

# INTEGRATING AGAINST DROUGHT

Southern Africa Drought Resilience Initiative (SADRI)

## MADAGASCAR



### INCIDENCE OF DROUGHT | 1970-2020



The incidence of drought in Madagascar has intensified since the year 2000.



POPULATION

### 1.6 million affected

The worst period of drought hit the country in 2019 when around 1.6 million people faced food insecurity.



COST

### 7.14% GDP decline in 2020

Approximately 70% of the Malagasy population is engaged in agriculture, much of it rain-fed. The latest drought incidence 2020 saw a decline in annual GDP growth by 7.14%.



HUNGER

### Madagascar going hungry

Drought has caused a massive decline of crop and livestock production with up to 60% losses in some southern areas. More than 740,000 people, including 500,000 children, need nutrition services in the Grand Sud.



WATER ACCESS

### 10-15 times water price hike

Water levels are lower because of drought, increasing the cost of water extraction and trucking. Water prices increased by 10–15 times in 2021, driving people to use unsafe water.

### Vulnerability and Impact Assessment (Low)

In terms of the policy and enabling environment for drought vulnerability and impact assessment, in 2010, Madagascar formulated a National Climate Change Policy. Madagascar has conducted local risk and vulnerability assessments to inform adaptation options and has had several external aid partners supporting the government with vulnerability and/or impact assessments. Despite these assessments, most local governments have limited access to relevant and regular climate information and lack experience in how to put this information to use. This restricts their capacity to anticipate and act on emerging climate risks and may hinder timely investment on adaptation.

### Monitoring and Early Warning (Low)

● Yes ● Limited ● No

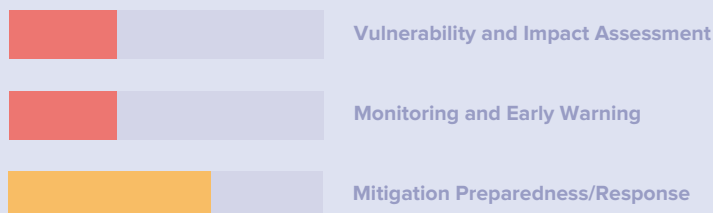
- Official definition of drought
- Drought indicators used
- Existence of a DEWS
- Capacity to tailor EWS messages to end-user needs
- Early warnings with built-in feedback mechanisms
- Communication channels to reach all
- Use of community relays, extensions services, and local media to communicate EWS and reach at risk communities promptly
- Official definition of drought

### Mitigation Preparedness / Response (Medium)

The government has made progress moving from a reactive, post-disaster relief approach to using a proactive approach to disaster risk management and measures to increase climate resilience. With the adoption of its first National DRM Strategy in 2003, the GoM was one of the first in sub-Saharan Africa to establish a comprehensive framework for disaster preparedness, response, recovery and prevention. Despite this progress, Madagascar's DRM policy framework still has several strategic, financial and sectoral shortcomings. Clarity on institutional roles and responsibilities across public sector institutions responsible for DRM policy and practice could be improved. Its capacity in drought mitigation, preparedness and response is therefore categorized as medium.

### STATE OF DROUGHT PREPAREDNESS

● High ● Medium ● Low



Madagascar can improve on its drought resilience measures.

# INTEGRATING AGAINST DROUGHT

SADRI output relevant for Madagascar's drought resilience

## MADAGASCAR



### SADRI generated 11 drought resilience knowledge outputs



#### Umbrella Pillar

- Drought Resilience Country Profiles
- Regional Drought Profile
- Knowledge Hub on Drought Resilience



#### Cities Pillar

- City Drought Resilience Toolkit
- Regional Guidance Note for Water Systems



#### Energy Pillar

- Drought Sensitivity Assessment for SAPP



#### Livelihood and food security pillar

- Technical Note on Homestead Farm-ponds for Micro-scale Irrigation in the Eastern Cape of South Africa
- Review of Strategic Food Reserves Policies for Improving Resilience to Drought
- Water Production, Use, and Governance in the Pafuri Sengwe node of the Greater Limpopo Transfrontier Conservation Area

### Madagascar Drought Profile, SADC Regional Drought Profile and Drought Knowledge Hub

The Madagascar drought profile provides an overview of the state of drought resilience in Madagascar.

- Drought vulnerability and assessment
- Early warning systems and
- Drought preparedness and mitigation

provides an entry point to understand where there are gaps in drought resilience and areas for improvement.

### Urban Drought Risk Management Toolkit

Developed under the CITIES pillar of SADRI, the toolkit will be useful for Madagascar in providing direction for cities, national and regional institutions on proactive drought management and mitigation. Building on international best practice, it can be used to improve understanding of the scale and causes of urban drought vulnerability in SADC cities and address growing urban drought challenges through integrated, proactive, comprehensive, and people-centered risk management.

### Drought Regional Guidance Note

The note targets all SADC countries and cities using 8 case studies (Blantyre, Bulawayo, Cape Town, Dar es Salaam, Gaborone, Lilongwe Toliara, Windhoek.) developed interactively with the city authorities, some ministries and Bank staff. The cases show an holistic approached to addressing drought resilience in the region by taking advantage of existing regional institutions and infrastructure.

### Southern Africa Power Pool (SAPP): Drought sensitivity and resilience assessment

This project delivered future hydrometeorological scenarios for the SAPP and an assessment of the potential impacts of future climate change and irrigation development on the water resources and present hydro- energy generation potential of the SAPP.

Madagascar can use the assessment when planning power pool investments at both regional and national levels.

### Strategic Grain Reserves Report for Zimbabwe and Zambia

The report informed major reforms of the strategic grain reserves by Zimbabwean authorities in 2021 including: (i) a reduction in the role of the state in procurement and creating space for the private sector to respond to market deficits; and (ii) development of a warehouse receipts system so that small farmers can store grain and use it as collateral. These reforms have the potential to reduce fiscal costs, increase private sector responsiveness to market deficits, and reduce market instability. The report and experiences of Zimbabwe could be used by Madagascar to review its own Strategic Grain Reserve policy.

### Agribusiness Partnerships Initiative (Irrigated Horticulture) – Eastern Cape Province

SADRI produced a land use suitability assessment, hydrological assessment, technical note on rainwater harvesting pilot design, and watershed management scoping study for Eastern Cape Province, as well as a watershed management investment needs study for the Umzimvubu Water Catchment.

Eastern Provincial Government has proposed to repurpose part of the Department of Agriculture, Land Reform and Rural Development (DRDAR) grants (typically inefficient grants for inputs to farmers) into investments in rainwater harvesting for homesteads.

Madagascar can benefit from a similar intervention to improve the sustainability and commercial viability of small scale production of high-value agricultural products.

### Analytical Work to Fill Knowledge Gaps in Water Production, Use, and Governance in the Pafuri-Sengwe Node to mitigate drought risk

- Mapping / land capability assessments and master development and implementation
- Investment needs for sustainable management of natural resources at country and transboundary level
- Sustainable use of shared groundwater resources and aquifers
- Supporting common approaches to nature-based solutions, natural capital accounting, and ecosystem services valuation (in support of rural livelihoods)

Similar analytical works in Madagascar will be key to improving water governance, production and use.