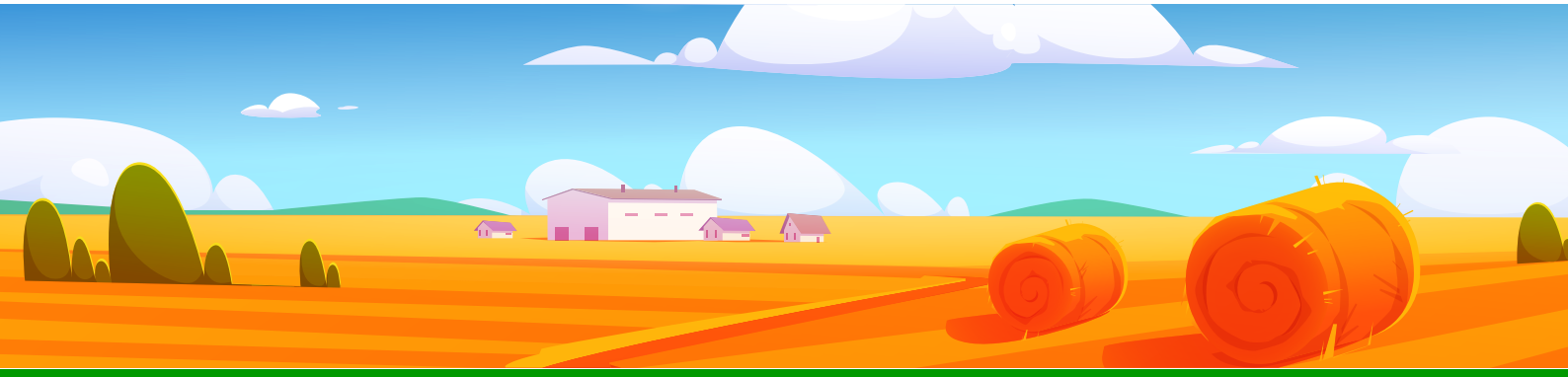
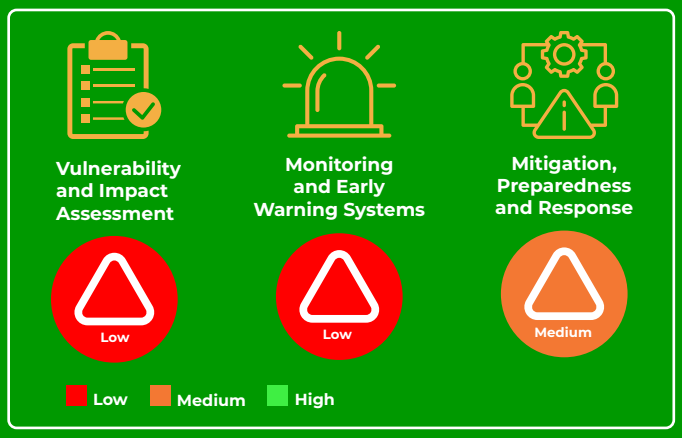
COUNTRY OVERVIEW

As a Small Island Developing State (SIDS), the Republic of Mauritius faces a range of hazards, including cyclones, storm and tidal surges, torrential rains, floods and flash floods, landslides, tsunami as well as technological hazards such as gas spills, port area hazards and boat accidents. While the country is not particularly prone to drought, it is classified as a water stressed country, and is challenged by seasonal water scarcity. Its last recorded drought was in 1998, when the country experienced a high deficit in rainfall, beginning in November 1998 and ending in January 1999, and affecting all sectors. As the worst drought since 1904, the country faced serious water shortages lasting up to six hours each day. During this time, around 1.2 million people had water supply for only one hour each day. The sugar industry experienced a loss of USD 160 million compared to revenues the previous season. More broadly, the country has experienced increasingly warmer seasons, erratic rainfall as well as dry spells that are typically followed by exceptionally heavy rains. These have had adverse effects on coastal erosion, landslides, dwindling numbers of animals and plants, and reduced yields in agriculture and fisheries.





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; 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 Mauritius' drought resilience capacity under the three pillars framework.

Mauritius's vulnerability and impact assessment capacity to address drought can be regarded as medium as it follows a decentralized operational structure, with local government tasked with incorporating climate risks in development plans; mobilizing resources for adaptation; adjusting building and land use regulations to consider climate risks and enhancing disaster preparedness, response and recovery. Given how densely populated it is, the understanding of hazard impacts and vulnerabilities needs to be disaggregated to the greatest extent possible. In addition, given the country's vulnerability to roughly 40 different types of disasters, it is important that the country adopts a multi-hazard assessment approach in which drought is integrated.

Monitoring and early warning systems (EWS) for natural hazards such as cyclones, tropical storms and other more prevalent disasters, is good in Mauritius. The EWS can provide timely warnings to the end-users, making use of SMS messaging. It is also well-integrated into the regional and international monitoring systems. However, drought is less prioritized and not well-integrated into these systems within country. It is therefore categorized as medium.

Mauritius also has systems in place for mitigation, preparedness and response to climate change, and drought is embedded within this. Whilst strong coordination and participation of all key stakeholder is in place for climate change mitigation, preparedness and response, the little focus on drought means water scarcity is often overlooked in mitigation strategies. Its capacity under this pillar is categorized as low.

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, NDMC or IWMI.

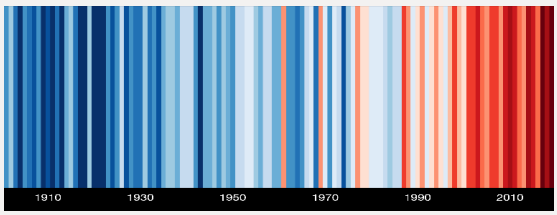
Drought: Historical and Future

Historical climate

- As illustrated in the #ShowYourStripes 'warming stripe' graphic in Fig. 1, the Mauritius stripes turn from mainly blue to mainly red in more recent years, illustrating the rise in average temperature since 1901.
- Mean annual temperature is 23.1°C (1901-2016).
- Mean annual precipitation is 1931.4mm (1901-2016).

Major droughts in Mauritius:
Mauritius does not often experience drought, with the most recent drought event taking place in 1998/99. Nonetheless, less intense dry spells have been experienced periodically.

Fig 1. Temperature change in Mauritius, 1901-2019



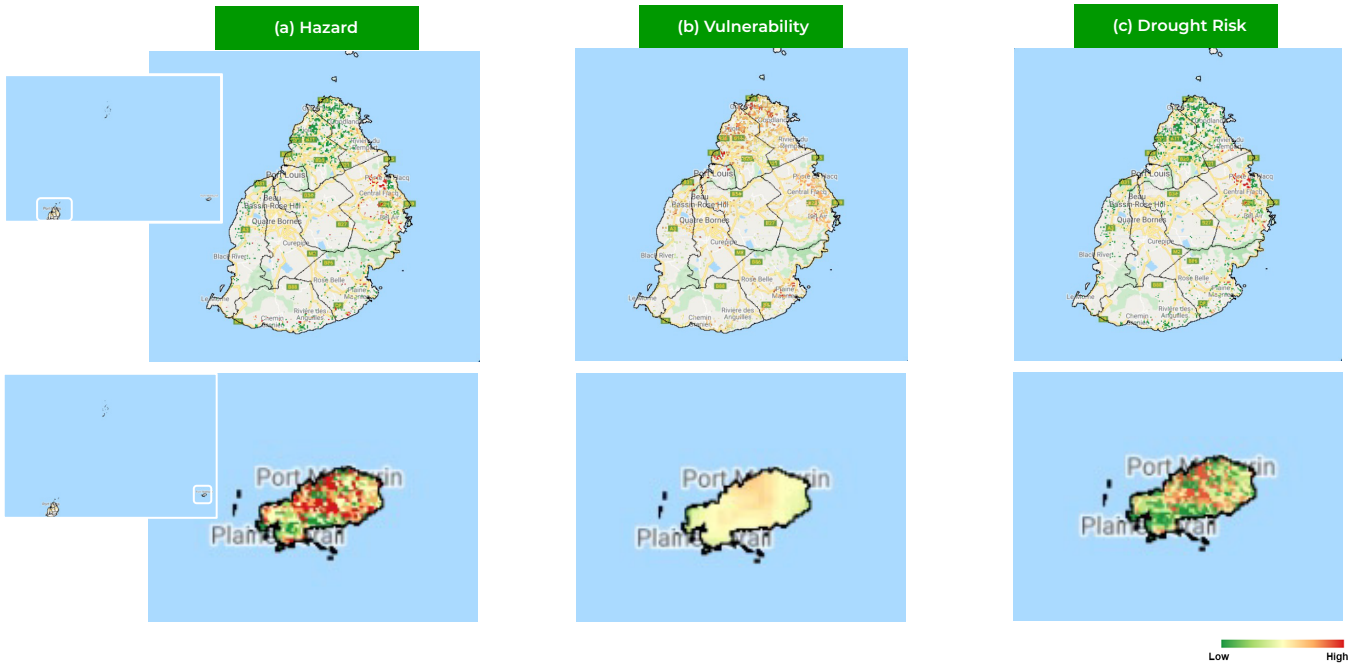
Source: Berkley Earth/#ShowYourStripes

Future climate

- Mean annual temperature is expected to rise by 1.3°C in 2040-2059.
- Annual precipitation is expected to decrease by 31.5mm in 2040-2059.
- Annual Maximum 5-day Rainfall (25-yr RL) is estimated to increase by 15.5mm in 2040-2059.

Vulnerability and Impact Assessment

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



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 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 Mauritius, the NDRI shows that only few regions are affected by drought as shown by the change of colour from green to red (maps generated by IWMI).

The NDRI shows that only regions in the north and parts of the eastern regions are more vulnerable and risk to drought. The impacts of drought are not uniform across regions as shown by different colours in different regions. The consequences of drought include serious water shortages, low agricultural production, food insecurity, and increased crop diseases.

Impacts of growing water scarcity in Mauritius

Mauritius has a mixed developing economy based on agriculture, exports, financial services, and tourism. Since the 1980s, the government of Mauritius has sought to diversify the country's economy beyond its dependence on agriculture, particularly sugar production. Sustained growth and improved living conditions since independence in 1968 have reduced risks from some disasters in the Republic of Mauritius. Local risk transfer mechanisms have been established, for instance for drought and cyclone damage to sugar production (Republic of Mauritius, 2021).

While sugar cane is the main crop produced in Mauritius in terms of volume, the food production sector (such as potatoes and pumpkin) is growing rapidly, and is greatly impacted by water scarcity. Between 1999 and 2009, sugar cane production increased by 20%, potato production by 29% and pumpkin production by 177% (FAOSTAT, 2010).

Due to the temporal and spatial distribution of rainfall, Mauritius is said to have inadequate water resources, especially during the dry months of October to December, to meet the growing demand. Thus, the island experiences seasonal water scarcity. In addition, with renewable water availability per capita at 1,083m³/year in 2013, Mauritius is classified as a water-stressed country, and is expected to fall under the water-scarce category by 2020 (projected at 974m³/year, below the 1,000 m³/year threshold). Mauritius is also highly vulnerable to climate change, whose negative impacts are being already felt in the last decade through longer dry seasons, shorter wet seasons and increased intensity of droughts. This results in more than 20% of the population suffering recurrent intermittent water supply under normal conditions (i.e. even during the wet season) – a figure that can rise to 75% during the dry season.

Population growth, increasing irrigation requirements, growing industrial and commercial activities, changes in land-use practices and the impact of climate change are therefore regarded as the major challenges to meet growing water demands in Mauritius.

Half of the water supply in Mauritius is groundwater, which is extracted from five main aquifers through boreholes, and the rest of the water balance comes from reservoirs (30%) and river off-take (20%). Aquifers are sensitive to over exploitation in the long term particularly during dry seasons. Mauritius consists of 25 major river basins and the largest are the Grand River South East and the Grand River North West. Most rivers are perennial, originating from the central plateau. Discharge to the sea is estimated to be 0.5km³/year.

Table 1. Water storage levels in Mauritius in 2019

Reservoir	Capacity (Mm³)	% Minimum (month(s))	% Maximum (month(s))
Mare aux Vacoas	25.89	51 (Jan)	100 (Jul & Aug)
Midlands Dam	25.50	60 (Jan & Dec	100 (Apr - Aug)
La Ferme	11.52	38 (Dec)	80 (Jun & Jul)
Mare Longue	6.28	70 (Jan)	100 (Jun-Aug, Oct & Dec)
La Nicoliere	5.26	41 (Sep)	100 (Apr - Jun)
Piton du Milieu	2.99	75 (Dec)	100 (Jan - Aug & Dec)

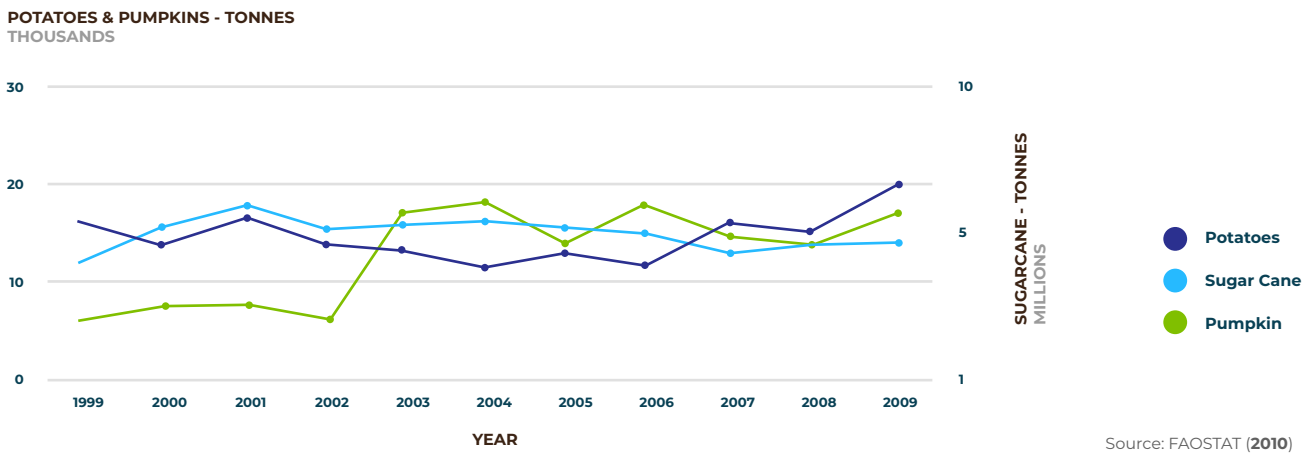
Source: Mauritius statistics (**2020**)

Water scarcity's impact on agricultural growth

About 40% of the country's land is used for crop cultivation, of which about 90% is sugarcane, with the remaining land planted with tea, tobacco and a small number of food crops, mainly vegetables and fruits. Recent figures show that below-average rains in early 2021 undermined production prospects of 2021 food crops, estimated at below-average levels in 2020.

Rainfall trends show an increase in the frequency of dry years after the 1990s with the most severe dry spells experienced in 1999, 2009 and 2011. In 2009, the country observed a dry spell, and the contribution of agriculture to GDP remained negative for the four consecutive years thereafter.

Fig 3. Mauritius crop production - tonnes (2009)



Source: FAOSTAT (**2010**)

Vulnerability and Impact Assessment

Vulnerability and impact assessment capacity

Given the country's vulnerability to several natural disasters such as cyclones, storms and tidal surges, torrential rains, floods and flash floods, landslides and tsunami, investments have been made in risk reduction infrastructure, particularly for flooding.

An increase in personal means, together with government programs to improve the quality of housing, have helped families to be more disaster resilient (Republic of Mauritius, 2021). Lessons learned from the 2013 flash floods, whereby Mauritian disaster response mechanisms were overwhelmed, and 11 persons lost their lives, now reflects wide recognition of the need to have stronger institutional and policy mechanisms not only for the response to disasters, but also to prevent and reduce disaster risks.

In May 1999, Mauritius became one of the first African countries to submit its initial National Communication to the UNFCCC, providing a national-level summary of vulnerabilities in Mauritius and associated mitigation and adaptation options. With the support of key stakeholders, Mauritius led the development of the 2nd National Communication to the UNFCCC, released in 2011 (Gray & Lalljee, 2012). These and other policy documents provided a good policy framework on which the foundations of Mauritius' vulnerability and impact assessment capacity was built.

Mauritius follows a decentralized operational structure, with local government tasked with incorporating climate risks in development plans; mobilizing resources for adaptation; adjusting building and land use regulations to consider climate risks; and enhancing disaster preparedness, response and recovery. Further, the National Adaptation Plans (NAPs) emphasize the need to assess the capacity of local governance systems to implement climate change adaptation and identify capacity needs and address them accordingly (UNFCCC, 2015). Similarly, there is a need for training and capacity building assessments of the District Council staff working in climate change departments. There are limited skills in drought and the development and implementation of contingency plans for those affected (Williams, Rosendo, Sadasing & Celliers, 2020).

According to Mauritius' National Disaster Risk Reduction and Management Strategic Framework, 2020-2030, the country's challenge in dealing with disaster risks rests on two considerations.

Firstly, Mauritius is prone to roughly 40 hazards. Focusing only on the risks most significant in the past can hide the increased threat posed by other hazards, including the impact of physical and social development on disaster-proneness (Republic of Mauritius, 2021).

Secondly, the understanding of hazard impacts and vulnerabilities needs to be disaggregated to the greatest extent possible. This is needed as Mauritius island, and somewhat less so Rodrigues, is densely populated. This means that hazard impact, vulnerability and resulting risk can change over very small distances. Addressing risk impacts, whether through better preparedness or risk reduction, needs to consider the large scale variability in risk, and particularly social vulnerability, present in the two main islands of the Republic (ibid).

The Diagnosis of Capacities to Manage Disaster Risk – Mauritius report recommends that the Republic conduct a multi-hazard risk assessment. These results should be available to disaster risk managers and government officials involved in disaster risk reduction and management, including at the local level. Further, and to promote a wider understanding and engagement in disaster risk management, the risk assessment results should be available to the private sector and accessible to individual residents of the country on-demand. Ensuring wide access and use of the risk assessment information is most effectively done by using a geographic information system (GIS) to manage risk data and analysis.

Multi-hazard risk information will also improve the precision of warnings and alerts based on a multi-hazard impact-based forecasting and warning process, as recommended by the World Meteorological Organization (WMO). Finally, data and analysis from a risk information system enables development of a disaster response decision support system. This system would draw together data and analysis on risk, response capacities, damage assessments and ongoing operations to effectively deliver relief and recovery aid where and when needed. With risk information integrated into the response decision support system, risk reduction becomes an integral part of recovery from disaster.

Drought affects several sectors and with limited data available of past and likely future conditions, there will be little development of effective communication to highlight potential risks. This requires extensive coordination between stakeholders and the development of joint action planning and decision-making that is sufficiently transparent, accountable, and inclusive. The shortcoming in this is that the sensitizing of communities regarding their vulnerability to climate change has fallen largely to environmental organizations instead of each institution taking a leading role in a collaborative manner.

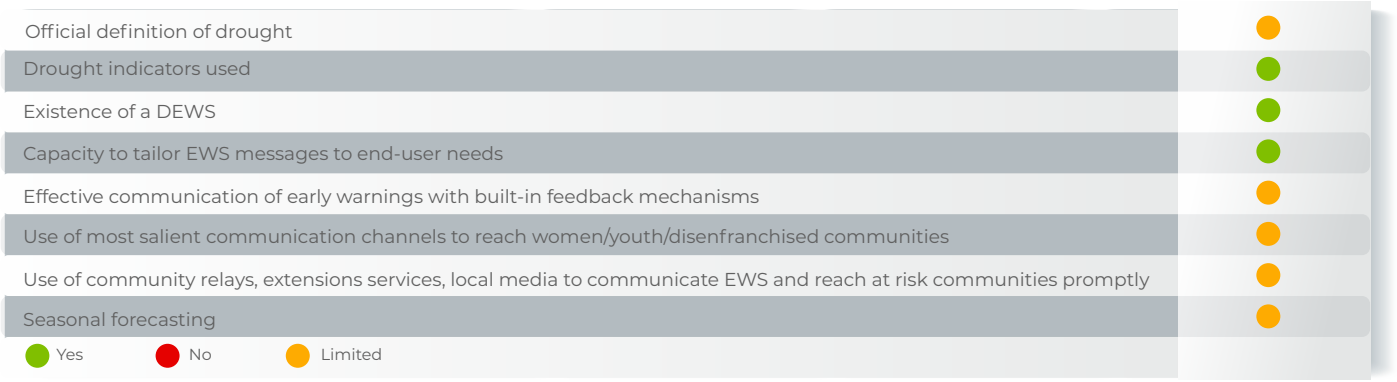
To complement a better understanding of risk, attention can be given to financing risk reduction. As a general approach, the reduction of risk should be incorporated into project design and funding. At the same time, as with flooding on Mauritius island, it may be necessary to fund and implement risk reduction programs targeting specific hazards, social conditions or locations.

The private sector can also be expected to fund risk reduction. There should be a requirement that developmental investments (e.g., housing estates) incorporate an assessment of risks and risk mitigation costs into their budgets. This approach corresponds with the integration of risk reduction into the development process as set forth in the Sendai Framework for Disaster Risk Reduction 2015-2030 (Sendai Framework). The Government needs to consider whether a cross-government disaster risk reduction platform will provide an effective mechanism to ensure identified risks are being addressed in a comprehensive and coordinated manner. This platform approach can be extended to the private sector and international stakeholders to ensure that the actions associated with this National Strategic Framework are implemented over the decade ahead.

Monitoring and early warning systems capacity

Table 2 represents a summarized traffic light checklist to illustrate the state of monitoring and early warning system capacity in Mauritius. It summarizes key aspects needed for a strong monitoring and early warning systems 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



The effects of climate change are becoming evident in Mauritius. Rainfall trends show an increase in the frequency of dry years with the most severe dry spells experienced in 1999, 2009 and 2011. The country produces a wealth of disaster risk data with surveillance systems in place to monitor various dimensions of risk (water quality and water availability; extreme weather events through a network of observation stations; epidemics; crop and livestock diseases). An Early Warning System (EWS) is also in place (CADRI Partnership, 2020).

The Mauritius Meteorological Services is responsible for the development and improvement of warnings and advisory systems for all-natural hazards affecting the country and the implementation of the national multi-hazard emergency alert system to provide accurate and timely advice to the public and key stakeholders (CADRI Partnership, 2020). The Mauritius Meteorological Services is mandated by the National Disaster Risk Reduction (DRR) and Management Act (2016) which provides legal provisions for the establishment of a multi-hazard early warning system and assigns clear responsibility to the Mauritius Meteorological Services. It relies on a network of 30 automatic stations which provides real-time data, and 200 rainfall stations.

The EWS can provide timely warnings to the end-users, making use of SMS messaging, secured through a back-up mechanism through the radio VHF in case the network breaks-down (CADRI Partnership, 2020). The EWS is also well-integrated into the regional and international monitoring systems. Mauritius also contributes to the Monitoring of Environment and Security in Africa (MESA) programme of SADC which uses satellite earth observation data and land-based monitoring technology to monitor drought and other disasters. In the dissemination of information, the responsible coordinating units make sure to involve communities. The different ministries then engage with their counterparts on the preventative measures to implement. Furthermore, the Ministry of Health and Wellness manages the surveillance and the EWS for pandemics and epidemics (CADRI Partnership, 2020). The National Disaster Risk Reduction and Management Centre (NDRRMC) is responsible for monitoring and oversight of the implementation of the Act and National DRR Strategy across all tiers of government.

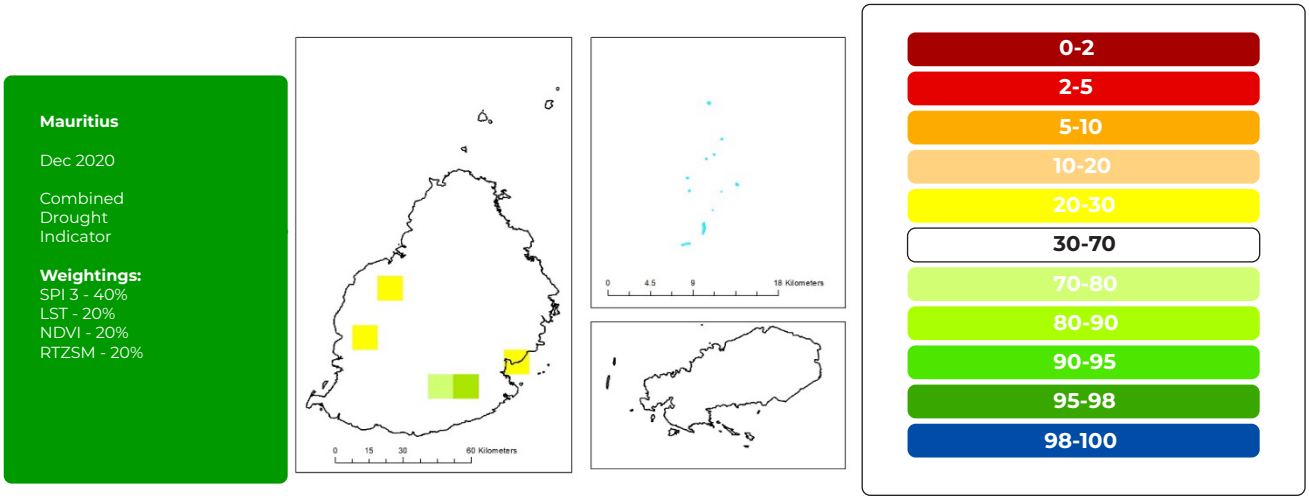
Combined Drought Indicator (CDI)

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 Mauritius was created using a weighted combination of four indicators of drought: precipitation, vegetation stress, land-surface temperature and soil moisture. December 2020 was selected to depict the severity of the most recent drought. December, being the end of the rainy season when more rain is expected, provides an assessment of the drought's magnitude (duration and intensity), spatial extent, probability of occurrence, and impacts. The December 2020 CDI map shows the south and central part of the country severely 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 programmes 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 4. Combined Drought Indicator for Mauritius, Dec 2020



Source: NDMC, **2020**

Mitigation, Preparedness and Response

Drought policy framework

The government of Mauritius has provided an enabling environment for disaster management through its policy and institutional framework, some of which were institutionalized as early as the 1970s. Mauritius' policies related to disaster and drought management include:

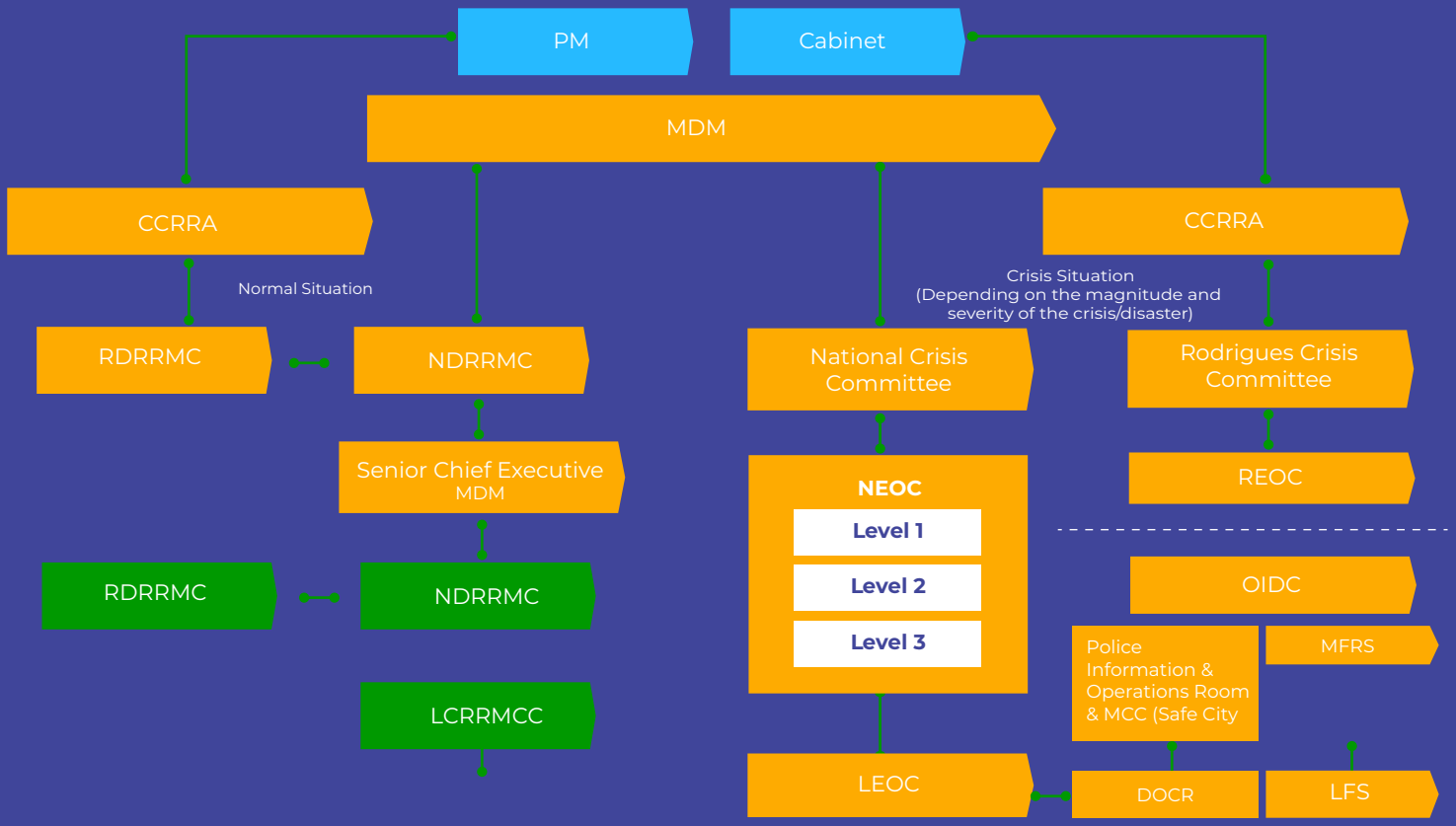
- Ground Water Act, 1973
- Board of Agriculture Act, 1977
- Irrigation Authority Act, 1978
- Chemical Fertilizers Control Act 1980
- Forests and Reserves Act, 1983
- Wildlife and National Parks Act, 1993
- Beach Authority Act, 2002
- National Development Policy, 2003
- Waste Water Management Authority Act, 2000 (amended 2004)
- Central Water Authority Act, 1971 (amended 2005)
- Plant Protection Act, 2006
- National Forestry Policy, 2006
- National Biodiversity Strategic and Action Plan (2006-2015)
- Environment Protection Act, 2002 (Amended 2008)

Based on the above, Mauritius has a variety of policies and strategies relevant to address natural disasters, but without a specific focus on drought management. Most of the polices focus on natural resource management during climate change.

Mauritius also adopted the Strategy for the Further Implementation of the Barbados Program of Action for the Sustainable Development of Small Island Developing States (MSI) which was negotiated in January 2005 and was adopted by the UN General Assembly. Mauritius has been very committed to implementing the MSI at the domestic level since 2005. The MSI recognizes the specific vulnerabilities of Small Island Developing States (SIDS) and proposes measures to be taken by SIDS, the UN system and Development Partners in order to address the development concerns of SIDS.

Mauritius's National Environmental Policy highlights how Government aims to increase participation and accountability for environmental performance in the country, ensuring citizens are given better access to environmental information to support this. The policy recognizes that little administrative and budgetary authority has devolved to the local level, making it difficult to implement, much less assess and prioritize projects locally.

Fig 5. Mauritius's disaster risk reduction and management institutional framework



Legend
PM- Prime Minister
MDM- Minister responsible for Disaster Management
CCRRA Chief Commissioner Rodrigues Regional Assembly
RDRRMC- Rodrigues Disaster Risk Reduction and Management Council
NCCSCEM- National Crisis Committee Senior Chief Executive Ministry responsible for Disaster Management
LCRRMCC- Local Disaster Risk Reduction and Management Committees City/ Municipality/ District Council
LEOC- Local Emergency Operations Command
NEOC- National Emergency Operations Command
REOC- Rodrigues Emergency Operations Command
OIDC- Outer Islands Development Cooperation
DOCR- Disaster Operation & Coordination Room
MFRS- Mauritius Fire & Rescue Service
LFS- Local Fire Station
NDRRMC- National Disaster Risk Reduction and Management Council

Mauritius is also a signatory to several international climate change conventions, including: the Kyoto Protocol to the Convention on Climate Change (ratified in 2001), International Convention to Combat Drought and Desertification (acceded in 1996) and United Nations Framework Convention on Climate Change (ratified in 1992). The country also signed to be part of the UNFCCC initiatives since May 1999. It has worked closely with different stakeholders, including the University of Mauritius, to lead the development of the second National Communication to the UNFCCC in 2011, and this was done through a consultative process.

Institutions and coordination

Mauritius, through its established institutions, roles and responsibilities, has an integrated approach to managing natural hazards. The Prime Minister's Office (PM) is the apex authority for disaster risk reduction and management in Mauritius. It is supported by a national-to-local structure which covers policy development and implementation, coordination, warning, preparedness, response, recovery anddisaster risk reduction (which includes Rodrigues, the Agaléga and Cargados Carajos Shoals (St Brandon)) (Fig 6).

In normal (non-crisis) conditions, the National Disaster Risk Reduction and Management Council, composed of a wide range of stakeholders, sets and monitors broad risk reduction and management policy objectives leading to a culture of safety and resilience to disasters. The Council is responsible for the National Disaster Risk Reduction and Management Policy and overseeing implementation of the National Strategic Framework and a National Action Plan. The Council is chaired by the Minister responsible for disaster management and reports to the Prime Minister (Republic of Mauritius, 2021).

In crisis conditions a National Crisis Committee (NCC) is established under the Minister responsible for disaster management and is composed of core response and recovery stakeholders. The NCC ensures preparedness plans are implemented as required, defines measures necessary to save lives and property, and supervises response and initial recovery.

Mitigation, Preparedness and Response

Most decision-making in Mauritius is undertaken at the ministerial unit level. Coordination across this aims to be sectoral but in reality, is conducted very much along ministerial lines. Ministry representatives and external consultants participate in Working Groups for strategy formulation in critical areas. Working Groups include Disaster Risk Reduction (DRR), Education, Fisheries, Agriculture, Tourism, and Rodrigues. These groups report directly to the Climate Change Division (CCD) through a Steering Committee that oversees implementation and coordination of the climate change (AAP) project. Drought is managed under the DRR Working Group.

Mauritius also has various committees and advisory bodies, mostly mandated by legislation which also influence adaptation governance. These committees execute laws and policies and about 20 are related to climate adaptation. The Local Government has four district councils, five municipal councils, and 124 village councils that play a key role in project implementation and policy formulation. Non-state institutions also play a crucial role, including environmental organizations, community groups, funding groups, and commerce and are part of these committee.

Mitigation, preparedness and response capacity

Mauritius mostly experiences other natural disasters while drought is seldom declared. As such, its mitigation, preparedness and response capacity is largely focused on the more frequent occurring disasters (cyclones, storm surges, flooding etc.). A clear structure of disaster response has been developed out of the National Disaster Risk Reduction and Management Act 2016. A Disaster Response Unit exists within the Special Mobile Force. The National Disaster Scheme covers cyclones, heavy rainfall, torrential rain and flooding, tsunami, high waves, water crisis, earthquake, landslide and a Port Louis Flood Response Plan. There is a need to continually update, test and practice preparedness, response and recovery plans.

The National Disaster Scheme can be expanded into a more comprehensive disaster response plan, covering warning and preparedness actions as well. Consideration can also be given to either integrating recovery plans into the National Disaster Scheme or developing a separate Recovery Framework (Republic of Mauritius, 2021). Operationally, capacities need to be developed for advanced disaster response training (e.g., for rescue services and port authorities) as well as holding live simulation exercises. Given the human capacity requirements of implementing effective disaster risk management, expanded education and training on various aspects of risk management need to expand in the formal education system, as well as specifically for the skills needed to respond to disasters once they occur. It is through these mechanisms that the Government of Mauritius is directly and indirectly dealing with drought.

Drought is also addressed through climate change adaptation (CCA) initiatives as climate change policies recognize drought as a threat, and several initiatives outlined do address the challenges of climate change. However, CCA and disaster risk reduction and management (DRRM) structures and mechanisms could be better coordinated. By leveraging existing knowledge of and efforts to mitigate the effects of extreme weather events from DRRM, CCA efforts will be enhanced, and coordination will allow for cost sharing. Such cost savings can be further enhanced through increased use of forecasting, due to the savings often generated by taking early action (ibid).

For example, UNDRR has analyzed a series of best practice examples on this topic, all of which involve combining DRRM and CCA in the same policy documents, action plans, and legislation, and place these under the strong leadership of the highest levels of government (UNDRR, 2009). In all of these best practice examples, strong political leadership and multi-stakeholder approaches were essential. Based on these best practice examples, UNDRR developed the following recommendations for combining DRRM and CCA initiatives, which have been utilized in the development of the National Strategic Framework (2020-2030): Map the institutions, policies and mechanisms already in place for reducing disaster risk and dealing with climate change adaptation.
Take stock of the available information on hazards, exposure, vulnerabilities and risk assessments. Convene multi-stakeholder discussions to review information and identify opportunities to harmonize policy and address capacity gaps. Initiate capacity development activities to build or strengthen coherent approaches to climate change adaptation and disaster risk reduction. Design joint project initiatives that address both climate change adaptation and disaster risk reduction. Conduct adaptation planning with a multi-sectoral, development-based approach and centralized oversight responsibility.

On the social and welfare front, the country has been active in allocating funds and other relief packages as a coping strategy. In 2008, the country allocated USD350 million as the Additional Stimulus Package (ASP) to be spent for the period of 2009 and 2010 on different projects and investment including both public and private as a capital. These funds were very helpful in improving infrastructure, start new businesses, building human resource capacity and supporting sectors which are more climate vulnerable. In the same year of 2008, the country also raised USD40 million through its Maurice Ile Durable Fund generated from carbon taxes from the private sector as the initiative to reduce emission of greenhouse gases. In the energy sector, the government made funds available in 2010 to augment the country's energy supply. The country is highly reliant on imported fossil fuel as its main source of energy. Roughly 19% of electricity is produced from its renewable resources, while 81% is produced from coal and heavy oil.

In terms of improving food security during natural disasters, the country has also invested more in agriculture. The main threat to food security in Mauritius is the lack of access to enough land, and improved agronomic technologies. The country still struggles with producing enough essential food items such as cereals, wheat flour, rice, edible oil, meat and dairy products, spices, fruits as well as potato, onion, garlic and ginger, which are mostly imported.

Mauritius also harmonized its trade with other African countries through trade liberalization policies in a bid to reduce the country's reliance on imported food. As part of its relief initiatives, the country established the Food Security Fund from 2008-2011, and put aside Rs. 1 billion (USD33 million) to supplement its domestic food products. Based on the summary of drought resilience in Mauritius provided in this profile, the following recommendations may be considered:

Mauritius has made progress in establishing an institutional framework to address the impacts of climate change, but CCA and DRRM structures and mechanisms could be better coordinated.

Mauritius requires effective drought risk management institutions/committees/task forces with defined and shared responsibilities. Mauritius may consider improving its social, economic and environmental data collection to support planning. For instance, data on source of water losses in the distribution system, or how coastal zones and forest reserves are being affected by changing development patterns, alongside climate change variability including drought. Data limitations prevent more informed, evidence-based decisions regarding adaptation priorities.

Recent drought resilience efforts by the international community

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

USAID

SEVIR
Budget (USD): Not indicated
Time Period: 2019

World Bank

Mauritius Statistical Capacity Building Project
Budget (USD): 35M
Time Period: 2017-2020

World Bank

Preparation of a Grid Code, Feed-in-Tariffs & Model Energy Supply Purchase Agreements for Renewable Energy Systems Greater than 50kW
Budget (USD): 23M
Time Period: 2013-2021

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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.