, sharing scientific knowledge and creating platforms for different stakeholders to share and draft joint plans. The IDMP's acknowledges different interpretations and understanding of drought and rather than arriving at common definitions, creates the platforms and spaces for actors to come together and share, discuss, and synthesise learning into concrete methods, approaches, tools and processes.

#### EAST Africa

**IGAD:** The Intergovernmental Authority on Development (IGAD) is an intergovernmental coordinating body, providing leading institutions in member countries with a platform to discuss their national drought management strategies. It operates a Climate Prediction and Applications Centre (ICPAC) (formerly the Drought Management Centre with headquarters in Nairobi) and held two summits in 2011 and 2012 following the East African drought crisis to promote the development of national drought management strategies. Unlike the West African integrated drought management process, countries in East Africa retain national level control over their initiatives and to date, only Uganda has fully operationalised its strategy. Kenya and Ethiopia both have drafted strategies and Kenya's IGAD held their 10th Summit in Kampala, Uganda where the existing Drought Monitoring Centre with its headquarters in Nairobi (DMCN) was adopted as a specialized IGAD institution. The name of the institution at the same time changed to IGAD in order to better reflect all its mandates, mission and objectives within the IGAD system. The protocol integrating the institution fully into IGAD was signed on 13 April 2007. The Centre is responsible for the eleven IGAD member countries, namely Djibouti, Eritrea, Ethiopia, Kenya, Somalia, Sudan, South Sudan, Uganda, Burundi, Rwanda and Tanzania. It works closely with the NMHSs of member countries as well as regional and international centers for data and information exchange.

*[http://www.droughtmanagement.info/literature/UNW-DPC\\_NDMP\\_Country\\_Report\\_Kenya\\_2014.pdf](http://www.droughtmanagement.info/literature/UNW-DPC_NDMP_Country_Report_Kenya_2014.pdf)*

IGAD hosted two summits in the wake of the 2011 disaster, in September 2011 and April 2012. It seeks to play a mainly coordinating role, providing a platform for the lead institutions in each country on disaster risk reduction (DRR) to discuss their national level interventions and boost cooperation. It is also promoting development of national drought management strategies in member countries. Uganda and Kenya have developed strategies, and Ethiopia has a draft strategy (tbc).

**Key Lesson for BDMS:** link with regional initiatives to share learning and practices; link into existing regional mechanisms on early warning, monitoring, preparation, as well as climate change adaptation.

## **b. National Examples**

### **Ethiopia**

Ethiopia has a long history of drought and drought management mechanisms. It has perhaps the most elaborate and comprehensive set of early warning / early action mechanisms, including trigger mechanisms, contingency funding, and a Social Protection mechanism that can be scaled up during times of drought. Despite these efforts, droughts of increasing frequency and intensity combined with political and economic dynamics within the country have meant that Ethiopia has repeatedly failed to respond early or adequately to droughts. A drought management strategy is reportedly in draft form – yet this research did not find a copy of it.

Drought management is intrinsically linked to food security and development planning in Ethiopia. Both have seen a marked improvement since the 1980's with agricultural production, markets, and economic development all growing at healthy rates. These developments have occurred unequally across regions, and the government's social protection mechanism Productive Safety Net Programme (PSNP) is designed to address some of these inequalities, helping people out of poverty and acting as a safety net.

Ethiopia's Productive Safety Net Programme is one of the world's largest safety net programmes, providing 20% of the country's total population with cash. The programme has a contingency fund to scale up support during drought, and is financed by donors and run by the government. Humanitarian programmes run in parallel with PSNP, and development and resilience building programmes are implemented across drought prone areas.

The approach towards drought risk management in Ethiopia is multiagency and multi-sectoral. Early warning systems include FEWSNET, LEAP (Livelihoods Early Assessment and Protection) and the country has had extensive baselines set using the HEA approach which are in the process of being updated in a number of regions. Various ministries including the Ministries of Health and Agriculture and different departments and NGOs form the national early warning system. Responses are catalogued, and the government is committed to integrate prevention and preparedness plans into long term development policies. (Lemma, 2014)

Yet The Ethiopian Government, despite its controlling reputation, allows extensive operations of both development and humanitarian NGOs (often both functions are performed by one NGO) and allows and

encourages developing and piloting new approaches by NGOs, which provide important learning not only nationally, but for the global drought management community.

**Key Lesson:** Encourage different stakeholders including NGO's and the Private sector to be part of and contribute to the DMS. Experimentation and learning is important!

## Kenya

In 2011, the National Drought Management Authority was established as a permanent, specialist government institution responsible for managing drought related risk. The institutional setup is the result of many years of interagency efforts and experiences by governmental and non-governmental organisations. The move to create one central authority followed the worst drought to hit the region in 60 years, affecting more than 13 million people across the Horn and Eastern Africa between 2010 and 2011. Lessons from the drought led to strong calls for restructuring the system to avoid further 'dangerous delays' in the future.

*The history of Kenya's work on drought management goes back to 1985, with the design of a drought contingency planning system in Turkana. In the early 1990s this system was extended to other arid districts with the support of the Netherlands government. It was then expanded further by the Emergency Drought Recovery Project (from 1992) and its successor, the ALRMP, both of them supported by the World Bank. By end of Phase II of the ALRMP, the drought management system was covering 28 arid and semi-arid districts (now 23 counties).*

*This series of short-term, project-based interventions were being carried out at a time when drought periods were becoming increasingly frequent and intense, directly affecting the household food security and livelihoods of more than ten million people. The government therefore recognised the need to strengthen the sustainability and quality of drought management in Kenya by establishing the National Drought Management Authority (NDMA).*

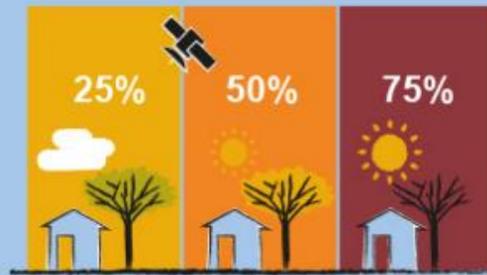
*The NDMA provides a platform for long-term planning and action, as well as a mechanism for solid coordination across Government and with all other stakeholders. The Authority has established offices in 23 ASAL counties considered vulnerable to drought. (<http://www.ndma.go.ke>)*

Kenya's drought management strategy which seeks to address the challenge of recurring and increasing droughts across the Horn and East Africa is firmly imbedded in regional initiatives, and has a clear cross-sectoral approach, with the NDMA responsible for coordination.

Kenya is a member of IGAD (See inter-governmental institutions), subscribes to FEWSNET, and has taken an number of steps to address drought emergencies through specific strategies and policies, as well as imbedding drought and climate change under risk management in the national strategy Kenya Vision 2030, and rolling out the Hunger Safety Net Programme (HSNP) – a programme which started in 2007 by NGOs supported by DFID and Australian Aid. The learning transformed the programme into a leading 'shock responsive social protection' mechanism taken up by the Government of Kenya NDMA and implemented using electronic card-payment mechanisms.

### How does HSNP work?

All households in the four counties have been registered for bank accounts with Equity Bank. The HSNP provides regular cash transfers to 100,000 households, which represents about 25% of households in the region. The transfers are worth 5,100 Ksh and are paid every two months. NDMA monitors drought conditions by satellite. If these reach severe levels in any given month, an additional 25% of households in drought-affected areas receive a one-off 'emergency' payment. If conditions worsen to extreme levels, then coverage increases to 75% of all households.



(OPM, 2017. *Evaluation of the Kenya Hunger Safety Net Programme (HSNP)*).

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HSNP forms part of the Government of Kenya's contingency plan mechanisms, with funding for payouts coming from the Kenyan Government, donors, and through ARC Insurance mechanisms. Despite the wide reach of the mechanism, it has experienced challenges. In 2015, payments made by county authorities were not systematic, and some payments were less than parallel cash payments made by humanitarian agencies. Finally, some communities were not clear or in agreement with targeting mechanisms. (OPM, 2017a; Maunder et al., 2015).

The institutional evolution of drought management in Kenya needs to be seen within the context of the country and its specific political, social, environmental developments. Historically, the 'Northern Territories' of Kenya were largely 'neglected' by both colonial and post-colonial authorities, leading to lack of investment in infrastructure and any developmental efforts. Since 2010 a new constitution mandates devolution in Kenya. The process of decentralising roles, responsibilities and stewardship for resources to local county levels is intended to improve local governance. However this needs to be seen within the wider policy context where certain powers over resource ownership and management are retained by the central government, while social service provision is delegate to county authorities.

Challenges remain, not least of which is the establishment and availability of contingency funding to ensure timely and appropriate responses at the earliest sign of drought related stresses. Coordination too is still lacking, and numerous critics of the government of Kenya have blamed lack of funds and resources on preoccupation on national elections which have detracted from dealing with the drought.

In 2017, the Government of Kenya declared a national drought emergency following failed rains for three years. In 23 out of 47 counties in Kenya, food production and security, water availability, and multiple disease outbreaks had affected nearly 3 million people.

Efforts now include Pan-African initiatives, such as the START Network Finance mechanism and ARC (more details) which are in their infancy of development.

**Lessons:** Establish coordination mechanisms, involve different levels of government, and secure a portfolio of contingency funds.

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Oxfam	Yiannopoulos, Alexandros	Humanitarian Coordinator	15 Nov 2017
	Hillier, Debbie	Senior Humanitarian Policy Adviser	8 Nov 2017
	Pelhma, Larissa	Global Social Protection Adviser	15 Nov 2017
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SAVE	Laura Swift	EFSL Adviser	2 Nov 2017

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