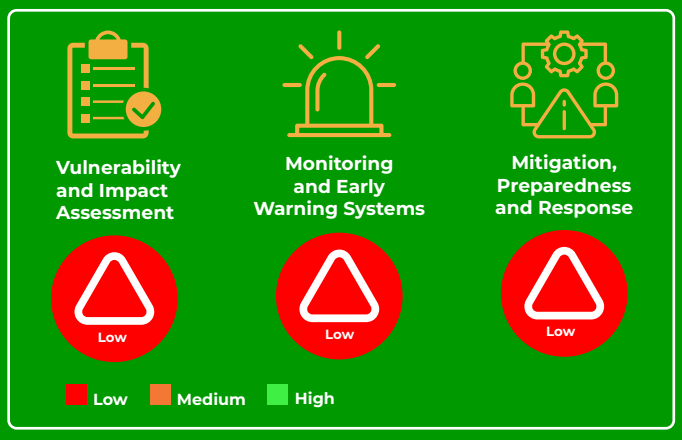
COUNTRY OVERVIEW

As with several of its arid Southern African neighboring countries, drought is the most common natural disaster in Angola, having affected millions of people in the past fifty years. Since late 2020 to the present, Angola has been gripped with the most severe drought in four decades, which has been aggravated by disruptions caused by the COVID-19 pandemic. This has resulted in poor agricultural production with reported losses of up to 40% in southern Angola, loss of animals, water scarcity for both human consumption and livestock, loss of assets, as well as the displacement of people. According to the Integrated Food Security Phase Classification (IPC) acute food insecurity assessment, 560,000 people in southern Cuando Cubango, Cunene and Huila provinces required urgent humanitarian assistance in the first quarter of 2020. This figure is slightly higher than the number recorded in 2019, reflecting the impact of weather-driven shortfalls in production and high prices of food staples. The impact of two consecutive poor agricultural seasons due to drought conditions contributed to the prevalence and severity of food insecurity in 2021.



The Integrated Drought Risk Management Framework highlights a three-pillar approach centered around interconnected, multi-disciplinary, multi-institutional activities. These are 1) Vulnerability and impact assessment; 2) Monitoring and early warning systems (EWS) and 3) Mitigation, preparedness and response. This country Drought Resilience Profile contains drought information based on these three pillars.

This profile provides a background of Angola's drought resilience capacity in the three pillars. Angola's vulnerability and impact assessment capacity can be regarded as low. While the country recognizes the importance of conducting vulnerability and risk assessments as is evident by the clear articulation and assignment of roles and responsibilities for disaster risk knowledge production, consolidation and dissemination, offering a good starting point for the country to build upon, there is little data and institutional capacity within Government that enables a rigorous estimation of expected climate changes and impact in Angola.

Monitoring and early warning system (EWS) capacity is similarly categorized as low. While there are some pilot real-time EWS for river-level monitoring in place in some parts of the country, existing capacities to process real-time data are insufficient to guarantee the operational use of an EWS. Institutional mechanisms to manage real-time monitoring, forecasting and early warning are also not yet in place. Moreover, Angola is constrained by limited institutional capacity, few institutional mechanisms in place to manage real-time monitoring, forecasting and early warning, and insufficient climate monitoring infrastructure.

Angola also has a limited system in place for drought mitigation, preparedness and response, and one that is largely skewed towards reactive strategies with a focus on relief aid as opposed to mitigation. Its capacity under this pillar is also categorized as low. Institutional coordination mechanisms do exist, but recovery planning and implementation is still not integrated and institutionalized by Government, and capacity building is needed to strengthen the recovery process now and in the future.

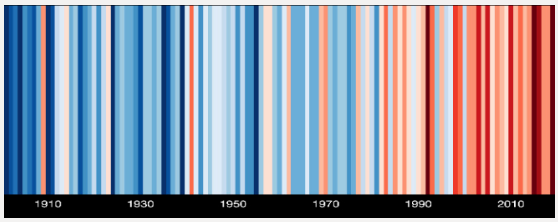
This document provides a brief overview of drought risk issues. The key resources at the end of the document provide more in-depth country and sectoral analyses. The contents of this report do not necessarily reflect the views of the World Bank, CIWA, SADRI, NDMC or IWMI.

Drought: Historical and Future

Historical climate

- As illustrated in the #ShowYourStripes 'warming stripe' graphic for Angola in Fig. 1, the stripes turn from mainly blue to mainly red in more recent years, illustrating the rise in average temperature since 1901.
- An analysis of climate data from 1970 to 2015, has shown an average temperature rise of around 0.8°C (UNDRR and CIMA, 2018).
- Over the last 40 years, Angola has also experienced a marginal increase in rainfall with a large difference between very wet and dry years (ibid).
- The average annual precipitation for Angola is roughly 970mm while the mean number of wet days is around 80 (ibid).

Fig 1. Temperature change in Angola, 1901-2019



Source: Berkley Earth/#ShowYourStripes

Future climate

- Between 2045-2065, there is an anticipated increase in temperature of 2.5°C, with a 10% decrease in precipitation in the southern regions and a 10% increase in precipitation in the northern regions (ibid).
- Temperature projections indicate an increase between 2.2°C and 4.2°C in intermediate and high emission scenarios from 2080-2099 while precipitation projections are more uncertain.
- Projected changes in mean annual rainfall over Angola project a wide range in changes, with changes in precipitation ranging from -27 to +20% by the 2090s. Median values could range from -1 to -6% by the 2090s. Rainfall is projected to decrease predominantly in September-November (-43 to +26%) and in June-August (-65 to +42%) (World Bank, 2020).

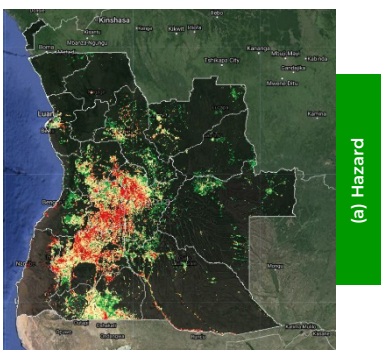
Table 1. Major droughts in Angola (Source: EM-DAT.2020; CNPC, 2016

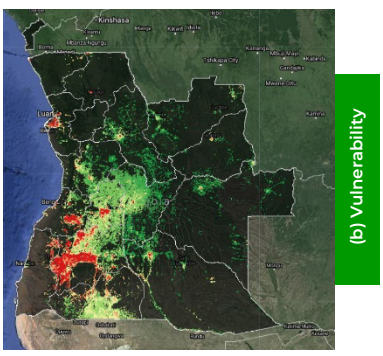
Year	Location	Affected Population
2019	Southern region	2.4 million
2017	Seven provinces in the South (Cunene, Huila, Namibe, Benguela, Cuando Cubango, Cuanza Sul and Huambo)	1.4 million
2015-2016	Parts of Angola	1.2-2.7 million
2012-2014	Provinces of Bengo, Kwanza-Sul, Benguela, Huila, Namibe, Cunene, Moxico, Bie, Huambo and Zaire.	4.694 million
2004	Cunene, Cuanza-Sul provinces	25,000
2001	Cuanza Sul province	*No data
1997	Parts of Angola	105,000
1989	Huila, Namibe, Kwanza Sul, Benguela	1.9 million
1985	No data	500,000
1981	Benguela, Mocamedes, Huila, Cunene, Kuando-Kobango, Bie	80,000

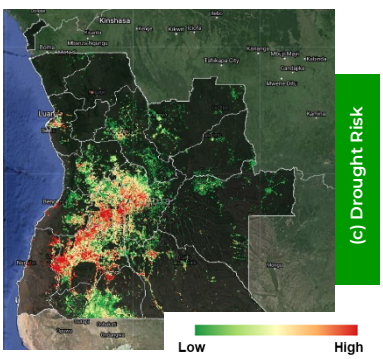
* No data provided from source

Vulnerability and Impact Assessment

Fig 2a-c. Drought hazard, vulnerability and risk maps for Angola







Vulnerability and Impact Assessment

The above maps (Fig 2a-c) depict drought hazard areas (a), areas of vulnerability (b) and drought risk (c). Drought risk is defined by characterizing hazard and exposure to vulnerability and the lack of adaptive capacity, using multisource information from satellite-derived drought indices and socio-economic conditions. In terms of components, hazard is defined through meteorological and agricultural drought i.e. Integrated Drought Severity Index (IDSI); and exposure and vulnerability expressed through population density, human modification index, water risk, and irrigated systems.

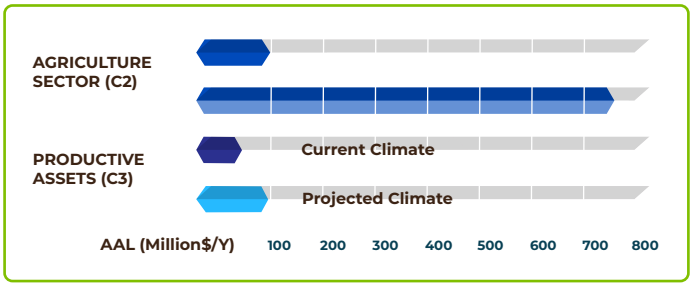
Agricultural production (agricultural practices i.e. irrigated area, food production as provided on HarvestChoice) was used to define levels of vulnerability which were finally combined with all three components to define levels of drought risk at the country level, referred to as the National Drought Risk Index (NDRI). The drought risk profile is therefore based on the probabilistic estimation of hazard and vulnerability to assess the drought risk in the exposed areas.

Among the drought prone areas in Angola, the NDRI shows that the southern provinces of Namibe, Huila, Bie and Cunene are most vulnerable, and have high drought risk as compared to other provinces (maps generated by IWMI), an historical trend that has also been confirmed and reported by others (Limones et al., 2020; Serrat-Capdevila et al., 2020).

Droughts have adverse on effects population and GDP

As indicated in Fig. 3, the Average Annual Loss (direct economic from crops), as a total for the whole country, is much higher under the projected climate (project period 2051-2100, and considering the IPCC scenario RCP 8.5) than it is in the current climate (from 100 to 744 million USD per year for the period 1979-2018) (UNDRR & CIMA, 2019). This represents a more than sevenfold absolute increase. The relative increase, represented by the values expressed as a percentage of the average GDP of the selected crops, rises from about 1.7% to almost 12.3%. This indicates that a substantial part of the annual crop production might be lost due to intensified droughts in future. Compared to current climate conditions, losses in productive assets (such as hydropower generation) resulting from drought will increase three times from current climate to future climate, from over 30 to almost 100 million USD per year (UNDRR and CIMA 2019).

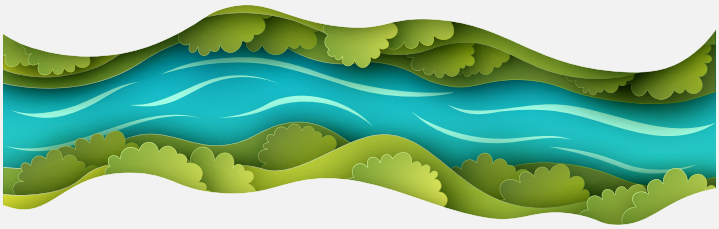
Fig 3. Direct economic losses per sector



Source: UNDRR and CIMA, **2019**

Water resources

As early as 2012, assessments called attention to the reduction in the availability of drinking water as rivers were drying up and the water table was in decline (CNPC, 2016). By 2016, in some of the drought affected areas, average water consumption was 3 to 7 liters per day per person, following four consecutive drought years (ibid.). According to Government reports, the Cuvelai River in Cunene, which serves as a barometer to assess overall water levels and the severity of drought in Cunene, ran dry.



Hydropower, as a key driver of the Angolan economy, is also hampered by drought conditions. Hydropower losses (defined as production levels below average reservoir conditions) are projected to increase in Angola's projected climate (UNDRR and CIMA, 2019). Hydropower losses of just over 160 million USD, which in current climate conditions are expected once in every 100 years, would be experienced once every five years on average under projected climate conditions.

This increase in annual losses is mainly due to very frequent (once every one or two years) events, meaning that many years will have below (current) average production in the projected climate conditions (ibid.)

Droughts impact on livestock

Under current climate conditions, there are approximately 7.2 million units (48% of the total value) that have been affected by drought (i.e. animals living in areas hit by droughts).

Livestock units are calculated as the sum of all animals in a certain place, weighed by the water and food needs of the animals following FAO conversion factors. Considering the projected climate conditions, it is evident that the number of livestock to be affected in future is projected to increase to more than 68% of the total livestock population.

Moreover, under the current climate condition, the livestock affected by drought are mainly concentrated in the southern regions, which will likely expand to the central and eastern regions, given the future climate projection (UNDRR and CIMA, 2019).

Fig 4. Direct economic losses per sector

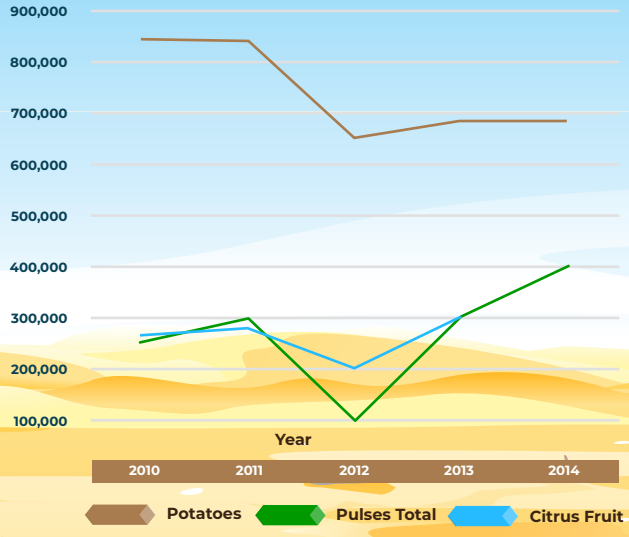
	Current Climate (1979-2018	Projected Climate (1979-2018
Million Unit/Y	7.2	47.6
%	10.3	68.5

Source: UNDRR and CIMA, **2019**

Droughts drag macro-level agricultural growth

According to the National Commission for Civil Protection (CNPC), Post Disaster Needs Assessment Report, droughts between 2012-2016 impacted agricultural production at the national level (CNPC, 2016). National production data of the country's main crops show some annual variability. Crop production losses were particularly high in 2012, as shown in Fig. 5, arguably as a result of widespread drought conditions during the 2011-2012 agricultural season. Production of pulses fell from over 304,000 to 96,000 tons between 2011 and 2012, resulting in a 68% reduction. During 2012-2016, lower food production and constrained access led to a reduction in food security and nutrition of affected households. Food consumption decreased in terms of the quality and quantity of meals (1 or 2 meals a day mostly millet porridge), resulting in households having to turn to alternative sources of food and income, such as producing / selling charcoal and gathering wild food for consumption and sale(ibid).

Fig 5. Production of potatoes, citrus & pulses



Source: SADC, **2016**

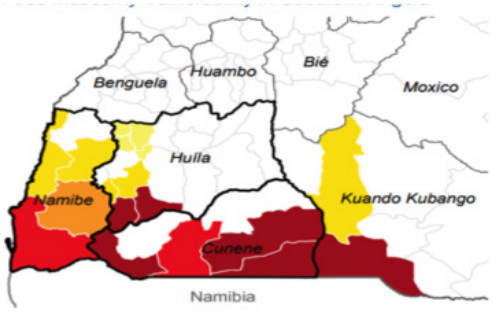
Vulnerability and impact assessment capacity

The Government of Angola recognizes the importance of conducting vulnerability and risk assessments, given that the country is particularly vulnerable to droughts and floods, which happen nearly every year. However, there is little data and institutional capacity within Government that enables a rigorous estimation of expected climate changes and impact in Angola.

Currently the Vulnerability Assessment Committee in Angola provides a report on the situation analysis of climate change in Angola and the groups and households affected by climate change. In addition, international organizations have similarly provided support in the implementation of impact assessments. In May 2019, the Government of Angola requested support from the World Food Programme (WFP) to provide technical support for strengthening capacity for vulnerability analyses, food security and nutrition monitoring through the Vulnerability Analysis and Mapping exercise. As such, WFP coordinates the food security assessment in the south of Angola (including the preparation of assessment tools, training of trainers and enumerators, and data analysis). In addition, WFP manages a food security assessment exercise (including training of operators and data quality check) that provides information on the dynamics of food security indicators in the country. The data collection for this started in October 2020, and the first bulletin at the provincial level is expected by January 2021. WFP further supports a decentralized approach to vulnerability and impact assessment through the establishment of provincial food security and nutrition working groups in Cunene and Cuando Cubango provinces, where provincial Government staff will be trained on food security and nutrition, data collection and analysis, and reporting. Given the strong external involvement in vulnerability and impact assessments in Angola, it would be beneficial for the Angolan Government to promote efforts that strengthen local capacity.

Finally, Angola's assignment of roles and responsibilities for disaster risk knowledge production, consolidation and dissemination is, on the whole, well identified, offering a good starting point for the country to build upon. Both the CNPC and the Instituto Nacional de Meteorologia e Geofísica (INAMET) collect and use historical data to build a database and to identify disaster impacts and weather anomalies. A national disaster loss database is being implemented. In terms of the knowledge itself however, no detailed hazard maps for floods and droughts are available. Disaster risk is qualitatively assessed, based on past experiences, but is present at all scales. At the local level, community leaders assess the degree of vulnerability based on personal experience. Safe areas are identified at a few sites (in Luanda), based on the local knowledge of Civil Protection officers. The integration of such experience-based knowledge is also not done according to a structured procedure (UNDRR, 2020).

Fig 6. Food insecurity vulnerability in southern Angola



Source: CNPC, **2016**

Monitoring and early warning systems capacity

A summarized traffic light checklist to illustrate the state of monitoring and EWS capacity in Angola (Table 2). It summarizes key aspects needed for a strong monitoring and EWS framework, most notably, whether there is an official definition of drought used in country; whether drought indicators are used, and if so, which ones; whether there is a drought early warning system (DEWS) in place, and if so how functional it is; and whether the country makes use of seasonal forecasting.

Table 2. Summarized checklist of monitoring and EWS capacity

Official definition of drought	Yes
Drought indicators used	No
Existence of a DEWS	No
Capacity to tailor EWS messages to end-user needs	No
Effective communication of early warnings with built-in feedback mechanisms	No
Use of most salient communication channels to reach women/youth/disenfranchised communities	No
Use of community relays, extensions services, local media to communicate EWS and reach at risk communities promptly	No
Seasonal forecasting	Limited

Yes No Limited

A year with below average rainfall is usually declared a period of drought by the President of Angola. Angola's disaster management framework is operated at the national, provincial, municipal and community levels through a structured organization. The CNPC ensures the involvement of all key stakeholders at the institutional level. Information on historical damages and losses is recorded and consolidated in line with the standards set by the Sendai Framework. There is no comprehensive EWS in place across the country, although context-specific EWS are available in some parts.

Consequently, institutions in Angola, international agencies and donors have emphasized the need for better preparedness at the national level, rather than recovery, in order to strengthen the inherent ability to respond and adapt to disturbances. Warning messages are typically generated after an event has occurred and not linked to a contingency plan. While Angola makes use of both weather and hydrological forecasting and monitoring tools, they have limitations at different levels. The hydrological monitoring systems serve predominantly water management purposes and are not used in real-time and they have a weak spatial coverage, with only a handful of active automatic stations. The monitoring and forecasting in Angola is done by the INAMET, which focuses on weather forecast and INRH. However, there are no stable data exchange protocols in place between the two institutions and agriculture. This poses a potential threat as far as data accessibility is concerned.

The existing capacities to process real-time data are insufficient to guarantee an operational use of an EWS. Institutional mechanisms to manage real-time monitoring, forecasting and early warning are also not yet in place. The Ministry of Agriculture issues a bulletin every three months with a special focus on food security (UNDRR, 2020).
There is also insufficient climate monitoring infrastructure. Agricultural planning and extension as a result is also difficult due to the lack of appropriate seasonal forecasts.

Communication and dissemination Angola's communication systems are reasonably well organized: Procedures and infrastructure for communication and dissemination of information are in place which are adequate to communicate, update situational analyses and coordinate civil protection. INAMET uses various transmission media (radio, phone, newspapers) to disseminate forecasting information to the population. Angola conducts public awareness campaigns to educate the population on how to react in the case of emergencies, which contributes to its preparedness (UNDRR, 2020). Given the challenges faced in relation to data collection, processing and management, emphasis should be placed on strengthening the capacity of line ministries and local authorities with the necessary information management systems, including measures to facilitate monitoring (CNPC, 2016).

Combined Drought Indicator (CDI)

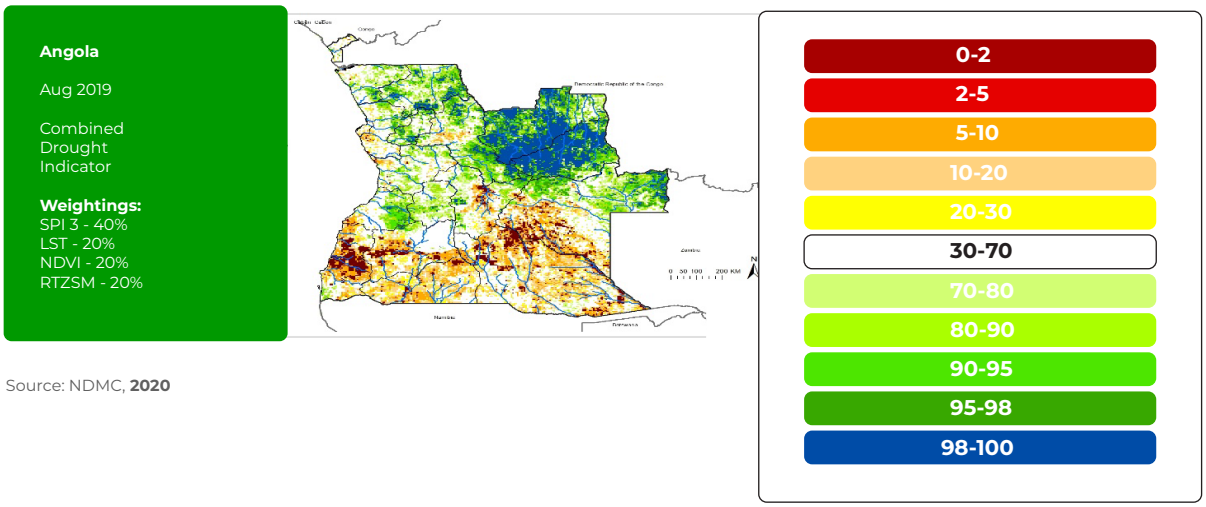
Using a combined drought indicator (CDI) approach, the National Drought Mitigation Center (NDMC) at the University of Nebraska-Lincoln, in partnership with the World Bank, has developed a Drought Monitor that represents a consolidation of indices and indicators into one comprehensive drought map.

The CDI map for Angola was created using a weighted combination of four indicators of drought: precipitation, vegetation stress, land-surface temperature and soil moisture. August 2019 was selected to depict the severity of the recent 2018/19 drought. August, being the peak of the dry season when less rain is expected, provides an assessment of the drought's magnitude (duration and intensity), spatial extent, probability of occurrence and impacts. The August 2019 CDI map shows much of the country impacted by some degree of drought.

Without an effective drought monitoring and EWS to deliver timely information for early action, such as the CDI, effective impact assessment procedures, proactive risk management measures, preparedness plans aimed at increasing the coping capacity and effective emergency response programs directed at reducing the impacts of drought, the country will continue to respond to drought in a reactive, crisis management mode.

Monitoring and Early Warning Systems

Fig 7. Combined Drought Indicator (CDI) for Angola, August, 2019



Source: NDMC, **2020**

Mitigation, Preparedness and Response

Drought policy framework

Angola does not have a dedicated drought policy. Instead, drought management is embedded within its disaster management policy framework, and indirectly addressed in related policies.

Table 3. Policy interventions and timelines

Key disaster policies in Angola	Years
Strategic Plan for Risk Management	2011
National Development Plan (NDP)	2013-2017
Strategic Plan for Disaster Prevention and Risk Reduction	2015
National Plan for Disaster Preparedness, Contingency, Response and Recovery, PNPCRD	2015-2017
National Strategy for Disaster Risk Reduction	
Sendai Framework for Disaster Risk Reduction (signatory)	2015-2030

Many of the actions incorporated in these policies, plans and strategies are linked to both adaptation and mitigation as an approach to address drought issues. Angola also developed Internationally Determined Contributions (INDC) that outline Angola's priorities in the implementation of adaptation measures in the main sectors such as agriculture; coastal zones; land-use, forests, ecosystems and biodiversity; water resources and health.

Angola's National Adaptation Plan of 2010-2011 provides guidance for climate change in national development. Some of its provisions include: the development of a national system of awareness raising, meteorological observation networks covering all provincial capitals and the creation of a National Centre for awareness raising of experts in Meteorology and Environment. The National Plan further outlines adaptation and mitigation measures in the areas of agriculture, fishing, water resources, biodiversity, construction, energy and waste management.

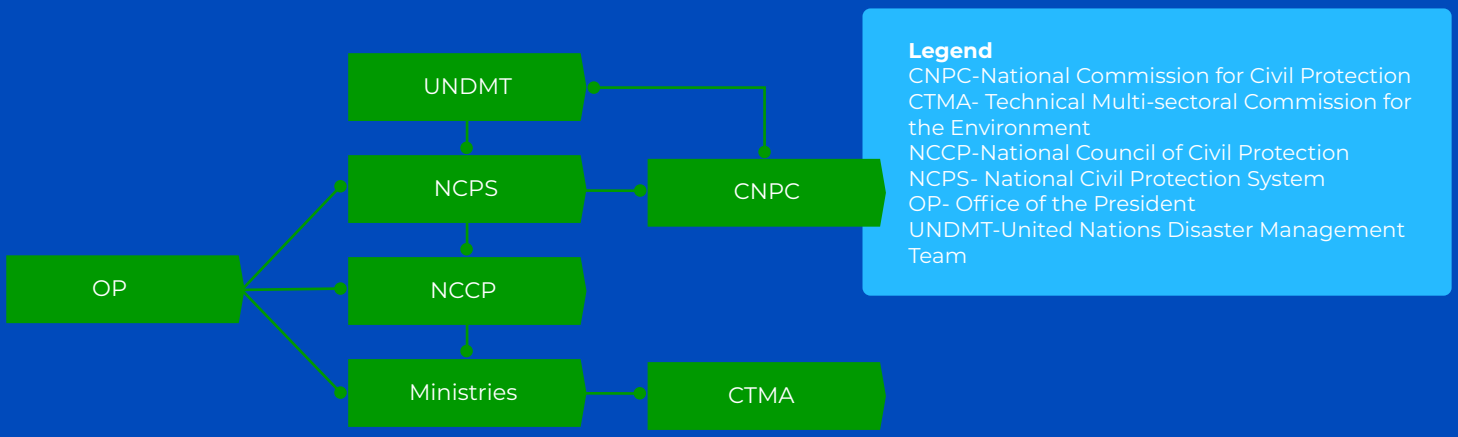
In terms of the institutional framework, the National Civil Protection System (NCPS), established in 2003, facilitates inter-sectoral coordination and synergies on prevention, mitigation, preparedness, emergency response and recovery across sectors, and at the different Government levels. The National Civil Protection System consists of the CNPC, which is a specialized body responsible for technical assistance and operational coordination. It is composed of representatives of ministries and representatives of other relevant institutions. Response actions are coordinated by the Minister of the Interior. Coordination between the national system and the United Nations and its partners is through the Disaster Management Team (UNDMT) and the CNPC together with other technical groups. The UNDP has been helping the CNPC to reduce disaster risk of Government through the enhancement of institutional capacity of the CNPS for several years.

Institutions and coordination

In addition to the NCPS, the National Council of Civil Protection (NCCP) is an inter-ministerial body for consultation chaired by the President and integrated by the sector Ministers and the Director of the National Civil Protection Service. The coordination of disaster response is done by the President.

Other multi-sectoral coordination mechanisms are also operational in Angola that intersect with drought management. The Technical Multi-sectoral Commission for the Environment (CTMA) is the Government agency with overall responsibility for drought decision-making. It is chaired by the Minister of Environment and has representatives from all ministries that have work with environment policy. These constitute the Ministry of Territorial Administration (MAT); Ministry of Agriculture (MINAGRI); Ministry of Energy and Water (MINERGA); Ministry of Oil (MINPET); Ministry of Geology and Mining (MINGM); Ministry of Science and Technology (MINSCT); Ministry of Transport (MINTRANS); Ministry of Commerce (MINCO); Ministry of Fisheries (MINPES) and Ministry of Finance (MINFIN). In addition, the international donor community is heavily involved in drought response in Angola. These organizations provide technical skills and experiences that improve the quality of drought recovery, and support decision-making.

Fig 8. Angola's drought institutional framework



Since 2012, the Government and the international community have been providing humanitarian aid to support drought-affected populations, primarily in the southern provinces. The government's capacity for response is improving but still limited, due to institutional limitations such as human resources, logistic infrastructure and equipment, and technical expertise (CNPC, 2016). The government's capacity for response is also limited due to reduced public spending and transfers to provinces from the central level, as a consequence of lower revenues and the country's economic crisis. In addition, the process of planning for prevention and risk reduction is affected by the reactive, emergency response to the disaster. In this sense, the priorities of the provinces are still concentrated in drought response. Finally, it has further been acknowledged that recovery planning and implementation is still not a process that has been integrated and institutionalized by Government, and capacity building is needed to strengthen the recovery process now and in the future.

In order to address the above challenges and to ensure resilient drought recovery, the recovery strategy in DRR has identified key actions that should be implemented in a phased manner. In terms of water shortage, the Angolan government has implemented a hydro-infrastructural intervention in the southern provinces with both small-scale operations such as rehabilitating or producing new water holes and reservoirs and large-scale projects in the form of a water transfer system from the Cunene River into the Cuamato region. This is after the Government approved an emergency plan of drought in May 2019 with an allocation of USD200 million. Before this allocation, the main water and energy infrastructure was allocated from the investments made in 1960s by the colonial Portuguese authorities. While these interventions were advisable at the time, no hydrological pre-feasibility studies or safeguards analyses were conducted. For several of these projects, it is not clear who the recipient populations are, and who will fund the operation and maintenance of such infrastructure.

Additionally, the Government has implemented programs to ensure water availability and these include digging of deep wells in the region, in an effort to access groundwater resources. However, these interventions were costly and did not result in the desired identification of groundwater resources, ultimately resulting in little progress to supply the population with adequate water supply. Many of the pumps for these groundwater sources use gasoline engines which require fuel. During extreme droughts, many wells dry up. Investments in hydrological planning and technical capacity strengthening is critically important to inform future groundwater projects.

The government also uses disaster recovery planning, established in 2015, as a tool for drought resilience. The UNDP, supported by the Government of Angola, led the 2012-2016 Droughts PDNA in the most affected three provinces to facilitate a critical transition from emergency to rehabilitation. The PDNA estimated a total of USD750 million of damages and losses, and 1.2 million people being affected every year between 2012 and 2016 (CNPC, 2016). Based on this result, the Government developed the Drought Resilience Framework (DRF) 2018-2022. In addition to the short-term recovery measures, the DRF also proposed medium-to-long-term sustainable measures in nine key sectors to reduce the vulnerability and associated risk of the local population to future droughts, floods and the growing impact of climate change and drought. Mitigation and adaptation measures offered in the Angolan INDC emphasize the importance of their implementation, avoiding exacerbation of the impacts of climate change and drought that already have disproportionate adverse effects on gender, in particular in the agriculture, water resources and biomass energy sectors.

water for people and their animals to meet the daily minimum water requirements of 15 litres per day; promotion of community-led total sanitation and prevention of water-borne diseases initiated by the Government with the support of UNICEF; promotion of public and personal hygiene practices to prevent the spread of diarrheal disease such as cholera, dysentery, ameobiasis and others mainly for children under five years; strengthening synergies between provincial directorates in order to improve efficiency of national or provincial programs as well as providing safe water to health centres, schools and open markets.

There is also an ongoing in-service training program on drought for municipal health workers, including paediatricians, in 7 provinces. In response to the drought which affected some regions in 2012–2013, 2,016 community workers were trained to detect and treat malnutrition within communities, and assistance was provided to 1,087,603 children in 7 provinces, namely: Bié, Huambo, Kwanza-Sul, Zaire, Huíla, Benguela and Cunene (NPHD, 2013 Report).

Given the overview of Angola's capacity in the three pillars, the following recommendations are noteworthy:

- Key to Angola's drought response efforts is the need to strengthen capacity and coordination within Government, particularly of local authorities, and across all sectors. This includes added support to provincial and municipal authorities to facilitate a decentralized management and implementation process. The World Bank has earmarked additional financing in preparation to do this, as well as to strengthen institutional capacity to maintain rural water points.
- Given the challenges faced in relation to data collection, processing and management, Government and its partners may wish to further strengthen the capacity of line ministries and local authorities with the necessary information management systems, including measures to facilitate monitoring.
- The budget allocation for governance also considers actions to ensure strong coordination in the recovery process. The recovery process requires a multi-sectoral and inter-institutional approach given the multiple linkages among the sectors and the many national and local institutions and international actors, which require appropriate processes and mechanisms to facilitate collaboration.
- To facilitate improved coordination and information sharing, the Angolan Government may consider setting up appropriate coordination mechanisms to bring together the range of technical expertise required for recovery to provide sustained technical assistance to families for the long duration of the recovery process.
- As Angola mobilizes to develop drought-specific policy, it is once again important to emphasize the benefits of it being inclusive and participatory, integrating national and local authorities, the affected communities, community organizations, women's groups, traditional authorities and other relevant local actors.
- The drought impacts were severe in the south of Angola because a large number of water points were in disrepair. Arguably one of the most important government actions for building immediate drought resilience would be to increase the capacity to monitor the status of rural water points and maintain and repair them systematically. Maintaining and operating existing basic infrastructure is the first step before additional investments. Without this, large infrastructure will have little immediate benefit for the rural communities scattered across the landscape.

Recent drought resilience efforts by the international community

Table 3. Selected projects focused on drought, or some aspect of it, in Angola.

World Bank

Luanda Bita Water Supply Guarantee Project for Angola
Budget (USD): 500M
Time Period: 2019 -2023

Strengthening the National Social Protection System Project (Cash Transfer)
Budget (USD): 320M
Time Period: 2013 -2023

Angola Crisis Response and Resilience: Health and Nutrition Security (P172985)
Budget (USD): 145M
Time Period: 2013 -2023

GEF – LDCF

Integrating Climate Resilience into Agricultural and Agropastoral Production Systems
Budget (USD): 66M
Time Period: 2016 -2021

Enhancing Climate Change Resilience in the Benguela Current Fisheries System
Budget (USD): 24M
Time Period: 2015 -2020

European Union

Supporting EU-African Cooperation on Research Infrastructures for Food Security and Greenhouse Gas Observations
Budget (USD): 2.4M
Time Period: 2017 -2020

World Vision

Supporting those affected by the drought by drilling and rehabilitating water sources to provide clean and safe water for affected people
Budget (USD): N/A
Time Period: 2019

European Commission

FAO is implementing the project together with AGRINATURA for supporting agricultural development such as provision of seeds, rice development and rural entrepreneurship
Budget (USD): 14.6M
Time Period: 2018 -2019

FAO

Building Resilience of Vulnerable and Drought-Affected Communities in Huila Province
Budget (USD): 169.345
Time Period: 2017-2018

GEF – UNEP and UNDP

Addressing Urgent Coastal Adaptation Needs and Capacity Gaps in Angolat
Budget (USD): 18.5M
Time Period: 2016-2019

GEF and UNDP

Promoting Climate-Resilient Development and Enhanced Adaptive Capacity to withstand Disaster Risks in Angola's Cuvelai River Basin
Budget (USD): 9.4M
Time Period: 2016-2019

UN OCHA

Central Emergency Response Fund support in 2019-2020
Budget (USD): 9.8M
Time Period: 2019-2020

NORAD

GFCS [Global Framework for Climate Services, World Meteorological Organization] — Adaptation and Disaster Risk Reduction in Africa
Budget (USD): 7M
Time Period: 2016

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Data Sources:
Climate Data: CHIRPS
Drought Risk: International Water Management Institute (IWMI)
CDI: National Drought Mitigation Center at the University of Nebraska-Lincoln
Population Data: WorldPop
Livestock, GDP: FAO, World Bank

About the Southern Africa Drought Resilience Initiative (SADRI)

SADRI is a World Bank initiative supported by the Cooperation in International Waters in Africa Program (CIWA) that integrates across the energy-water-food-environment nexus to help lay the foundations for making southern African countries more resilient to the multi-sectoral impacts of drought. Its main objectives are to generate tools and dialogue for enhancing partnerships and capacity across Member States and to inform future national and regional investments in drought-related activities.

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