

**DISASTER AND CLIMATE
RISK MANAGEMENT:
A CAPACITY DIAGNOSIS**

2023

THE UNITED REPUBLIC OF

TANZANIA



UNITED NATIONS
TANZANIA




cadri
Partnership
Capacity for Disaster
Reduction Initiative

The CADRI Partnership (CADRI) is a UN led global partnership that works to build the capacity of countries to find integrated and coherent solutions to disaster risk reduction and climate change as part of the Sustainable Development Goals (SDGs).

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Designed by Sandra Kanagwa Nyangoma



In October 2022, a comprehensive analysis was conducted to diagnose the national capacities for managing disaster and climate risk in the United Republic of Tanzania. This report presents the findings and recommendations resulting from the assessment. The Disaster Management Department of the Prime Minister's Office in Tanzania and the Disaster Management Commission of the Second Vice President's Office in the Revolutionary Government of Zanzibar led the capacity diagnosis, working closely with the Office of the United Nations Resident Coordinator. The Capacity for Disaster Reduction Initiative (CADRI) Partnership provided valuable support throughout the process.





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ABBREVIATIONS

Abbreviation	Full Form
ASDP	Agricultural Sector Development Programme
CADRI	Capacity for Disaster Reduction Initiative
CCA	Climate Change Adaptation
CSO	Civil Society Organization
DMIS	Disaster Management Information System
DRM	Disaster Risk Management
DRR	Disaster Risk Reduction
EAC	East African Community
ECSAHC	East, Central and Southern Africa Health Community
EDRM	Emergency and Disaster Risk Management
EIOS	Epidemic Intelligence from Open Sources
EM-DAT	International Disaster Database
EOCC	Emergency Operation and Communication Centre
FAO	Food and Agriculture Organization of the United Nations
FYDP	United Republic of Tanzania National Five-Year Development Plan
GDP	Gross Domestic Product
GIS	Geographic Information System
ICT	Information and Communication Technology
IOM	International Organization for Migration
LGAs	Local Government Authorities
MAINRL	Revolutionary Government of Zanzibar Ministry of Agriculture, Irrigation, Natural Resources and Livestock
MDAs	Ministries, Departments and Agencies
MoH	United Republic of Tanzania Ministry of Health
MoHZ	Revolutionary Government of Zanzibar Ministry of Health
MoF	United Republic of Tanzania Ministry of Finance and Planning
NaCoNGO	National Council of NGOs
NBS	United Republic of Tanzania National Bureau of Statistics
NCCRS	National Climate Change Response Strategy
NDMF	National Disaster Management Fund
NDPRP	United Republic of Tanzania National Disaster Preparedness and Response Plan
NEMPSI	National Environmental Master Plan for Strategic Interventions
NGO	Non-Governmental Organization
OCGS	Zanzibar Office of the Chief Government Statistician

Abbreviation	Full Form
OCHA	United Nations Office for the Coordination of Humanitarian Affairs
PMO-DMD	Tanzania Prime Minister's Office – Disaster Management Department
PSSN	Tanzania Productive Social Safety Net
PO-RALG	Tanzania President's Office – Regional Administration and Local Government
RS	Regional Secretariat
SDGs	Sustainable Development Goals
SimEx	Simulation Exercise
SMS	Short Message Service
SOP	Standard Operating Procedure
STAR	United Nations World Health Organization – Strategic Tool for Assessing Risks
SVPO-DMC	Zanzibar Second Vice President's Office – Disaster Management Commission
TAFSIP	United Republic of Tanzania Agriculture and Food Security Investment Plan
TMA	Tanzania Meteorological Authority
TSMP II	Tanzania Statistical Master Plan Phase Two
UN	United Nations
UNFPA	United Nations Population Fund
UNDAC	United Nations Disaster Assessment and Coordination
UNDRR	United Nations Office for Disaster Risk Reduction
UNSDCF	United Nations Sustainable Development Cooperation Framework
US\$	United States dollar
VPO-DE	Vice President's Office – Division of Environment
WASH	Water, Sanitation and Hygiene
WHO	World Health Organization
WSDP	United Republic of Tanzania Water Sector Development Programme
ZEDP	Zanzibar Education Development Plan
ZEPRP	Zanzibar Emergency Preparedness and Response Plan

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- Mr. Baltazar G. Leba, Disaster Coordinator
- Ms. Dorothy Pantaleo, Disaster Management Coordinator

SVPO-DMC

- Mr. Makame K. Makame, Executive Director
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- Food and Agriculture Organization of the United Nations (FAO)
- International Organization for Migration (IOM)

- United Nations Development Programme (UNDP)
- United Nations Population Fund (UNFPA)
- United Nations Children’s Fund (UNICEF)
- World Food Programme (WFP)
- World Health Organization (WHO)
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FOREWORD

This Disaster and Climate Risk Management capacity diagnosis report was produced through collaboration between the Government of the United Republic of Tanzania, the Revolutionary Government of Zanzibar, and international and local cooperation of stakeholders in disaster and climate risk management. It reflects the government's commitment to developing and strengthening capacities that foster resilient development. Disaster and climate risk management is a national priority, and significant strides have been made in establishing regulatory frameworks and operational instruments at national and subnational levels, as well as at sectoral level.

As disaster risks continually evolve and challenge our development objectives, maintaining a proactive stance and enhancing our capabilities to protect our communities become paramount. This report seeks to contribute to these efforts. The recommendations derived from the consultation process will bolster our daily work and foster improved collaboration and coordination among all stakeholders operating at national and local levels.

We would like to sincerely acknowledge the coordination roles played by the Disaster Management Department of the Prime Minister's Office in Tanzania Mainland and the Disaster Management Commission of the Second Vice President's Office in Zanzibar. We would also like to thank all the government ministries, departments and agencies, the United Nations system, local and international non-governmental organizations, civil society organizations and the private sector for their invaluable contributions. We appreciate the generosity of all partners who funded the diagnostic mission and made this report a reality.



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September 2023



EXECUTIVE SUMMARY

In July 2022, the Capacity for Disaster Reduction Initiative (CADRI) Partnership assisted in conducting a comprehensive analysis of disaster and climate risk management capacities in response to a request from the Government of the United Republic of Tanzania. This analysis involved multiple sectors in both Tanzania Mainland and Zanzibar. Aligned with the Sendai Framework for Disaster Risk Reduction 2015–2030, the diagnosis focused on four priority areas:

1. Governance
2. Understanding risk
3. Investment in disaster and climate risk resilience
4. Disaster preparedness and response capacity

The comprehensive analysis encompassed key socio-economic sectors:

- Agriculture and food security
- Water, sanitation and hygiene (WASH)
- Education
- Health
- Social protection

The primary objectives of the capacity diagnosis were to:

- Highlight existing capacities
- Identify challenges and gaps
- Propose recommendations to address them

The assessment was conducted by a multidisciplinary team of sectoral experts from the government, the United Nations system, UNDAC and NGOs in the country. The capacity diagnosis involved consultations with relevant stakeholders and a thorough desk review of government documents related to disaster risk management (DRM) policies, programmes and plans.

In Tanzania Mainland and Zanzibar, the placement of disaster management is at a high political level. The Prime Minister's Office – Disaster Management Department (PMO-DMD) in Tanzania Mainland and the Second Vice President's Office – Disaster Management Commission (SVPO-DMC) in Zanzibar have developed a well-defined policy as well as an institutional and operational framework for disaster and climate risk management. In 2022, the PMO-DMD in Tanzania Mainland took steps to improve the regulatory and operational framework for disaster management. They introduced the new Disaster Management Act (Act No. 6 of 2022) and the National Disaster Management Strategy 2022–2027. They also reviewed three previous documents and created the National Disaster Preparedness and Response Plan 2022, National Disaster Communication Strategy 2022 and National One Health Strategic Plan 2022–2027. Some of the recommendations in this report may already be addressed in this new regulatory framework.

This report builds upon and complements the results of previous assessments, notably the 2022 Midterm Review of the Implementation of the Sendai Framework and the 2018 Five-Year Assessment of the Implementation of the Zanzibar Disaster Management Policy 2011. Furthermore, the desk review identified various sectoral initiatives implemented or planned in the country, with support from international cooperation. These programmes operationalize the national disaster and climate risk management policies, and their findings have informed this report.

While acknowledging the significant progress achieved, the capacity diagnosis has highlighted specific areas that could be improved to enhance the effectiveness of the disaster and climate risk management system.

Institutional framework for disaster and climate risk management

- There is an opportunity to enhance clarity and strengthen integration between the Ministry of Finance and Planning (MoF) guidelines for risk reduction and those of PMO-DMD/SVPO-DMC for disaster and climate risk management. Emphasizing the complementary nature of these approaches within institutions, including well-defined institutional arrangements (roles and responsibilities), effective planning and appropriate budget allocation, would significantly contribute to fostering greater coherence. Furthermore, it would be crucial to ensure seamless integration with climate change adaptation (CCA) interventions.
- There is a need to strengthen the coordination capacity of PMO-DMD and SVPO-DMC, by enhancing the managerial and technical skills of their human resources through tailored DRM training, exchange programmes and the provision of working tools. In both Tanzania Mainland and Zanzibar, disaster and climate risk management are addressed at a high political level and operate within well-defined policy, institutional and operational frameworks. The findings of the mission recognize the strength of the existing systems. However, relevant stakeholders have emphasized the need to enhance existing capacities, including financial resources, to ensure that PMO-DMD and SVPO-DMC can sustain and expand their coordinating roles at the national level.
- Greater emphasis could be placed on promoting coordination and collaboration across sectors and with regional secretariats/ local government authorities (RSs/LGAs) in implementing risk management policies. Cross-sectoral perspectives are essential, and risk management could be treated as a development outcome rather than a sector-specific intervention.
- The current guidelines would benefit from greater clarity on how government ministries, departments and agencies (MDAs) and RSs/LGAs can determine risk treatment options, including the preparedness and response capacity requirements. This involves answering the question of what level of risk should be considered when planning and budgeting for mitigation measures. Increasing risk management accountability requires an agreement on risk tolerance, i.e. defining government and community willingness to accept or reject a given level of residual risk.
- Equally important is enhancing social protection systems to incorporate shock-responsive and adaptive measures. Gender equality and women's economic empowerment are key priorities in Tanzania's 2021–2026 development strategy. Disaster management policies and strategies consider gender in formulating plans and programmes. However, these latest documents do not explicitly reference the principle of gender equality to guide the design of DRM interventions. This approach could be strengthened.

Understanding disaster and climate risk

- Although the existing regulatory framework specifies responsibilities for generating risk information, this process could be enhanced by developing technical guidelines describing the attributes of the information that must be generated. For example, the level of reliability, spatial/temporal resolution and formats required for risk-informed decision-making at the national or local level.
- National institutions are mandated to identify risks and to plan and budget for mitigation

measures. However, it is unclear how and by whom the criteria for determining risk categories and treatment options are decided. In accordance with current regulations, it seems that each institution should define the level of tolerable risk it is willing to accept. Finding a national consensus on assessing risks, involving MDAs/RSs/LGAs and communities, is crucial to effectively inform decisions on risk reduction and response preparedness.

- The government and other stakeholders have long been aware of challenges concerning the availability and accessibility of disaster and climate risk information. This is clearly described in a 2018 Global Partnership for Sustainable Development Data report, which is still relevant in 2023. It is essential to develop protocols and procedures to facilitate information storage, discovery and exchange, to enable cross-sector collaboration for effective risk management interventions.
- Effectively connecting risk information to risk reduction, preparedness and response plans is a notable challenge requiring technical expertise and political support.

It is not merely about the existence of integrated data platforms; success lies in utilizing this information to identify solutions and allocate resources for implementation. An area for improvement is strengthening the link between the production of climate forecasts and their seamless integration into local preparedness and response plans. Addressing these challenges can enhance the overall effectiveness and impact of disaster and climate risk management efforts.

- While there is sufficient technical and human expertise to produce sector-specific information, the availability of expertise for conducting risk analyses is uncertain. Reports primarily focus on hazard identification rather than evaluating potential risks (in terms of their probability and potential impacts), for instance assessing the long-term implications of drought on food or energy security. It is recommended to assess existing human capacity for qualitative and quantitative risk assessments, and to develop strategies to enhance and maintain this expertise accordingly.

Investing in disaster and climate risk resilience


- Greater clarity on how entities can determine priority risks could enhance effectiveness in allocating resources to reduce risk and prepare for response and recovery. This is related to previous comments about classification of risks. It would be important to determine risk thresholds and criteria for triggering interventions.
- Cross-sectoral collaboration for effective and efficient disaster risk financing management could be improved. The existing MoF guidelines for the design of programmes and plans could explicitly require that MDAs/RSs/LGAs conduct risk analysis collaboratively. Similarly, guidelines from PMO-DMD, SVPO-DMC and the Vice President's Office
 - Division of Environment (VPO-DE) could stipulate ensuring that disaster management plans for the sector are complementary.
- It is recommended to develop clear guidelines to link risk mitigation interventions with those to build preparedness for response and recovery capacities. Without clear guidelines, there is a risk of disjointed efforts and fragmented approaches in addressing risks and building resilience. A coherent framework integrating these measures is essential for comprehensive and effective disaster and climate risk management, ensuring coordinated actions, consistent implementation and optimal resource utilization.

- Given that MoF estimates that the occurrence of disasters could result in impacts equivalent to 3% of national gross domestic product (GDP), it is important to expedite the development of a disaster risk financing strategy. The Disaster Management Fund mechanism may

not provide sufficient protection in this regard. The National Disaster Management Strategy 2022–2027 for Tanzania Mainland sets a target for establishing a national disaster risk reduction (DRR) financing framework.

Disaster preparedness and response capacity

- The preparedness and response coordination system relies on personnel from MDAs and RSs/LGAs, who may not possess specialized expertise in DRM. To effectively implement disaster management functions, it would be essential to enhance technical skills among staff and to maintain adequate resources. Standardizing the appointment of disaster focal points across MDAs and RSs/LGAs could promote collaboration and comprehensive disaster preparedness and response.
- It is recommended to align the MoF guidelines on risk management and those of PMO-DMD, SVPO-DMC and VPO-DE on disaster management. Aligning the disaster management plan with the overall risk management strategy would be crucial for effective emergency preparedness and response. By ensuring alignment, the two components work in tandem to create a comprehensive and cohesive approach to risk management. Integration of the institutional risk management policy can be facilitated through the role of the disaster focal points.
- Under current regulations, National Disaster Preparedness and Response Plans must undergo annual testing. However, interview feedback indicates that national-level simulation exercises (SimEx) are not conducted regularly. Standardizing this practice and including scenarios that challenge resources, coordination and operational capacities could help prevent *ad hoc* measures during situations that overwhelm existing capabilities.
- International cooperation has a strong presence in Tanzania in supporting the implementation of projects to strengthen capacities in DRM. The projects and programmes cover various thematic areas and have different territorial scopes. Improving coordination and collaboration between actors, and between them and the government, would increase the effectiveness and efficiency of these capacity-building interventions. One way to start is by creating a map of recent and ongoing capacity-building initiatives. This will help to determine who is involved, the resources being used and where they are being invested.
- The following are further key areas that require attention in order to improve disaster and climate risk preparedness and recovery capacities.
 - Establishing a structured response system for small and major disasters would be beneficial. This includes defining the roles of lead and supporting sectors at various levels of government. Effective coordination, linkage and cooperation between national, regional and local authorities are vital to ensure a cohesive and comprehensive response to emergencies.
 - Establishing robust plans and coordination structures at national, regional and local levels, as outlined in the current National Disaster Preparedness and Response Plans for Tanzania Mainland and Zanzibar, is crucial for facilitating seamless response and recovery efforts. However, this may



not suffice. To ensure sustained financial support for pre- and post-disaster preparedness and recovery, a well-defined funding mechanism is indispensable.

- Enhancing capacities regarding experts, equipment and facilities for search and rescue operations. Adequate resources and trained personnel are vital to ensure timely and effective disaster responses. It is crucial to have certified and accredited personnel with the necessary skills and knowledge to conduct emergency response operations effectively.
- Establishing robust emergency communication arrangements and capacity for response personnel as indicated in the

current National Disaster Preparedness Response Plans for Tanzania Mainland and Zanzibar. Efficient communication systems enable effective coordination and information sharing, facilitating timely response and decision-making during emergencies.

- Lastly, implementing multi-hazard early warning systems is crucial for early and anticipatory action across sectors and communities. MDAs and RSs/LGAs could collaborate to ensure rapid and accurate dissemination of real-time information to communities, enabling them to take necessary precautions and actions in the face of potential hazards.

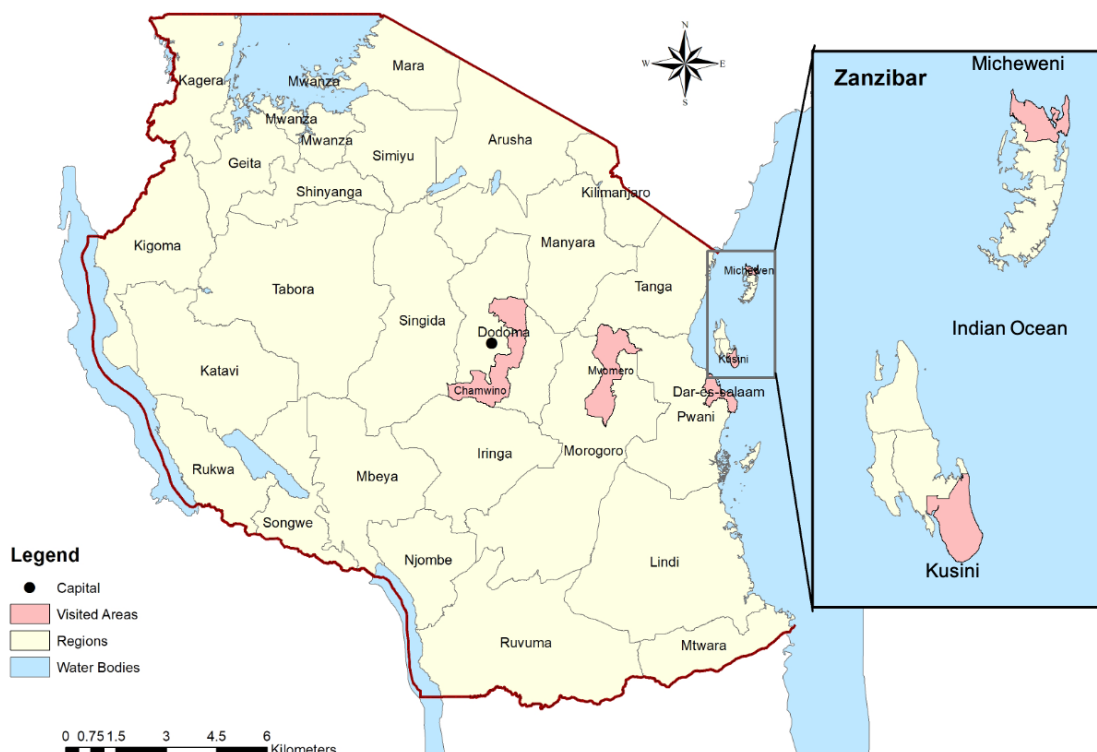


I. INTRODUCTION

In July 2022, the CADRI Partnership assisted in conducting a comprehensive analysis of disaster and climate risk management capacities in response to a request from the Government of the United Republic of Tanzania. This analysis involved multiple sectors in both Tanzania Mainland and Zanzibar. Aligned with the Sendai Framework 2015-2030, the diagnosis focused on four priority areas: disaster risk governance, understanding risk, investing in disaster and climate risk resilience, and disaster preparedness and response capacity. The comprehensive analysis encompassed key socio-economic sectors: agriculture and food security, health, education, social protection, and WASH (water, sanitation and hygiene).

While conducting the capacity diagnosis, the experts primarily concentrated on national-level institutions. Nevertheless, they also had the chance to visit specific districts such as Mvomero (Morogoro region), and Chamwino (Dodoma region) in Tanzania Mainland, in addition to Pemba Island in Zanzibar.

The analysis and recommendations included in the report are the result of the joint work of the multi-disciplinary team. Its primary purpose is to contribute to the government's efforts to integrate DRM as a fundamental instrument to advance towards national development goals.



Map I: Areas visited by the mission teams

I.1 Context and rationale of the capacity assessment

During the scoping mission, government institutions and CADRI partners agreed to conduct a capacity diagnosis mission to take stock of the progress and challenges in implementing the existing DRM policy and operational framework. More specifically, the objectives of the capacity diagnosis mission were to:

- Support a participatory analysis of the national DRR system, to strengthen understanding of the roles and responsibilities at the central and local levels.
- Provide actionable recommendations to address the gaps identified and to support mainstreaming of DRR in the priority sectors.
- Catalyse dialogue on improving coordination of DRR activities across the government and the United Nations Country Team.
- Support the government in mobilizing resources and align development partners' interventions and private sector financing in support of the national DRR priorities.
- Support a more integrated and coherent UN programming approach to DRR and CCA under the United Nations Sustainable Development Cooperation Framework (UNSDCF) 2022-2027.

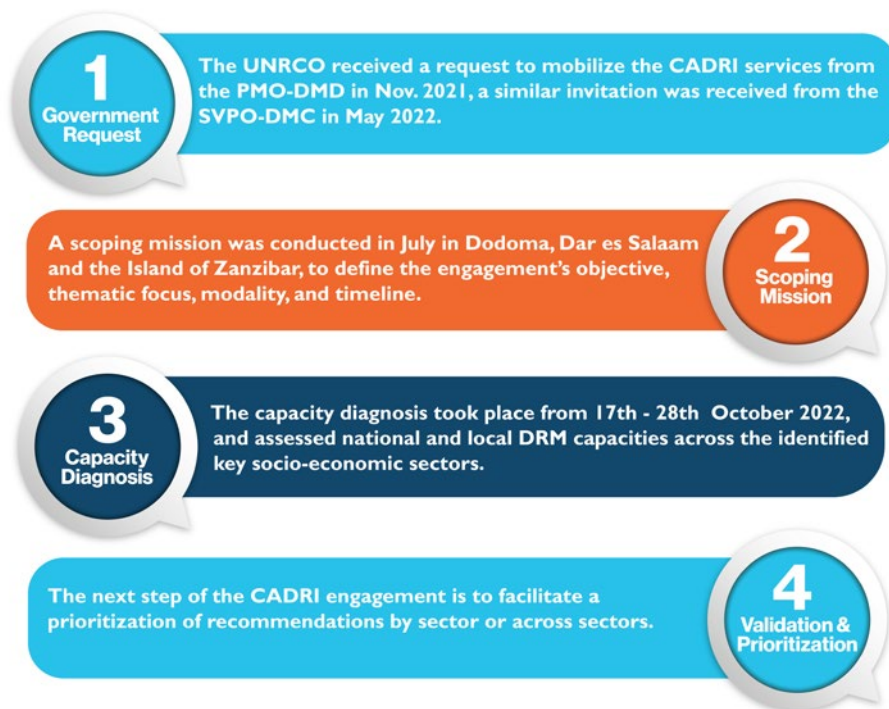


Figure I: Schematic representation of the capacity diagnosis preparation process

The following seven sectors were identified and prioritized by the government during the scoping:



Figure 2: Seven sectors identified and prioritized by the government during scoping

1.2 Disaster and climate risk profile

Disaster and Climate Risk Profile dashboard

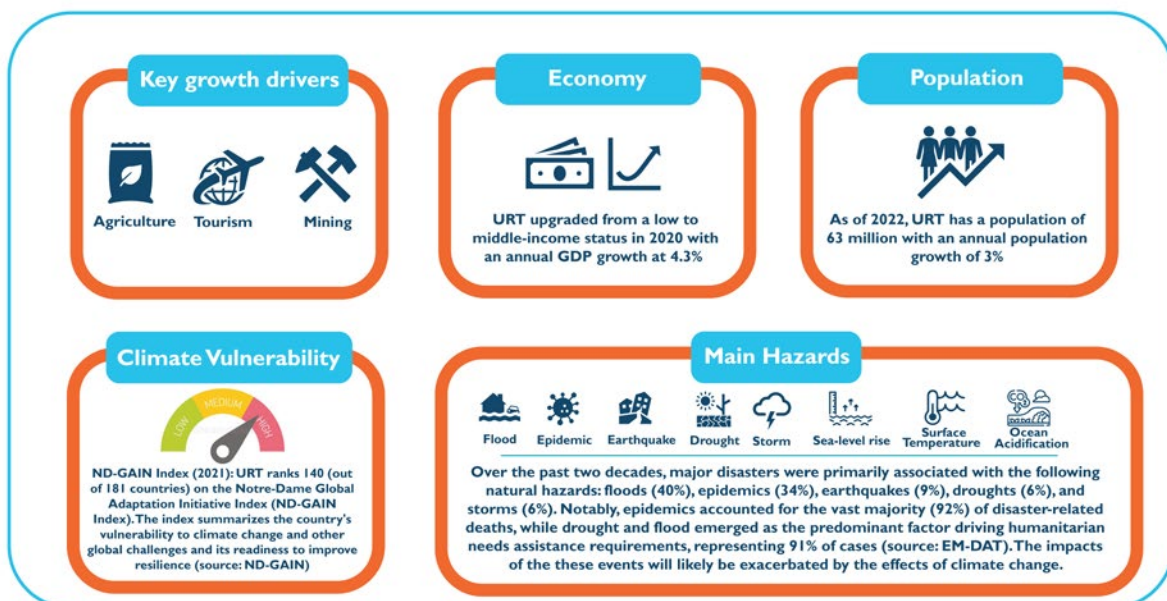


Figure 3: Basic data about the United Republic of Tanzania

Tanzania's key growth drivers – agriculture, tourism and mining – are exposed to disaster risk and climate change impact. The agricultural sector continues to be the main source of income across the country and serves as the primary source of livelihood for over 75% of the financially vulnerable. Low levels of productivity, high rates

of post-harvest loss, and sub-optimal value chain linkages leave the sector ill-equipped to respond to disasters and climate change. Moreover, 50% of Tanzania's tourist subsector – the second largest contributor to GDP and third largest source of employment – is centred around natural resources, including conservation areas.

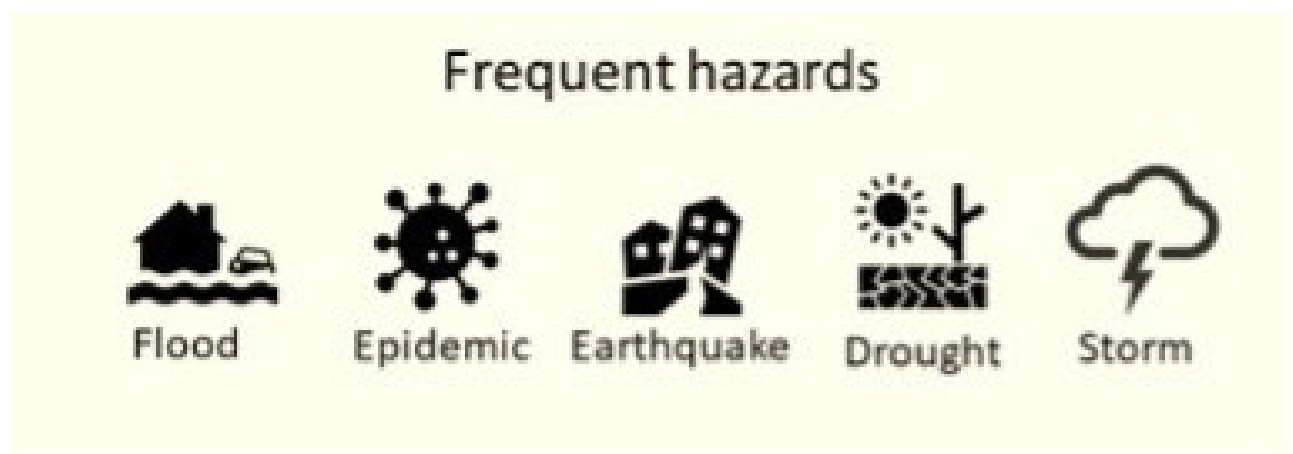


Figure 4: Most frequent hazards in Tanzania Mainland

The country is vulnerable to recurrent natural and human-induced hazards. Recently, the frequency and magnitude of such hazards have been rising. The most prevalent hazards over the past 20-year period are floods (40%), epidemics (34%), earthquakes (9%), drought (6%) and storms (6%). Currently, more than 70% of all disasters are linked to recurrent droughts and floods, which are likely to be exacerbated by the impact of climate change.

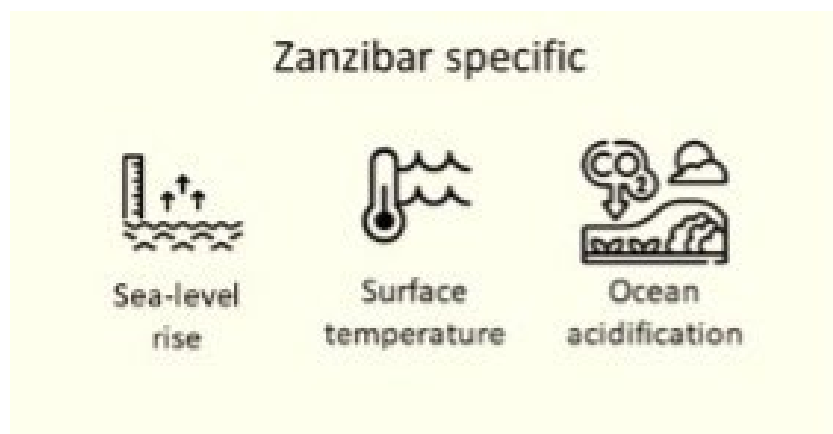


Figure 5: Most prevalent hazards in Zanzibar

Due to its geography, Zanzibar experiences disasters related to climate change more extensively than Tanzania Mainland. The expected sea-level rise, sea surface temperature and increased ocean acidification negatively affect many low-lying archipelago areas, including coral

reefs and marine ecosystems. Falling water tables, depleted fisheries, reduced crop yields, and warming of lagoons used for seaweed farming are some of the consequences affecting prospects for the blue economy.

1.3 Methodology

The diagnosis of disaster and climate risk management capacities was carried out using the CADRI methodology. This defines a process to identify strengths, gaps and challenges in implementing actions within and across sectors by government at local and national levels, in line with the Sendai Framework for Disaster Risk Reduction (see Figure 1). The diagnosis focuses on five areas of capacity dimensions: governance, implementation, financing, knowledge, and technology and equipment.

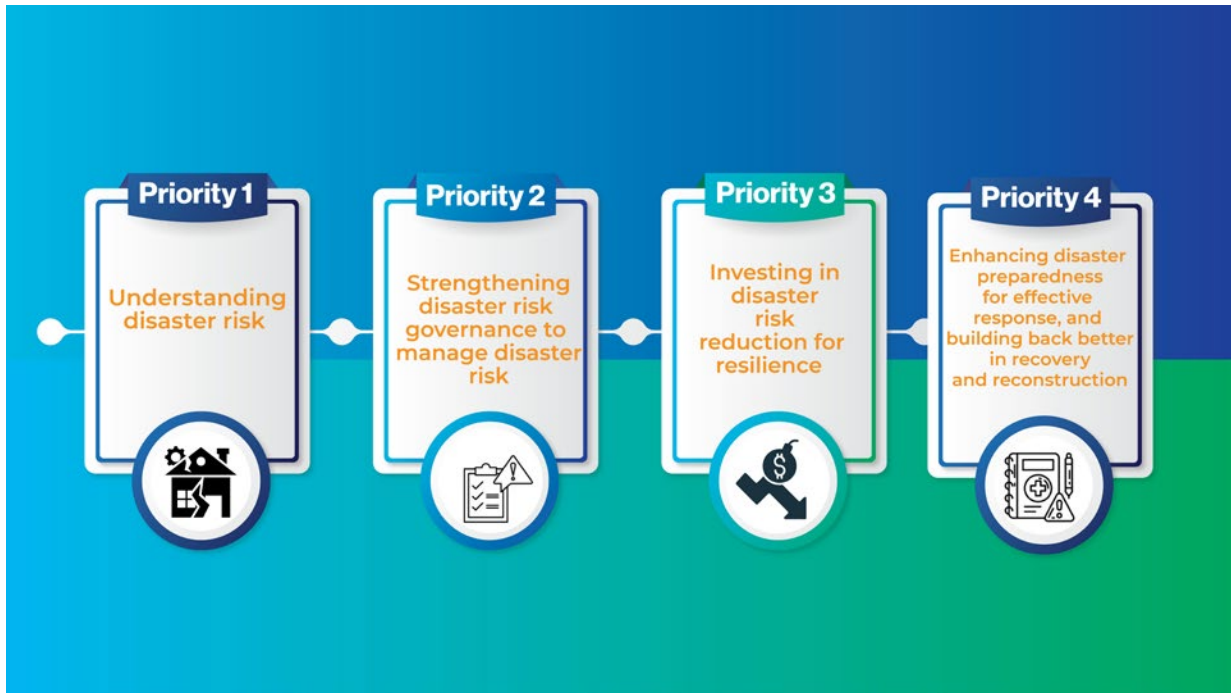


Figure 6: The four Priority Areas of the Sendai Framework for Disaster Risk Reduction (2015–2030)

To facilitate the diagnosis process, the CADRI partners have developed a set of questionnaires that are both generic and sector-specific. These questionnaires provide comprehensive guidance on the critical assessment elements within each

capacity dimension. Furthermore, the capacity diagnosis process was supported by using the CADRI digital tool.

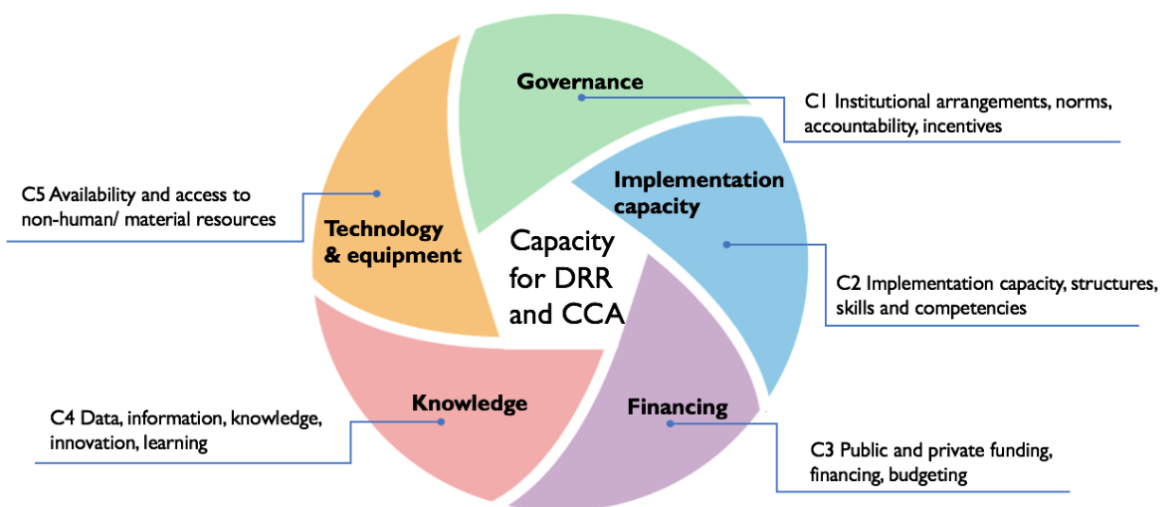


Figure 7: The five capacity dimensions considered in the capacity diagnosis

The sector-specific questionnaires developed include Agriculture and Food Security, Culture, Education, Environment, Health, Human mobility, Social Protection, Infrastructure, Nutrition and

WASH (see Figure 8). Each questionnaire has been reviewed to guarantee that the key principles of gender equality, conflict sensitivity and ‘Leave No One Behind’ are fully integrated.



Figure 8: Modules of the CADRI Digital Tool and its connection with the SDGs

1.4 Assessment team

The capacity assessment was carried out by a multidisciplinary team of experts from the government, United Nations agencies, UNDAC,

civil society organizations (CSOs) and NGOs. The complete list of experts is included in Annex I.



Figure 9: Overview of the capacity diagnosis team composition

Given the context of Tanzania, the team was divided into two main groups. One group (group A) covered Tanzania Mainland and the other (group B) covered Zanzibar (see Figure 10).

All chapters and recommendations in this report are effectively two chapters in one, with corresponding provisions for Tanzania Mainland and Zanzibar.

1.5 Data collection and analysis

The information required for the capacity diagnosis was collected through a literature review and consultations with key stakeholders. The list of documents reviewed is included in Annex 6. Consultations with key stakeholders

(see Annex 2) consisted of semi-structured interviews that were prepared with the support of the CADRI Digital Tool. The teams carried out interviews with a total of 95 institutions, distributed as follows (Figure 10).



Figure 10: Overview of the institutions consulted during the mission

1.6 Limitations

The main limitations to carrying out the capacity diagnosis were as follows.

- An important limitation concerns the time devoted to the pre-mission review of information on past and current activities implemented by the government and other relevant actors to strengthen DRM capacities in Tanzania. A more detailed and exhaustive review would have allowed for a clearer focus on the capacity diagnosis. Although a wealth of information is available, it takes time to find the right sources and in some cases searches must be done in the national language.
- There is only limited analysis of the role of the President's Office – Regional Administration

and Local Government (PO-RALG) headquarters/head office in supporting the implementation of disaster and climate risk management policies. It is necessary to study in greater detail the institution's role and capacity to coordinate the regions and RSs/LGAs in this field.

- There are relatively few interviews with representatives of the private sector and civil society organizations.


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- The mission structured the capacity assessment around the four priorities of the Sendai Framework. The findings primarily pertain to the structure of the disaster management system and the challenges and opportunities for strengthening it. However, the diagnosis does not provide a detailed analysis of the operational capacity and functioning of the system at the local and regional levels.
 - Language barrier: although most of the staff interviewed were fluent in English, they might have felt more comfortable if the interviews had been conducted in Swahili.
 - In certain cases, it was observed that during the consultations, MDAs/CSOs/the private sector may not have been represented at the appropriate level, which could have limited their ability to address some of the questions presented.
 - The capacity diagnosis identifies critical gaps in DRM capacities and proposes general recommendations to be considered by policymakers. This report does not provide details on how to implement the recommendations. Preparing specific action plans would be the next step in the process.



Photo: UN WHO



2. GOVERNANCE TO MANAGE DISASTER AND CLIMATE RISK

“Disaster risk governance at the national, regional and global levels is vital to the management of disaster risk reduction in all sectors and ensuring the coherence of national and local frameworks of laws, regulations and public policies that, by defining roles and responsibilities, guide, encourage and incentivize the public and private sectors to take action and address disaster risk.”

Sendai Framework Priority 2

2.1 Overview

Tanzania has made significant progress in establishing a solid risk management framework. This follows the policy defined in the Tanzania Development Vision 2025,¹ which establishes that building the capacity to anticipate and respond to external changes, including ‘natural’ disasters and climate change, is among the strategies to attain the first overall national development objective of ‘quality and good life for all’. This is also reflected in the Zanzibar Development Vision 2050.

Tanzania’s development strategy outlines the general policy for the management of risk, including that related to climate change. In a complementary way, the National Disaster Management Policy of 2004 (Tanzania Mainland) and 2011 (Zanzibar) and related documents define the disaster management policy. Policy includes the Disaster Management Acts of 2015 (Zanzibar) and 2022 (Tanzania Mainland). These instruments include provisions defining the roles and responsibilities of MDAs, RSs, LGAs and other relevant stakeholders to ensure DRM is mainstreamed in development programmes and projects, including for building preparedness and response capacities.

While significant progress has been made, the capacity diagnosis has identified specific areas that could be improved to enhance the effectiveness of the institutional framework for disaster and climate risk governance.

- First, there is an opportunity to enhance clarity and strengthen integration between the MoF guidelines on risk reduction and those of PMO-DMD/SVPO-DMC on climate and DRM. Emphasizing the complementary nature of these approaches within institutions, including well-defined institutional arrangements (roles/responsibilities), effective planning and appropriate budget allocation, would significantly contribute to fostering greater coherence. Furthermore, it would be crucial to ensure seamless integration with CCA interventions.
- Second, there is a need to strengthen the coordination capacity of PMO-DMD and SVPO-DMC by enhancing the managerial and technical skills of their human resources through tailored DRM training, exchange programmes and the provision of working tools. In both Tanzania Mainland and Zanzibar, disaster and climate risk management are addressed at a high political level and operate within well-defined policy, institutional and operational frameworks. The national Five-Year Development Plan 2021/22–2025/26 (FYDP III) and the National Climate Change Response Strategy (NCCRS) have established the relevance of DRR/CCA in supporting the achievement of national development goals. The findings of the mission recognize the strength of the existing systems. However, relevant stakeholders have emphasized the need to enhance existing capacities, including financial resources, to ensure that PMO-DMD and SVPO-DMC can sustain and expand their coordinating roles at the national level.
- Third, greater emphasis could be placed on promoting coordination and collaboration across sectors in the implementation of risk management policies. MoF mandates MDAs, RSs and LGAs to ensure development programmes and projects identify specific risks, and plan and budget mitigation measures to address them. Although risk management is regarded as a cross-cutting issue, the guidelines do not require sectors to address them from a cross-sectoral perspective. Risk management cannot be practised effectively in silos. As indicated in the 2022 recommendations for the Sendai Midterm Review, stakeholders should consider treating DRR as a development outcome rather than a sector-specific intervention.
- Fourth, the current guidelines would benefit from greater clarity on how MDAs or RSs/LGAs can determine risk treatment options, including the preparedness and response

capacity requirements. This involves answering the question of what level of risk should be considered when planning and budgeting for mitigation measures. Increasing risk management accountability requires an agreement on risk tolerance, i.e. defining government and community willingness to accept or reject a given level of residual risk. Risk tolerance may differ across sectors and stakeholders but must be clearly understood by the individuals making risk-related decisions on a given issue. The National Disaster Preparedness and Response Plans (NDPRP, ZEPRP) include a qualitative risk assessment for the most common hazards in Tanzania. The categories used in these matrices reflect the existence of risk tolerance criteria. It

would be convenient to review them and define a standard frame of reference for all the institutions.

- Lastly, equally important is enhancing social protection systems to incorporate shock-responsive and adaptive measures. Gender equality and women's economic empowerment are key priorities in Tanzania's 2021–2026 development strategy. Disaster management policies and strategies consider gender in formulating plans and programmes. However, these latest documents do not explicitly reference the principle of gender equality to guide the design of DRM interventions. This approach could be strengthened.

2.2 Policy framework for disaster and climate risk management

Over the past decades, Tanzania has significantly strengthened its policy, legal and institutional framework for managing disaster and climate risk. National development strategies and plans recognize risk management as critical to improving implementation and achieving goals.

In Tanzania Mainland, the main policy frameworks for DRM are the National Disaster Management Policy of 2004, Disaster Management Act No. 6 of 2022, National Disaster Preparedness and Response Plan (NDPRP) 2022, National Disaster Communication Strategy 2022, National Operational Guidelines for Disaster Management 2014, and National Disaster Management Strategy 2022-2027.² The Disaster Management Act of 2022 establishes the national disaster and climate risk management and coordination system, assigning roles and responsibilities to MDAs, RSs, LGAs and other relevant stakeholders.

In Zanzibar, the main policy and legislative frameworks for disaster management are the Disaster Management Policy of 2011,³ Zanzibar Emergency Preparedness and Response Plan (ZEPRP) of 2021 and Zanzibar Disaster Risk

Reduction and Management Act of 2015. The last two documents were developed following the 2011 DRM policy, and formulated with guidance from the Zanzibar Development Vision 2020 and the Zanzibar Strategy for Growth and Reduction of Poverty (ZSGRP) frameworks. The policy framework focuses on disaster management rather than DRR.

Adaptation is a high priority for Tanzania. Climate change policy is defined within the context of the National Environment Policy (2021) and the Environmental Management Act 2004. The Vice President's Office – Division of Environment (VPO-DE) is responsible for all climate-related activities. In the context of the Environmental Management Act, all MDAs have established sector environmental sections/units, and LGAs are allowed to designate environmental management officers to oversee implementation of the environment management policy, including CCA.

During the National Roadmap to Sustainable Food Systems Transformation by 2030 summit (September 2021),⁴ Tanzania engaged in multi-

stakeholder dialogues and defined six pathways to transform its food systems sustainably. One of these pathways focuses on the creation of resilient food systems and livelihoods. This involves addressing vulnerabilities and poverty, establishing networks and infrastructure to withstand shocks, strengthening food security information systems, and enhancing disaster risk surveillance and early warning systems. The goal is to make communities and systems more resilient in the face of challenges and to ensure sustainable food security and livelihoods.

The UN system, in collaboration with the Government of the United Republic of Tanzania, developed the UNSDCF 2022-2027.⁵ This serves as a vital planning and implementation tool for UN agencies in Tanzania, aligning efforts with the third national Five-Year Development Plan (FYDP III) and the 2021–2026 Zanzibar Development Plan (ZADEP). Outcome 3 of the UNSDCF aims to enhance capacities for vulnerable populations through inclusive and gender-responsive management of natural resources, climate change resilience and DRR.

2.3 Institutional framework for disaster and climate risk management

The definition of Tanzania's institutional framework for disaster and climate risk management is guided by two main approaches. On the one hand, a broad concept of risk management is promoted as a cross-cutting approach to support implementation of the national development strategies. On the other hand, there is an approach focused on disaster management, which entails preparing for, responding to and recovering from the impact of adverse events, including those related to climate change. These two approaches are complementary, but they are not always presented in this way.

The latest national Five-Year Development Plans (FYDP II, 2016–2021 and FYDP III, 2022–2026) identify, in general terms, the main risks that can compromise the implementation of socio-economic goals. These could be related to “economic crises, political change or ‘natural’ disasters.” In this context, the government mandates MDAs, RSs and LGAs to ensure programmes and projects identify specific risks, and to plan and budget mitigation measures to address them. MoF and PO-RALG have developed general guidelines and instruments to support and monitor this process.

The MoF ‘Guidelines for Preparation of Plans and Budget 2020/21’⁶ instruct LGA accounting officers to consider specific issues in preparing plans and

budget estimates. These include strengthening disaster committees at district, ward and village levels by allocating funds for preparedness, mitigation and disaster management. RSs provide backstopping expertise to LGAs, including by coordinating disaster management exercises.⁷ MoF is negotiating a loan with the World Bank to support implementation of the initiative ‘Tanzania: First Inclusive and Resilient Growth Development Policy Financing’. The proposed programme supports Tanzania's institutional and policy reforms aimed at boosting the country's inclusive and resilient recovery.⁸

PO-RALG oversees the administration and coordination of rural and urban development, policy and strategies for implementing the FYDP. It helps to build the administrative capacity of local governments. It also provides a channel of communication between national and subnational levels of government and enables a participatory, local-led approach to government planning and budgeting.

The PO-RALG Regional and Local Government Strengthening Programme highlights the need for LGAs to develop a risk management plan, emphasizing climate-related risks, to minimize disruptions for its effective implementation. The programme includes a list of priority risks, their potential impact, and suggested mitigation

measures.⁹ For DRM, the structure of PO-RALG is used at the subnational levels to coordinate preparedness and response.

The National Climate Change Response Strategy (NCCRS) 2021–2026¹⁰ has been designed within the institutional framework provided by the National Environmental Policy (2021) and the Environmental Management Act 2004. The VPO-DE is responsible for all climate-related activities. This strategy indicates that the design of adaptation and mitigation measures should be aligned, among other things, with priorities established by the Sendai Framework for Disaster Risk Reduction. The NCCRS includes specific DRR objectives assigning MDAs, LGAs and other relevant actors as responsible for its implementation.

In Tanzania Mainland and Zanzibar, the placement of disaster management is at a high political level, which is an advantage when coordinating other departments. PMO-DMD and SVPO-DMC have developed legislative and institutional frameworks for disaster and climate risk management. These frameworks assign roles and responsibilities to MDAs, RSs, LGAs and other relevant stakeholders. MDAs and LGAs are expected to identify measures to prevent and mitigate the effects of disasters, such as developing early warning systems and DRR strategies. In addition, stakeholders are tasked with enhancing response and recovery capacities by developing contingency plans, conducting training and drills, and providing emergency services to affected communities.

Given the above, there may be an overlap of mandates in operationalizing the general risk and DRM approaches at the institutional level. The capacity diagnosis did not have the opportunity to examine how sector ministries operationalize the risk and disaster management policy. During the interviews, it seemed that most sector ministries are mainly focused on their roles and responsibilities concerning preparedness and response. However, the situation differs between sectors, for example:

- The Ministry of Agriculture Tanzania Cooperative Development Commission, as the manager of cooperative societies, issued a Risk Management Guide for financial cooperative societies, with the aim of strengthening the management and control of risks in these associations. The guide is based on international risk management standards (International Organization for Standardization – ISO 31000:2018).¹¹
- The Ministry of Water Five-Year Medium Term Strategic Plan 2019/20–2023/2024 sets a target of developing and implementing a risk management framework in the water sector by June 2023. The framework seeks to address increased risk due to climate variability, which is a growing threat to the sustainability of critical water-using sectors – namely hydropower, irrigation, mining, tourism, livestock, industries, urban and rural water supply, and the environment.¹² The Water Sector Development Programme Phase Three (WSDP III) 2022–2026 identifies critical risks and mitigation measures to address them.¹³
- The Ministry of Health and WHO Tanzania have collaboratively developed the Country Cooperation Strategy United Republic of Tanzania 2022–2027.¹⁴ This comprehensive strategy is aligned with the Health Sector Strategic Plan 2021–2026 (HSSP V)¹⁵ and national development priorities. Among its outcomes is the goal of building “a resilient and robust health and community system with sufficient capacity to prepare, detect, prevent, respond to and recover from health epidemics, emergencies and disasters”. Similarly, as part of the strategic risk assessment, the Revolutionary Government of Zanzibar Health Sector Strategic Plan IV 2020/21–2024/25¹⁶ considers the development of sector-specific contingency plans.
- In 2022, the Vice President’s Office published the National Environmental Master Plan for Strategic Interventions (2022–2032).¹⁷ The

plan's overall objective is to guide strategic and coordinated environmental interventions at all levels, based on spatial variation of environmental challenges and intervention options. This complements the Guidelines for Management of Environmental Emergencies¹⁸ published in 2014. The purpose of these

guidelines is to inform the management of environmental emergencies related to major oil spills and gas leakages; spills of other hazardous substances; industrial accidents; disasters such as floods, droughts and pest infestations or other intrusions of alien species of fauna and flora; influx of refugees; and fire.

2.3.1 Tanzania Mainland institutional climate and DRM framework

PMO-DMD is the national body coordinating DRR and DRM in Tanzania Mainland. The department is tasked with a variety of roles and responsibilities, including establishing an Emergency Operation and Communication Centre (EOCC), strengthening early warning systems, developing a National Disaster Response Plan and managing the National Disaster Management Fund (NDMF), as well as coordinating and monitoring interministerial and intersectoral entities and committees responsible for disaster management at all levels.

The Disaster Management Act No. 6 of 2022 outlines a precise framework and governance system to shape the government's organization for disaster management. This structure is well defined at national, regional, district and community levels, and roles for the senior-level committees are well articulated. The Act provides for the establishment of steering committees at national, regional and district levels. The National Steering Committee for Disaster Management

comprises ministers from relevant ministries. This committee also allocates special seats to help increase gender representation, which is a positive change.

Below this, the National Technical Committee for Disaster Management is tasked with advising the steering committee, creating and implementing disaster and DRR planning, and advising on using the NDMF, among other responsibilities. At the regional level, the Regional Security Committee (created under the National Security Council Act) fulfils the steering committee function. It has the authority to issue decisions and instructions for disaster management at the regional level. Under this group, the Regional Technical Committee for Disaster Management advises and implements disaster management actions within the region, prepares DRR plans and provides guidance on financial resources required for disaster management.

2.3.1.1 Main challenges and gaps

While well-articulated, the governance structure for DRM has a few key challenges in its present form. First, the structure tends to be response-focused, especially with decision-making at the regional level delegated to the Regional Security Committee, which due to its membership and general purpose is less likely to be equipped with the skills and capacities for DRR or mitigation. In addition, some disaster management committees at the lower levels of government (village, ward, district, region) struggle with capacity issues,

given that some representatives are volunteers, wear two hats for different roles, or do not have the time to meet frequently as per the intent of the disaster management committees. There is a limited understanding of DRR within the lower levels of PO-RALG, which creates issues when budget planning begins at that level and does not tend to include DRR or CCA.

A second challenge with the proposed structure of the disaster management committees is that

the complex hierarchy of senior-level committees – both a steering committee and a technical committee of experts (also senior officials) at both the national and regional levels – may also create challenges with efficiency and speed when timely decisions are needed. At times, interviewees noted that while the governance structure is there, it can be slow to move information and approvals through the governance chain. So, in practice, many local authorities will decide to solve an emergency locally rather than involve the whole national system, even if this assistance is required and may follow later. It would be helpful for the governance system to find ways to increase its agility and responsiveness to expedite important decisions, such as declaring a disaster.

Finally, this structure could be enhanced by incorporating an important component for the operational coordination work necessary to support the significant mandate assigned to PMO-DMD in the updated Disaster Management Act. The new Act states, “the National Technical Committee for Disaster Management may establish a subcommittee to ensure the effective implementation of the national disaster management and coordination activities”. Similarly, the Regional Technical Committee for Disaster Management can create a subcommittee if needed. However, the issue identified through interviews and expert review of existing frameworks and documentation is a need to better define and organize how coordination will occur at the *operational* level, outside and in support of the steering committees. At the national level, committees of ministers or permanent secretaries for each ministry will not have the time or the skill set to conduct detailed operational coordination activities during emergencies, given competing priorities for implementing national development goals. Dedicated time capacity for monitoring ongoing events, information sharing, planning and collaboration is critically important for preparedness and risk reduction.

This operational work is best achieved through a standing (permanent) coordination function comprised of technical experts on secondment.

Such a mechanism may prove more effective than a committee, which implies a forum of intermittent gathering rather than a clearly structured team with the expertise required to deliver strategic and management functions. Truly effective operational coordination for emergencies and ongoing DRR, planning and mainstreaming of collaboration on activities requires people to continuously build relationships and to share knowledge and information across line ministries and sectors.

Currently, there are full-time staff with a variety of expertise (such as human health, animal health, economics, community development, information and communications technology, social welfare, fire and rescue, and military staff) embedded within PMO-DMD. But this could be expanded to include representatives from other relevant line ministries, to allow all parties to work together on an ongoing basis, build relationships, become familiar with PMO-DMD processes and tools, establish formal and informal coordination mechanisms, and be best positioned both to achieve effective and sustained DRR and to respond when an emergency occurs.

People working in such an embedded function would be pre-trained and ready to respond during disasters with direct links to their permanent line ministerial counterparts. These staff would also provide an invaluable source of coordination for collaborative DRR initiatives, monitoring and early warning, advance response planning such as prepositioning of supplies and assets, supporting the development of DRR/CCA guidelines for their relevant line ministries, and providing advice to the senior disaster management committees.

The ideal representative level for this function would be senior enough to understand and speak to the breadth of activities within their ‘home’ ministry and to provide advice on how relevant capacities and resources could be adapted to emergency preparedness and response. Technical leads must also have skills at the operational level and be positioned to act as a liaison office when required. This secondment of staff from different

ministries to PMO-DMD could thus be at the level of a senior analyst, director or sub-director.

The new Disaster Management Act No. 6 of 2022 also provides for a newly framed National Stakeholders Platform for Disaster Management, tasked with advising the National Technical Committee for Disaster Management. This strong governance component will be important to ensure an inclusive approach to coordination for DRM, including DRR. Previous structures have faced challenges with having the right stakeholders at the table and having a well-defined function. Coordination with development partners, NGOs and the private sector could be strengthened and structured, particularly in ensuring joint service

delivery capability and local government capacity augmentation during a crisis.

The National Council of NGOs (NaCoNGO), a government regulatory body for national NGOs and CSOs, is one mechanism through which progress could be made to broaden stakeholder participation. However, there is a need to clarify the role and purpose concerning DRR. While there is a need for rigour and accountability in the NGO sector, there has been a perception that NaCoNGO was driven primarily by regulatory priorities rather than in cooperation and partnership with the NGO sector to maximize complementarities for implementation of the DRR agenda.

2.3.2 Zanzibar

SVPO-DMC coordinates disaster management in Zanzibar. The Revolutionary Government of Zanzibar Disaster Risk Reduction Management Act 2015 defines the disaster management system. The Act establishes the roles and responsibilities of SVPO-DMC and the different committees, which are replicated at the district and *shehia* level.

The Commission is chaired by the Second Vice President and represented by head senior officials

of departments and all ministers of government. Disaster management is therefore placed at the necessary stature to achieve its objectives. The Secretariat of the Commission, headed by the Executive Director, is responsible for organizing and conducting advocacy and capacity building at all levels to enhance effective disaster preparedness, response and recovery. This includes advocacy for integrating disaster management into sectoral development plans and carrying out risk mapping and vulnerability assessment.

2.3.2.1 Main challenges and gaps

Financial and human resources capacity remains limited at district and *shehia* levels. This is despite these levels having responsibilities such as monitoring hazards, risks and disaster threats, conducting vulnerability assessments, and providing training and awareness programmes. In addition, they are also responsible for taking operational control during a disaster.

The Department of Environment is the lead for climate change in Zanzibar, and according to research it has implemented several climate initiatives. Even though there was mention of the

established climate change steering and technical committees, represented by key stakeholders from government departments and civil society, the departments interviewed were unaware of the initiatives and strategy. This is evidence of the high staff turnover in government structures, leading to loss of institutional knowledge.

2.4 Recommendations to strengthen disaster and climate risk governance classified by priority for implementation (see prioritization criteria in Annex 3)

#	Recommendations	Priority level Zanzibar	Priority level Tanzania Mainland
1.1	Develop guidelines clarifying how MDAs and LGAs should integrate the risk and DRM process at the institutional level. MoF and PMO-DMD/SVPO-DMC can specify whether the DRM coordination mechanisms established by law should also assume the coordination of the overall risk management process. Accountability instruments, technical guidelines and training would be adjusted accordingly.	High	High
1.2	To effectively bolster the coordination capacity of PMO-DMD and SVPO-DMC, it is crucial to prioritize enhancing the managerial and technical skills of their human resources through tailored DRM training, exchange programmes and the provision of working tools. Simultaneously, recognizing the significance of a well-equipped workforce, the emphasis should be placed on recruiting and retaining sufficient permanent staff with diverse technical capabilities, particularly in various aspects of DRR-related matters. By combining these efforts, the government can optimize its capabilities to address DRM and build resilience effectively.	High	High
1.3	Establish a standing (permanent) coordination function comprised of technical experts on secondment to provide steering committees with operational-level support. Truly effective operational coordination for emergencies and ongoing DRR, planning and mainstreaming of collaboration on activities requires people to continuously build relationships and to share knowledge and information continuously across line ministries and sectors.	Low	Moderate
1.4	Strengthen multisectoral coordination and collaboration for climate and disaster risk management interventions between MDAs and LGAs. The MoF annual budget guidelines can encourage/require institutions to develop joint programmes and plans integrating provisions to address identified climate and disaster risks. The MoF, in coordination with the national DRM authorities, can accelerate and incentivize DRR through coordinated funding mechanisms and innovative financing tools.	High	Moderate

#	Recommendations	Priority level Zanzibar	Priority level Tanzania Mainland
1.5	Strengthen coordination and collaboration with non-governmental stakeholders (civil society, the United Nations, the private sector, etc.) at all administrative/territorial levels, particularly in ensuring joint service delivery capability and local government capacity augmentation during a crisis. Existing coordination mechanisms, such as NaCoNGO, include the presence of non-governmental stakeholders. However, PMO-DMD/SVPO-DMC could develop specific strategies for each stakeholder. This could include clear guidelines on collaboration during crisis response, including communication, reporting, roles, responsibilities and support for planning and implementing SimEx.	High	Moderate
1.6	Give greater visibility to interventions at the sectoral and territorial level aimed at reducing disaster risk. PMO-DMD/SVPO-DMC can develop communications products to showcase the impact of investments in climate and disaster risk management, targeting decision makers and the population in general. This is important to maintain political support and community awareness.	High	High
1.7	Strengthen accountability mechanisms by making DRM indicators publicly available. The national report on the Sendai Indicators (by MoF) and related indicators described in national policy documents (national development plan/national DRR strategies) could be published through existing platforms such as the Tanzania Socio-economic Database's dashboard for socio-economic indicators, which is maintained by the National Bureau of Statistics.	High	Moderate
1.8	Considering the high turnover across government institutions, PMO-DMD and SVPO-DMC could consider creating a 'training division' to develop a programme for continuous cross-sectoral capacity building on DRR and CCA. This includes developing specific training for PO-RALG and LGA staff responsible for planning, coordinating and implementing DRR activities at the subnational level. The MoF could ensure sufficient funding to support this activity, including investments in technical professional competencies and training needed to support what is outlined in current frameworks and policies. The new DRM strategy for Tanzania Mainland already includes as one of its objectives the development of capacity-building programmes on DRM governance.	Moderate	High

#	Recommendations	Priority level Zanzibar	Priority level Tanzania Mainland
1.9	Integrate explicitly the principle of gender equality in disaster management policies and strategies. This will ensure a more robust and inclusive approach that addresses gender disparities and promotes equal opportunities for all genders in disaster preparedness, response and recovery efforts.	High	Moderate



Photo: UN OCHA



3. UNDERSTANDING DISASTER AND CLIMATE RISK

“Policies and practices for disaster risk management should be based on an understanding of disaster risk in all its dimensions of vulnerability, capacity, exposure of persons and assets, hazard characteristics and the environment. Such knowledge can be leveraged for the purpose of pre-disaster risk assessment, for prevention and mitigation and for the development and implementation of appropriate preparedness and effective response to disasters.”

Sendai Framework Priority I

3.1 Overview

Over the past decades, there has been increased awareness of the negative impact that disasters, including those related to climate change, can impose on achieving national development goals. This is partly due to the increased number and intensity of disasters and the fact that more information is provided by agencies such as the Tanzania Meteorological Authority (TMA). The MoF Strategic Plan 2021/22–2025/26 states that the government is committed to and prioritizes managing critical risks that may impair implementation of the Plan. The Strategic Risk Assessment indicates that “natural¹⁹ disasters and pandemic diseases may occur, leading to decline in economic growth as well as domestic revenue collection”.²⁰

The responsibility for risk information lies with MoF, PMO-DMD (Tanzania Mainland), and SVPO-DMC (Zanzibar). The MoF guidelines emphasize that MDAs and LGAs must identify risks, plan mitigation measures and allocate budgets accordingly. The National Disaster Management Strategy (Tanzania Mainland, 2022) assigns responsibility for conducting periodic risk assessments for development planning to MDAs, LGAs and development partners. In Zanzibar, risk mapping and vulnerability analyses are the responsibility of *shahia* and district disaster management committees.

Furthermore, the Disaster Management Act of 2022 assigns PMO-DMD (Tanzania Mainland) responsibility for generating risk information and coordinating disaster risk assessment guidelines for major projects. In Zanzibar, the Disaster Risk Reduction and Management Act of 2015 designates the Disaster Management Commission Secretariat with responsibility for risk mapping and vulnerability analyses.

Under the government’s leadership and in coordination with international cooperation partners, efforts have been made to generate the knowledge and understanding required to support

the implementation of DRM policies. However, the following issues may require additional efforts.

- First, although the existing regulatory framework specifies responsibilities concerning the generation of risk information, there are no technical guidelines describing the attributes of the information that must be generated. For instance, the information required for risk-informing national or local development decisions must consider factors such as reliability, spatial/temporal resolution and presentation formats. In addition, regional bodies need to be considered in generating risk information, due to the transboundary nature of disaster and climate risk.
- Second, national institutions are mandated to identify risks and to plan and budget for mitigation measures. However, it is unclear how and by whom the criteria for establishing risk categories and treatment options are decided. In accordance with current regulations, it is up to each institution to define the level of tolerable risk and residual risk it is willing to accept. As mentioned above, the preparedness plans include a qualitative risk assessment matrix for the most common threats in the country. Finding a national consensus on assessing risks, involving MDAs/LGAs and communities, is crucial to effectively inform decisions on risk reduction and preparedness for response.
- Third, the government and other stakeholders have long been aware of challenges concerning the availability and accessibility of disaster and climate risk information. This is clearly described in a 2018 Global Partnership for Sustainable Development Data report, which is still relevant in 2023.²¹ It is essential to develop protocols and procedures to facilitate information storage, discovery and exchange, to enable cross-sector collaboration for effective risk management interventions.

- Lastly, while there is sufficient technical and human expertise to produce sector-specific information, the availability of expertise for conducting risk analyses is uncertain. For instance, Tanzania has only one geologist responsible for seismic hazard analysis at the Geological Survey of Tanzania. Reports primarily focus on hazard identification

rather than evaluating the potential risks and their impacts, for instance assessing the implications of drought on food or energy security. It is recommended to assess existing human capacity for qualitative and quantitative risk assessments, and develop strategies to enhance and maintain this capacity accordingly.

3.2 Risk information management

Information on risk is obtained by processing, using appropriate methodologies, basic information generated by sectors and specialized institutions (e.g. Geological Survey of Tanzania,

meteorological services). In this regard, the generation of basic information must consider the unique requirements of the specific risk assessment process.

3.2.1 Basic and sector-specific information

Responsibility for developing and maintaining a comprehensive national data bank lies with the National Bureau of Statistics (NBS) in Tanzania Mainland and with the Office of the Chief Government Statistician (OCGS) in Zanzibar, as per the Statistics Act, Chapter 351. This data bank comprises sectoral data banks developed by government institutions and agents. Climate change and disaster risk management information-related requirements are integrated and mainstreamed throughout all stages, from design to implementation, of the Tanzania Statistical Master Plan Phase Two (TSMP II) 2022–2027.²²

The Tanzania Meteorological Authority (TMA)²³ provides weather data and information services for sectoral activities, including ‘natural’ disaster and relief management. The TMA also informs the general public about tsunamis and severe weather-related warnings. The Geological Survey of Tanzania provides data, information and services to the government on use of earth resources and mitigation of geological hazards. The latter includes monitoring hazards such as earthquakes, landslides and volcanic activity.

Monitoring of infectious diseases in Tanzania is primarily carried out by the country’s Ministry

of Health (MoH). Management and control of pests and livestock diseases in Tanzania is the responsibility of the Ministry of Agriculture, which oversees implementation of various policies and programmes to prevent and control outbreaks of pests and diseases. The Agricultural Routine Data System (ARDS)²⁴ is a data collection and reporting system for Tanzania’s agricultural sector. The data collected are used at various levels of government, LGAs, regional administrations and ministries, for monitoring plans and implementation.

Generation of data and statistics to support gender-informed interventions is increasingly prioritized and emphasized in national plans and strategies. The Tanzania Statistical Master Plan (TSMP II) and the Zanzibar Strategy for the Development of Statistics include plans for action and financing on gender data. National coordination on gender data has been institutionalized with the help of UN Women, who supported the establishment of Gender Statistics Units within NBS and OCGS and founded an inter-agency Technical Working Group on Gender Statistics. Furthermore, capacity on gender data has been improved through training over 200 data producers and users on how to collect, analyse and use gender data for monitoring and reporting.

Regarding data on inclusion and disability, the government has made some progress. However, challenges remain around accessibility of the data, its disaggregation and its comprehensiveness. The United Nations Partnership on the Rights of Persons with Disabilities ‘Situational analysis of the rights of persons with disabilities in Tanzania’ (2021) emphasized a need for improved availability of accurate and consistent disability-disaggregated data in accessible formats in the

public domain. In the case of Tanzania Mainland, the National Disaster Management Strategy (2022–2027) includes provisions to promote the strategic disaggregation of data through data collection, analysis and reporting in surveys based on gender, income, disability, ethnicity and age group categories. This approach aims to better inform disaster and climate risk management programmes.

3.2.2 Availability of disaster and climate risk information

Gaps in the availability of risk information appropriate to users’ needs are often cited and explicitly noted by Tanzanian authorities. See, for instance, the NCCRS 2021–2026,²⁵ ‘Entry Points for the Formulation of a National Adaptation Plan in Tanzania’,²⁶ and the Green Climate Fund Readiness Proposal 2021.²⁷ Nonetheless, more data do exist across line ministries than are easily accessible on government data portals. Access to data is hindered by the absence of up-to-date catalogues, standardized data and information exchange and discovery services, and even broken links.

NBS and OCGS regularly (monthly, quarterly, biannually and annually) generate geo-referenced demographic information, such as economic and social data, that supports strategic planning of humanitarian response and DRR. Specialized assessments such as the Household Budget Survey (2019–2020) are conducted biennially. Specific data that focus on vulnerabilities are available at national and regional levels. e.g. data on disability. Furthermore, there is good convergence between NBS/OCGS and line ministries through secondment of staff to support quality assurance in the sector statistics function. Availability of information to support preparedness and response is discussed in Chapter 6.

Outside the routine data generated by sectors supported by NBS and OCGS—Health Management Information System, Education Management Information System – no clear systematic

assessment is conducted to gather data to inform plans and policies for preparedness, response and recovery. There is some understanding of disaster risk from analysis of data, trends, damage and losses under the SVPO-DMC data repository. Data is used to rate hazards. However, there is no systematic, high-quality mapping of hazards at the appropriate scale.

Online searches and interviews during the mission revealed the availability of a significant quantity of data and information describing the main hazards and the risks they pose. Development cooperation institutions collaborating with government entities have produced much of this information. Annex 4²⁸ includes a list of information resources prepared by governmental and non-governmental actors. However, the reliability of this information may be a cause for concern. Overall, there is no documentation to determine the quality, usability and reliability of this information. Furthermore, it is unclear whether MDAs, LGAs or other stakeholders utilize the available risk information to support development planning or preparedness for response and recovery.

In addition, despite the availability of risk-related data on government portals and via other sources, there is no consolidated platform across ministries and sectors. Insufficient integration poses challenges to cross-sector coordination. It is essential to connect risk information to risk reduction plans, including preparedness for response, and ensure that they can be practically

applied, in order to drive action and resource allocation. The development of a national risk profile, including operating procedures for its maintenance and updating, will help in this process.

However, it is important to mention that there are sectoral initiatives to generate standard information useful for all sectors. For instance, in September 2022, the Ministry of Health – with the support of WHO and the East, Central and Southern Africa Health Community (ECSAHC) – conducted the National Strategic Risk Assessment using the Strategic Tool for Assessing Risks (STAR) methodology. The qualitative risk assessment is carried out using expert opinion methodology. The experts identify hazards across sectors, and evaluate vulnerability and the impacts these could have on the population, with a focus on health effects. The resulting all-hazards national risk profile (Risk Assessment Matrix) can be used as a common tool for guiding emergency preparedness and planning including development of contingency plans.²⁹ However, the STAR risk profile does not seem to coincide with the national risk profile included in the National Disaster Preparedness and Response Plans (ZEPRP and NDPRP).

In Zanzibar, SVPO-DMC manages a national database with information on the extent of each disaster and the population affected. The information system managed by SVPO-DMC includes historical data on risks and hazards at *shehia* level. However, this data is accessible to SVPO-DMC teams but unavailable to the

public. The database captures information on communities affected by multiple hazards and risks. During the onset of an emergency, SVPO-DMC leads a rapid assessment to determine the extent of the damage, which feeds into their database. The completeness of this database is not clear.

PMO-DMD compiles and manages a national disaster loss database through DesInventar.³⁰ According to the online information, the database covers the period 1872–□2021. The completeness of the database, how it is updated, and how it is used in risk analyses by the different sectors were not established. EM-DAT, the public version, contains data on the occurrence and impacts of over 200 disasters in Tanzania from 1984 to the present day.³¹ It is worth noting that the EM-DAT and DesInventar databases use different definitions of disaster, so they cannot be directly compared.

The national disaster inventories are the foundation for creating databases that capture information on damages and losses. This is a key input to inform the design of a disaster risk financing strategy, including access to resources that may become available through global mechanisms for addressing the impact of social and economic losses and damages in developing countries. It is unclear whether the information available is used to inform decisions on annual planning, resources and budget allocations.

3.3 Risk information system

There is no suitable Disaster Management Information System (DMIS) within the Tanzania Mainland Disaster Management Department (PMO-DMD). The Disaster Management Act of 2022 suggests the components of a DMIS. It explicitly calls for an Emergency Operation and Communication Centre (EOCC) with the necessary technology (hardware and software) and connectivity. The Act also calls for skilled staff to utilize such technology.

The targets in the National Disaster Management Strategy 2022 (Tanzania Mainland) include strengthening platforms for generation, exchange and use of risk information in development planning and response preparation. The platform will also support all early warning institutions, in connection with EOCC. The SOPs for operation of EOCC were prepared in 2017 through a broad stakeholder consultation process.³²

Future projects include the National Spatial Data Infrastructure and Land Tenure Project (Ministry of Lands, Housing and Human Settlements Development), the Tanzania Statistical Master Plan Phase Two (TSMP II), the National Environment Statistics Report 2017 Tanzania Mainland,³³ and the NEMPSI environmental

data platform (detailed in the United Republic of Tanzania National Environmental Master Plan for Strategic Interventions 2022–2032).³⁴ These projects represent a significant step forward in modernizing data sharing within and outside government, especially as this progresses in line with the Digital Tanzania Project.³⁵

3.4 Main challenges and gaps

Despite the availability of risk-related data on government portals and via other sources, there is no common platform across ministries and sectors. This limitation to integrating data hampers cross-sector coordination and collaboration. In addition, it creates challenges in defining appropriate risk management strategies, including response preparedness, and in effective and efficient allocation of available resources. The best data available do not always inform technical and political decisions in risk management.

Human and technological resources are available to generate data and information at the sectoral level. However, the ability to provide disaster and climate risk information that meets operational needs at the national and local levels is uncertain. For instance, despite many baseline and reference data being available across various line ministries, a ready-to-use set of integrated, multisectoral data is currently unavailable to support disaster preparedness and response efforts. Skills training and equipment to take advantage of data available, such as geographic information systems (GIS), data science and information technology, could be improved in all areas and at all levels of government. Further assessment may be necessary to identify capacity-building needs for specific skills and technological development.


Making a national all-hazards risk profile available would open up the possibility for cross-sectoral coordination and collaboration in defining DRM interventions. Likewise, with robust standards for data collection, analysis and dissemination, seamless information sharing could be achieved across different levels of government and different

sectors. There is an opportunity to address these challenges with the government's strong emphasis on digital transformation (e.g. portals, government e-services and National Spatial Data Infrastructure).

Furthermore, linking of risk information to risk reduction, preparedness and response plans presents a significant challenge. It is not merely about the existence of integrated data platforms, but rather their actual utilization in practice to drive action and allocate resources effectively. One particular challenge lies in enhancing the connection between the production of climate forecasts and their integration into preparedness and response plans at the local level.

Several ministries noted that risk assessments are undertaken as part of their planning for programmes and projects. However, they indicated that there is a gap between the risk assessment process and the implementation of mitigation measures. For example, risk assessments are undertaken as part of dam construction projects by the National Irrigation Commission (under the Ministry of Works and Transport), but they are general and not specific to disaster risk. This information is generally not used for prioritizing risk reduction interventions as the assessments are only implemented for approved projects, and there is only limited follow-up to ensure identified risks are mitigated.

The recently developed National Disaster Management Strategy 2022 includes provisions for creating and disseminating educational materials on emergency management, disaster



preparedness and response. These materials specifically target population groups such as school children, the elderly, tourists, and individuals with diverse disabilities. However, considerations on gender could be enhanced. Gender now appears as a group, rather than a principle. In addition, the need to consider gender equality and inclusiveness is not reflected in the design of the disaster communication strategy for either Zanzibar or Tanzania Mainland.

3.5 Recommendations to strengthen understanding of disaster and climate risk, classified by priority for implementation (see prioritization criteria in Annex 3)

#	Recommendation	Priority level Zanzibar	Priority Level Tanzania Mainland
2.1	Define, through a broad consultation process, the criteria for developing a standard risk assessment matrix for use at the national and local levels. PMO-DMD and SVPO-DMC could facilitate the consultation process. The matrix will facilitate prioritization of risks, define targeted risk management strategies, monitor progress, and assess the impact of interventions. This is also an opportunity to raise risk awareness at all levels within the institutions.	High	Moderate
2.2	Considering the issue of limited understanding of disaster and climate risk management within the lower levels of LGAs, actions to improve their understanding and capacities could include the following. <ul style="list-style-type: none"> • Incrementally build upon existing government structures by empowering local-level government with alternative knowledge and skills to effectively address disaster emergencies at the lower levels. • Enhance the capacity of local-level government in integrating DRR or CCA into budgeting and planning processes. 	High	High
2.3	Develop a comprehensive (minimum) set of standard operating procedures to regulate and support the institutionalization of a disaster and climate risk data management system at national and subnational levels. PMO-DMD/SVPO-DMC, working in coordination with MDAs and LGAs, would specify the technical requirements for the data and information needed to support the design of DRR interventions and preparedness and response plans. This includes standards that enable the exchange of data and information across government institutions.	High	High
2.4	Establish an information management unit under PMO-DMD/SVPO-DMC. The Unit would promote and coordinate the development of disaster and climate risk management information products and services by line ministries and other relevant stakeholders. This could include the design of research and capacity-building programmes to fill the gaps in all areas and at all levels of government.	High	Moderate

#	Recommendation	Priority level Zanzibar	Priority Level Tanzania Mainland
2.5	<p>Develop a catalogue of all stakeholders’ existing information management capacities (the multisectoral risk information ecosystem) and touchpoints, to identify bottlenecks and design a plan for building a DMIS connected to this ecosystem.</p> <p>Before moving on to complex digital systems, PMO-DMD/SVPO-DMC could develop a simple low-technology system comprising a data catalogue to audit what data would suit a DMIS, who the owners are, and what (if any) are the barriers to use. A simple cloud-based data repository could then be built to provide a single, reliable and ready-to-use source of disaster-related information.</p>	High	High
2.6	<p>As per the National Emergency Telecommunication Plan 2022, operationalize public–private partnerships, especially involving media houses and telecommunication authorities, for information dissemination and education on disaster and climate risk. For example, PMO-DMD/SVPO-DMC/TMA could collaborate with multiple media platforms to provide community education and communication on disaster and climate risk management.</p>	Moderate	High



 **World Health Organization**
Organisation mondiale de la Santé

Photo: UN WHO



4. INVESTING IN DISASTER AND CLIMATE RISK REDUCTION FOR RESILIENCE

“Public and private investment in disaster risk prevention and reduction through structural and non-structural measures are essential to enhance the economic, social, health and cultural resilience of persons, communities, countries and their assets, as well as the environment. These can be drivers of innovation, growth and job creation. Such measures are cost-effective and instrumental to save lives, prevent and reduce losses and ensure effective recovery and rehabilitation.”

Sendai Framework Priority 3

4.1 Overview

In Tanzania, risk management is financed mainly through two mechanisms. First, MDAs and LGAs are required to allocate resources to identify risks and implement mitigation measures to address them, including disaster management. Second, the Disaster Management Funds are mainly dedicated to disaster preparedness and response. The funds allocated to these mechanisms come from different sources, including the national budget and international aid and donor support.

The guidelines issued by MoF request MDAs and LGAs to identify specific risks and to plan and budget risk mitigation measures. These requirements mandate the integration of risk management criteria into all programmes and projects implemented by these institutions. The guidelines do not specify where the financial resources to implement these measures come from, but it is assumed they correspond to the government budget.

In line with these guidelines, the Disaster Management Act 2022 (Tanzania Mainland) and the Disaster Management Act 2015 (Zanzibar) establish that “each ministry, department, government institutions, regional administrations, and local government authorities shall have the responsibilities to include in their plans and budgets measures to prevent and reduce the effects of disasters and prepare to deal with disasters”.

Disaster Management Funds are financed with resources approved by parliament for disaster management. There is a difference between Tanzania Mainland and Zanzibar regarding what the Funds can be used for. In Zanzibar, the Fund is used only for disaster relief services and response. In Tanzania Mainland, the Fund can be used to provide resources to prevent and reduce the effects of disasters, and for preparedness, response and post-disaster recovery.

The government considers it necessary to diversify the financing mechanisms for managing

disaster and climate risks. The capacity diagnosis identified challenges to progress in achieving this objective, which include the following.

- First, greater clarity on how entities can determine priority risks could enhance effectiveness in the allocation of resources to either reduce risk and/or prepare for response and recovery. This is related to previous comments in relation to classification of risks. It would be important to determine risk thresholds and criteria for triggering interventions.
- Second, cross-sectoral collaboration for effective and efficient disaster risk financing management could be improved. The existing MoF guidelines for the design of programmes and plans could explicitly require that MDAs/LGAs conduct risk analysis collaboratively. Similarly, the PMO-DMD/SVPO-DMC guidelines could stipulate ensuring that the disaster management plans prepared by each sector are complementary to one another. Currently, there is no public finance management strategy to provide guidance on how to coordinate public finance management across sectors, including for risk management.³⁶
- Third, it is recommended to develop clear guidelines to link risk mitigation interventions with those aimed at building preparedness for response and recovery capacities. Without clear guidelines, there is a risk of disjointed efforts and fragmented approaches in addressing risks and building resilience. A coherent framework integrating these measures is essential for comprehensive and practical disaster and climate risk management, ensuring coordinated actions, consistent implementation and optimal resource utilization, to minimize the impact of disasters and expedite recovery efforts.

- Lastly, given that MoF estimates that the occurrence of disasters could result in impacts equivalent to 3% of national GDP, it is important to expedite the development of a disaster risk financing strategy. The Disaster Management Fund mechanism may

not provide sufficient protection in this regard. The Disaster Management Strategy 2022–2027 for Tanzania Mainland sets a target for establishing a national DRR financing framework.

4.2 Policy framework for public finance management of disaster and climate risk

Tanzania’s Public Finance Act (2001) and subsidiary legislation (Chapter 348) mandate MoF to develop and implement a macroeconomic and fiscal policy framework for the government. The sector ministers or heads of departments are responsible for implementing the MoF policy.

The Tanzania Budget Act of 2015 outlines the government’s requirements and procedures for budget preparation and implementation, including analysis of financial risks. In addition, according to Section II of the Act, MoF may establish, manage and maintain a contingency fund to meet urgent and unforeseen expenditures with the approval of the National Assembly. The Act also specifies that the contingency fund must be reflected in the annual budget estimates.

The FYDP III (2021/22–2025/26) identifies shocks and crises related to natural calamities and pandemics as financing risks. To mitigate their impact, the government considers it important to diversify and create economic buffers; improve disaster preparedness and management; strengthen disaster risk financing, use of insurance and risk financing instruments; adjust plans to match finances; and strengthen dialogue mechanisms with development partners.³⁷

The UNDRR report, United Republic of Tanzania Risk-sensitive Budget Review,³⁸ provides a detailed analysis of public investment planning for DRR for 2016/17–2018/19. Over 80% of DRR resources were spent on mitigation and prevention activities during this period. Response and relief activities were financed mainly through domestic resources. Mitigation, prevention and preparedness activities

were financed primarily through international cooperation. The bulk of DRR investment relates to a budget with a focus on poverty alleviation that reduces vulnerability and improves resilience. The report emphasizes that DRM is not explicitly documented in the programmes and activities under the national budget.

The MoF report ‘Assessment of the Public Finance Management Systems of the Central Government’ includes an indicator to measure the extent to which fiscal risks to the central government are monitored and reported. Fiscal risks arise when adverse circumstances, including disasters, create unforeseen liabilities for the government. Government ministries (MDAs) and all LGAs should monitor and report on this indicator.

According to a recent report,³⁹ the government currently bears the costs of disasters through budget reallocations and the Disaster Management Funds. The Disaster Management Act 2022 (Tanzania Mainland) and the Disaster Management Act 2015 (Zanzibar) establish the Disaster Management Funds. No sovereign risk transfer solutions or contingent credit mechanisms exist, and public assets are uninsured.

However, there are sector-specific experiences in the use of insurance mechanisms. For example, according to the National Insurance Corporation, agricultural insurance covers challenges caused by natural calamities such as drought, floods, earthquakes and theft of crops.⁴⁰

4.3 Institutional framework for public finance management of disaster and climate risk

MoF issues annual guidelines instructing MDAs and LGAs to consider macroeconomic and budgetary risks in their programming and to define mitigation strategies in annual plans and budgets. Climate change and ‘natural’ disasters are considered macroeconomic and budgetary risks. More specifically, when preparing annual plans and budget estimates, MoF instructs LGA accounting officers to consider actions to strengthen disaster committees at district, ward and village levels by allocating funds for preparedness, mitigation and disaster management within areas of jurisdiction.⁴¹

In July 2021, PO-RALG issued the ‘Guideline for Developing and Financing Income-Generating Infrastructure Investments: User guide for Local government Authorities’.⁴² This guideline indicates that LGA teams must identify all potential risks during project feasibility analysis and design mitigation measures. The guideline provides examples of the type of risks projects may face, which include those associated with natural hazards.

According to the Tanzania Mainland Disaster Management Act 2022, investment in DRM shall be implemented through two channels. The first is the budgets all government institutions must allocate for DRR. The second is the National Disaster Management Fund. Under general obligations, the Act includes provisions indicating that MDAs, RSs and LGAs shall be responsible for including, in their plans and budget, measures to prevent and reduce the effects of disasters and to prepare response and recovery.

The Zanzibar Disaster Management Policy 2011 indicates that all stakeholders dealing with disasters shall allocate an adequate budget to prepare for, mitigate and respond to disasters. However, there is a need for clear directives to guide institutions and standardize procedures in this matter. There are good examples to follow. For instance, the Zanzibar Water Investment Programme 2022–2027⁴³ outlines measures to mitigate risk associated with climate change and the vulnerability of populations. The plan aims to build resilience through water investments.

4.3.1 The Disaster Management Funds

The Zanzibar and Tanzania Mainland National Disaster Management Fund (NDMF) provides a mechanism for resource mobilization through different streams, such as national budget or donations, to respond to an emergency. Such funds are more likely to come in the aftermath of a disaster, so these may be primarily directed to support response and recovery. Parliament allocates funds from the national budget at the request of the disaster management authorities.

According to the existing regulations, when international funds are provided to Tanzania in the event of a disaster, MoF facilitates the distribution of funds to the appropriate location. The National Debt Management Committee, chaired by MoF, decides whether funds go into a specific sector or

are channelled to the NDMF within PMO-DMD or SVPO-DMC.

No triggers seem to be identified for when funds would go to a specific line ministry for a sectoral response in the event of an emergency, versus going into the NDMF. This could create confusion and challenges regarding how the funds should be used – for instance, whether they are allocated to a minister who strongly advocates for a sectoral approach, or used to support a whole-of-government response across sectors, with the funds coordinated through PMO-DMD or SVPO-DMC.

4.3.1.1 The Disaster Management Fund, Tanzania Mainland

The NDMF is designed to provide resources for investments across *all* phases of disaster management, including disaster prevention, mitigation (reduction), preparedness, response and recovery. Although it is not explicitly mentioned,

this fund could also be used to address some elements of climate change-related disaster risks, particularly weather-related extreme events, both rapid (e.g. floods) and slow onset (e.g. drought).

4.3.1.2 The Disaster Management Fund, Zanzibar

The Zanzibar Disaster Management Policy of 2011 established the Disaster Management Fund to ensure the accessibility of adequate resources for disaster preparedness, mitigation, response and recovery. However, the Disaster Risk Reduction and Management Act of 2015 indicates that the

purpose of the management fund is to support disaster response and relief, including rescue operations and humanitarian assistance. The actual operability of the fund appears to be on an *ad hoc* basis, since the regulations are not yet finalized.

4.4 Disaster risk financing strategy

According to the World Bank, a disaster risk financing strategy comprises a layered system including risk retention (budget reserves/reallocations, contingent credit) and risk transfer instruments.⁴⁴ The former is used to mitigate the impact of high-frequency, low-impact events, and the latter to mitigate the impact of low-frequency, high-impact events. This strategy complements the implementation of risk reduction and preparedness measures.

The government is in the very early stages of exploring risk transfer mechanisms to help finance disaster and climate risk. These mechanisms include the possible use of insurance-linked securities (e.g. catastrophe bonds, weather derivatives) and contingent loans (e.g. investment deferred drawdown options, catastrophe deferred drawdown options). MoF emphasizes the need to develop insurance and risk finance to strengthen national resilience in collaboration with international cooperation partners.⁴⁵ The experience of the Ministry of Works and Transport in looking into insurance for rail accidents could be used as example by other ministries to be applied in the case of major disaster risks.

Within Tanzania, there are currently three reinsurance companies operating, but the government has noted that more are needed to support a healthy reinsurance market and the number should be expanded. The government noted they are looking to attract a larger market that could better support the (re)insurance of private and public infrastructure. At the local level, there are several small-scale risk transfer tools available that could be better explored. Agricultural (crop and livestock) insurance, including multi-peril products, is available in Tanzania. However, market penetration for insurance and micro-insurance is low, even compared to neighbouring countries.

Existing barriers to insurance uptake are unaffordability, financial illiteracy, lack of trust in institutions, absence of information on threshold conditions for insurance provisions at the appropriate spatial and temporal resolution, and lack of awareness. For example, weather information is still provided at a large scale, making it difficult for a small farmer to be compensated in the event of a weather-related disaster due to problems in providing the evidence.

The World Bank has recommended that the government engages with neighbouring countries, to benefit from lessons learned in insurance and reinsurance, and to help stimulate the catastrophe

and agriculture insurance market. This strategy could also help to leverage existing private sector capacity within the East Africa region, such as the African Risk Capacity Group.

4.5 Main challenges and gaps

There seems to be an overlap between the MoF guidelines and PMO-DMD/SVPO-DMC provisions concerning the requirements for MDAs and LGAs to invest in risk and disaster management. Acknowledging complementarity and aligning national policies around these approaches would increase the country's capacity for effective and efficient risk management investment. The process for establishing the national DRR investment and financing framework, proposed in the National Disaster Management Strategy 2022-2027, provides an opportunity to do this.

Requesting MDAs and LGAs to plan and budget risk management measures is an important first step. However, without the appropriate risk information, it is challenging to adequately identify and define risk treatment (mitigation) strategies. MDA/LGA representatives noted that risk assessment capacities need to be further developed to allow for more in-depth consideration of risk and potential risk-informed prioritization of funding.

While the government requires MDAs, RSs and LGAs to identify risks and to plan and budget mitigation measures, this is predominantly an administrative process exercise. In general, the current approach calls for DRR concerns to be prioritized against annualized priorities in national development plans, in the context of budgetary

pressure at the sectoral level. However, MDAs, RSs and LGAs have limited capacity to implement the guidelines issued by MoF/PO-RALG/PMO-DMD/SVPO-DMC and to undertake meaningful reviews against sectoral priorities.

In addition, there is also no process in place for monitoring and assessing actual implementation of these budgetary guidelines. Once adequately monitored, these guidelines could become a key part of the government's decision-making process on how DRM/DRR is financed and prioritized in project planning and implementation.

Several ministries noted that they undertake risk assessments as part of their planning for programmes and projects (e.g. National Irrigation Commission, Ministry of Works and Transport). However, they indicated that there is a gap between the risk assessment process and the implementation of mitigation measures. For example, risk assessments are undertaken as part of dam construction projects by the National Irrigation Commission, but they are general and not specific to disasters. This information is generally not used for prioritizing risk-reduction interventions, as the assessments are only implemented for approved projects. Also, there is only limited follow-up to ensure identified risks are mitigated.

4.6 Recommendations to strengthen investment in disaster and climate risk reduction for resilience, classified by priority for implementation (see prioritization criteria in Annex 3)

#	Recommendation	Priority level Zanzibar	Priority level Tanzania Mainland
3.1	To clarify how DRR is funded, funding to MDAs, RSs and LGAs for DRR through the national budget could be explicitly earmarked within the national budget to address sectoral or local programmes/policies and priorities. The NDMF, on the other hand, could receive allocations for intersectoral DRR programmes/projects (that require collaboration between different ministries or levels of government), and for emergent DRR/CCA issues identified as national priorities.	High	High
3.2	A policy or regulation is needed to articulate how funding within the NDMF will be planned, executed and monitored. This includes specifying how it can be capitalized, the annual budget allocation, and how and to whom the fund will flow. It could also be designed to retain unused funds for subsequent years instead of returning them to the Treasury. <ul style="list-style-type: none"> It is recommended that the annual NDMF <i>ex ante</i> allocation is used to promote intersectoral DRR/CCA interventions designed to target the highest-risk areas, in terms of both hazards and most vulnerable populations. The Disaster Management Regulations of 2022 (Tanzania Mainland) has earmarked 25% of funds allocated to NDMF in the annual budget to be used for <i>ex ante</i> prevention and mitigation measures. If funds within the NDMF accumulate year-on-year, triggers could be identified for when some of this could be used for DRR, perhaps to fund larger DRR/CCA projects. Suitability of the NDMF to provide resources for multisectoral risk reduction or mitigation interventions would be discussed in the context of the development of a comprehensive disaster risk financing strategy. 	Moderate	High

#	Recommendation	Priority level Zanzibar	Priority level Tanzania Mainland
	Besides having the necessary skills and capacities for disaster and climate risk management, it would be advisable to allocate a specific amount of funds for regional access. At the regional level, responsibility for managing disaster issues is delegated to the Regional Security Committee. Additionally, considering the allocation and segregation of the NDMF on a regional basis would ensure easy accessibility during disasters, eliminating the need for LGAs to request funds from the national level.		
3.3	Enhance existing guidance frameworks/policies of the MoF budgeting guidelines to emphasize the importance of developing a comprehensive disaster risk financing strategy for the Government of the United Republic of Tanzania. Currently, only Tanzania Mainland is considering development of such a strategy.	Low	Moderate
3.4	To help support DRR across ministries, MoF or PMO-DMD/SVPO-DMC could provide and coordinate training on developing risk-informed programmes, policies and projects that help to advance disaster resilience. The MoF could also provide templates and guidance on its existing central management budget system, and work towards stronger institutionalization of risk management approaches.	High	High
3.5	The Government of Tanzania could consider joining the Africa Risk Capacity Group, while expanding the country's other insurance, reinsurance and risk transfer mechanisms to cushion communities against major risks. It is recommended that Tanzania engages with regional partners such as Kenya to learn from their experience and to leverage existing capacity in the East Africa region to explore small-scale risk transfer mechanisms (e.g. insurance-linked securities, catastrophe bonds, contingent loans).	Moderate	Low
3.6	To ensure international funds for emergencies are allocated appropriately (to a ministry for a specific sectoral response, or to NDMF for a multi-sectoral response, or some combination), PMO-DMD/SVPO-DMC could develop clear guidelines and triggers for the National Debt Management Committee (and MoF) on how money should flow once received by the Government of Tanzania.	High	High

#	Recommendation	Priority level Zanzibar	Priority level Tanzania Mainland
3.7	MoF is advised to develop an internal mechanism within the budget process for tracking direct and indirect DRR and CCA activities within the annual budgets of line ministries. This would enable Tanzania to develop indicators and targets for measuring progress and tracking outcomes of DRR/CCA investments and activities.	High	Moderate



Photo: UN WFP

5. PREPAREDNESS FOR DISASTER RESPONSE AND RECOVERY

“The steady growth of disaster risk, including the increase of people and assets exposure, combined with the lessons learned from the past disasters, indicates the need to further strengthen disaster preparedness for response, take action in anticipation of events, integrate disaster risk reduction in response preparedness and ensure that capacities are in place for effective response and recovery at all levels. Empowering women and persons with disabilities to publicly lead and promote gender equitable and universally accessible response, recovery, rehabilitation and reconstruction approaches is key. Disasters have demonstrated that the recovery, rehabilitation and reconstruction phase, which needs to be prepared ahead of a disaster, is a critical opportunity to build back better, including through intergrating disaster risk reduction into development measures, making nations and communities resilient to disasters”

Sendai Framework Priority 4

5.1 Overview

The Zanzibar Emergency Preparedness and Response Plan (ZEPRP, 2011)⁴⁶ and the National Disaster Preparedness Response Plan for Tanzania Mainland (NDPRP, 2022)⁴⁷ delineate the comprehensive disaster preparedness and response framework at both institutional and operational levels in Tanzania. The Plans identify relevant stakeholders, assign their roles and responsibilities, and establish the process to be followed and actions to be taken in response to an emergency or disaster. The plans are aligned with the Zanzibar 2015 and Tanzania Mainland 2022 Disaster Management Acts; they provide guidelines for coordination and response to all types of disasters and emergencies at all levels of government.

The mission's findings indicate that the disaster preparedness and response coordination structure in Tanzania Mainland and Zanzibar is well-organized and effective. Lines of communication are in place, are tested in day-to-day non-emergency contexts, and are known to function effectively. There is evidence of a high level of political will and commitment to ensuring the government is prepared and able to respond. There is well-established preparedness and response capacity in the health, agriculture and environment sectors. International stakeholders such as UN agencies and international NGOs in Tanzania Mainland and Zanzibar assist in response if the need arises. The COVID-19 pandemic has made civil society more aware of disaster management roles and responsibilities, leading to a more inclusive preparedness plan.

Local governments, with the support of international cooperation partners, are making progress in developing and modernizing their disaster response capacity. The World Bank is working with Dar es Salaam to coordinate, develop and modernize the city's disaster response capacity. The Dar es Salaam Multi-Agency Emergency Response Team (DarMAERT) is the first initiative of its kind in Tanzania to bring together emergency response stakeholders to

serve as the tactical branch of a Regional Disaster Management Committee.⁴⁸ The partnership is supported by the Tanzania Urban Resilience Program, funded by the United Kingdom and the World Bank.⁴⁹ However, it was not possible to determine what other cities have benefited from this at the national level.

The ZEPRP and NDPRP (Tanzania Mainland) include mechanisms to deal with cases where a disaster exceeds the capacity of the government. In the case of Zanzibar, assistance will be sought from the Government of the United Republic of Tanzania. If additional assistance is needed, the Government of Tanzania will request assistance from other countries and appropriate regional and international humanitarian organizations.

Over recent years, the government has significantly enhanced policies and plans for emergency preparedness and response. Recent evaluations have raised a series of recommendations aimed at improving the operational capabilities of the disaster management system. These include, for example, the 2017 report 'Five years assessment of the implementation status for the Zanzibar Disaster Management Policy of 2011', and the 2022 Midterm Review of the Implementation of the Sendai Framework 2015-2030. Overall, these recommendations remain valid. Acknowledging the progress made, the capacity diagnosis has identified some areas that may require further development.

- First, as currently structured, the preparedness and response coordination system heavily relies on staff from the MDAs and LGAs, who may not possess specialized expertise in DRM. Consequently, it is essential to enhance technical skills among staff and to maintain adequate resources, in order to effectively implement disaster management functions. Moreover, given the high turnover rate reported during interviews, it becomes crucial for institutions to make constant efforts to maintain adequate human and

technical resources to effectively implement the functions and responsibilities outlined in the plans. As per the National Disaster Management Strategy 2022 guidelines, MDAs should appoint disaster focal points to take the leading role in coordinating all DRM-related efforts. Unifying this approach across MDAs and LGAs will foster effective collaboration and ensure comprehensive disaster preparedness and response at all levels.

- Second, it is recommended to align the MoF guidelines on risk management and those of PMO-DMD/SVPO-DMC on disaster management.⁵⁰ Aligning the disaster management plan with the overall risk management strategy would be crucial for effective emergency preparedness and response. By ensuring alignment, the two components work in tandem to create a comprehensive and cohesive approach to risk management. This would also have implications for the role of the disaster focal points. They could act as bridges to integrate the institutional risk management policy.
- Third, under current regulations, national disaster preparedness and response plans are required to undergo annual testing. However, feedback from interviews indicates that national-level simulation exercises (SimEx) are not conducted regularly. Standardizing this

practice and including scenarios that challenge resources, coordination and operational capacities could help prevent the use of *ad hoc* measures during situations that may overwhelm existing capabilities. For example, the Government of the United Republic of Tanzania prepared the Tanzania COVID-19 Socio-economic Response and Recovery Plan⁵¹ to address pandemic-related social and economic challenges. The plan, funded through a loan from the International Monetary Fund Rapid Credit Facility, is administered by the MoF and directly implemented by the Ministries of Education, Health, Tourism, Water Supply, and Social Protection. This plan does not seem to follow the predefined procedures in the NDPRP/ZEPRP disaster response plans.

- Lastly, international cooperation has a strong presence in Tanzania in implementing projects to strengthen capacities in DRM. The projects and programmes cover various thematic areas and have different territorial scopes. Improving coordination and collaboration between actors, and between them and the government, would increase the effectiveness and efficiency of these interventions. An initial step could be to map all these initiatives, making it possible to identify who is doing what, how many resources are being invested, and where.

5.2 Coordination mechanism for disaster preparedness and response

5.2.1 Tanzania Mainland

PMO-DMD is responsible for coordinating all disaster management issues at the national level, including preparedness measures and response. The National Disaster Preparedness and Response Plan (NDPRP) and the National Disaster Communication Strategy were updated in 2022. The former provides guidelines for

coordination and response to all types of disasters and emergencies at all levels of government. The latter supports the NDPRP and is focused on ensuring operability, interoperability and continuity of communications between agencies or departments of the government during an emergency response.

The DRM coordination structure assigns primary responsibilities for disaster response to legally mandated core sectors and government agencies. This includes UN and international agencies, the private sector, international and local NGOs, academic and research institutions, community-based organizations, faith-based organizations and the media.

The NDPRP is a multi-hazard operational plan designed to deal with major disasters, organized into 15 disaster support functions.⁵² Sectors, government agencies and other relevant stakeholders with an assigned task are responsible for reviewing and maintaining their respective

segments of the preparedness response plan. The Prime Minister's Office coordinates the process. The plan aims to align emergency functions with the day-to-day functions of government and non-government stakeholders, utilizing the same resources during a disaster operation. The plan is required to be tested annually through simulation exercises and reviewed every three years.

The NDPRP does not address daily events routinely handled by various departments and government agencies within the country, nor does it explicitly address long-term reconstruction or activities in the recovery phase.

5.2.2 Zanzibar

The Zanzibar Emergency Preparedness and Response Plan (ZEPRP, 2011) defines the primary and secondary roles and responsibilities of all stakeholders, the coordination mechanisms, and the actions to be taken in response to an emergency or major disaster. The ZEPRP describes potential disaster situations, planning assumptions, the concept of operations, response and recovery actions, and organizational and specific responsibilities of the departments and government agencies tasked with local response efforts.

The plan uses a three-tier system to determine levels of emergency activation. Level 1 involves emergencies that can be handled routinely by local resources. Level 2 involves emergencies that require a significant commitment of resources and may require activation of the ZEPRP. Level 3 involves emergencies that require an extensive

coordinated response and may necessitate outside assistance, requiring full activation of the ZEPRP.

The provisions in the ZEPRP establish that when the disaster impact exceeds the government's capability to respond, assistance will be requested from the Government of the United Republic of Tanzania. If additional assistance is needed, the Government of Tanzania will request assistance from other countries and appropriate regional and international humanitarian organizations. The ZEPRP does consider the planning and implementation of recovery actions.

During the capacity diagnosis mission, it was indicated that all districts in Zanzibar have preparedness and response plans. The plans, which are reviewed annually, operate as expected, and according to the information received there are no intentions to substantially modify them in the near future.

5.3 Hazard, risk analysis and early warning

The disaster preparedness and response plans include a qualitative risk analysis⁵³ for the most common hazards in Tanzania Mainland and Zanzibar. The assessment shows how risky each

hazard is, by considering how likely it is to occur and how much of a socio-economic impact it could have. The plans do not include references to documents describing the technical details of the

risk analysis process – for instance, the criteria used to define the likelihood of occurrence (temporal frequency) and the magnitude and type of the expected impact (e.g. what is ‘major’ or ‘moderate’ in terms of expected life and economic damages and losses). However, this is a valuable reference for defining priorities in developing institutional and operational preparedness and response capacities.

The disaster preparedness plans do not specify which institutions are responsible for further developing the qualitative risk assessments and

providing the information required for effective preparedness and response planning. However, it is assumed that this is the responsibility of institutions with specific mandates. The Ministry of Health oversees human diseases and epidemics, while the Ministry of Agriculture monitors and responds to animal diseases and epidemics. The Geological Survey of Tanzania monitors geophysical hazards such as earthquakes and landslides. Meanwhile, the Tanzania Meteorological Authority plays an essential role in monitoring and issuing warnings for hydrometeorological hazards and tsunamis.

5.3.1 Early warning systems

The interviews and desk review identified several initiatives to develop early warning systems. These initiatives include the Agricultural Sector Development Programme Phase II (ASDP II)⁵⁴ Component I (Sustainable Water and Land Use Management), which aims to strengthen a comprehensive agricultural early warning system and emergency preparedness. Additionally, the Water Sector Development Programme 2022–2026⁵⁵ plans to establish an early warning and forecasting system for flood and drought, to improve disaster and climate risk management in the WASH sector. This involves developing an information system to collect, process, analyse and disseminate information to relevant stakeholders, including local communities.

The Tanzania Meteorological Authority (TMA) is a government entity responsible for providing weather forecasts, climate services and warnings for Tanzania Mainland and Zanzibar. The TMA has a Multi-Hazard Early Warning System with standard operating procedures (SOPs) that activate when a weather warning is issued on land or at sea. The SOPs take onboard all key actors in the national early warning system.⁵⁶

The TMA Multi-Hazard Early Warning System forecast focuses on the most important weather-related impacts facing communities on land and at sea, such as drought, flooding, strong winds,

cyclones and high waves. The TMA partners with key stakeholders, such as those in marine, fishing, agriculture, oil and gas, and public weather service sectors, to jointly develop relevant early warning service products.

According to the 2020 report ‘Road Map for Improving the Availability, Access and Use of Disaster Risk Information for Early Warning and Early Action’,⁵⁷ “Tanzania’s major strengths in EWS are in Disaster Risk Knowledge and Warning Communication and Dissemination ... Preparedness and Response and Monitoring and Forecasting are the areas where the country needs the most investment of resources ... the institutional framework [for the Communication and Dissemination pillar] is detailed and well-established. Procedures extend down to the local level, are extremely functional, and are well established. However, more investment is needed to ensure timely [and understandable warnings to diverse communities]”. It is important to emphasize that the 2020 Road Map report specifically focuses on hydrometeorological hazards. This report is in line with the findings of the Southern Africa Drought Resilience Initiative (SADRI) report on Tanzania.⁵⁸

The 2020 Road Map report includes a series of recommendations to strengthen the multi-hazard early warning system in Tanzania. The National

Disaster Management Strategy (2022–2027) for Tanzania Mainland includes as one of its specific objectives “to improve multi-hazard, end-to-end and people-centred early warning systems”. Implementation of this objective will be aligned with the recommendations in the 2020 Road Map report.

The TMA is also responsible for monitoring and issuing tsunami warnings. Programmes to build awareness for communities in tsunami risk areas have continued to be implemented to ensure that the community can take appropriate measures when an alert is issued. To ensure the tsunami

warning system works, TMA participates in an annual exercise to test the capacity of the communication infrastructure in the countries of the Indian Ocean region.⁵⁹

In September 2022, the Ministry of Health joined the Epidemic Intelligence from Open Sources (EIOS) community. The EIOS system is a collaboration between WHO and various stakeholders that brings together new and existing initiatives, networks and systems to create a unified all-hazards, One Health approach to early detection, verification and assessment of public health risks using open source information.⁶⁰

5.4 Contingency planning

During the consultation process with various stakeholders, there was no thorough examination of capabilities and operations in the contingency

plans. However, through a desk review, national initiatives were found that outline current capacities, especially concerning food security.

5.4.1 Food security

The Tanzania National Food Reserve Agency (NFRA)⁶¹ plays a vital role in contingency planning for food security. As a government agency, NFRA is responsible for maintaining strategic food reserves to ensure the availability of essential commodities during emergencies and periods of food scarcity. NFRA collaborates with various stakeholders, including farmers, traders and other relevant organizations, to procure and store sufficient food items such as grains and other essential commodities.

TMA’s seasonal forecast information supports the implementation of early warnings for different sectors, especially agriculture. For example, the Tanzania Food Security and Nutrition Analysis System Team (Muchali)⁶² and the Zanzibar Food Security and Nutrition Monitoring and Early Warning System integrate data on seasonal forecasts with other relevant information (e.g. food prices and biological hazards) to prepare ‘Comprehensive Food Security and Nutrition Assessment Reports’, which are used to design food security contingency plans.

5.4.2 Technological hazards – oil spills

Concerning contingency planning for oil spills, the national competent authorities are the Tanzania Shipping Agency Corporation and the Zanzibar Maritime Authority. According to the information available, the National Marine Oil Spill Response Contingency Plan was approved in 2016 and (based on 2020 information)

is currently under revision. The Zanzibar Marine Oil Spill Response Contingency Plan,⁶³ which includes some operational amendments to the national plan, has been prepared by the Revolutionary Government of Zanzibar Ministry of Infrastructure, Communications and

Transportation. The document is available online, but only in draft version.

The Tanzania Sensitivity Atlas and Zanzibar Sensitivity Atlas⁶⁴ have been developed to identify environmentally sensitive areas to be prioritized in the event of an oil spill incident (the atlases are not public). The long-term goals of these atlases are to establish a comprehensive and accurate coastal GIS data system for oil spill contingency planning

and research. These are projects sponsored by industries in the sector.

A clear plan for organization and management of national incident response has been established under the leadership of the National Disaster Management Authority (Prime Minister's Office/ Second Vice President's Office). If required, the Ministry of Foreign Affairs and East African Cooperation can request international support in this area on behalf of Tanzania.

5.4.3 Training and exercises

The disaster preparedness plans for Zanzibar and Tanzania Mainland include clear provisions to standardize the organization of simulation exercises (SimEx) every year. These exercises could be optimized by involving a comprehensive team of governmental, non-governmental, private and other relevant stakeholders. The results of the SimEx would inform real-time reviews of the efficiency and effectiveness of the DRM system, contributing to continuous learning and improvement of capacities. In the case of Zanzibar, the need for a full-scale exercise can be waived if there has been a response to a Level 2 or Level 3 incident during that year. However, it was noted during the capacity diagnosis that drills and SimEx are not conducted as regular practice within PMO-DMD/SVPO-DMC. Sectoral drills and exercises are instead conducted on an *ad hoc* basis.

Tanzania has participated in regional exercises such as the East African Community (EAC) SimEx, which focused on strengthening preparedness and bolstering response to future public health emergencies in the partner states. This included participants from the health, environment, agriculture, trade, tourism and defence sectors.

The EAC SimEx was held in May 2022 and was a follow-up to the tabletop exercise conducted in Arusha in 2018 and the cross-border field SimEx at the Namanga border between Kenya and Tanzania in 2019.

Similarly, in July 2022 the Zanzibar Airports Authority held a full-scale role-playing exercise that was well attended, including by the Department of Health, Red Cross Society, etc. However, this exercise was not attended by SVPO-DMC.

The international cooperation partners also conduct SimEx for specific hazard risk scenarios. For instance, in 2021, the World Food Programme led a flood simulation exercise in Mtwara and Lindi regions with the participation of OCHA, NGOs, the Red Cross, UN agencies and PMO-DMD.⁶⁵

Conducting regular multi-hazard and multi-sectoral training, exercises and drills at all levels, as well as participating in regional and international training and SimEx, is considered in the National Disaster Management Strategy (2022) as an approach to enhance disaster prevention, mitigation and preparedness capacity at all levels.

5.5 Main challenges and gaps

- The Disaster Management Acts for Tanzania Mainland and Zanzibar include provisions


mandating PMO-DMD and SVPO-DMC to develop guidance and capacity-building

initiatives for relevant stakeholders to develop their preparedness and response plans. The Acts also indicate the obligation of the sectors to collaborate among themselves, and with various other stakeholders, in disaster management activities. **However, whether preparedness and response plans should be sector-specific or multi-sectoral is unclear. Designing multi-sectoral preparedness and response plans, clearly defining the contribution of each sector, would – although more challenging – be the best option.**

- **There appears to be a need for greater clarity regarding the roles and responsibilities of staff from line ministries in preparedness and response activities.** Once the term ‘disaster risk management’ was mentioned, the officials referred to PMO-DMD/SVPO-DMC, stating that DRM was not “within their mandate”. This shows that, although the sectors are conducting many activities that contribute towards resilience building and disaster preparedness, this is not necessarily understood as such. **The Disaster Management Acts in Zanzibar and Tanzania Mainland mandate the sectors to develop disaster preparedness plans and allocate corresponding funds. In contrast, sectoral institutions seem to assume that this responsibility lies with PMO-DMD/SVPO-DMC.** This represents a challenge to strengthening coordination and collaboration.
- In Tanzania Mainland, the Disaster Management Act has greatly expanded the size of the system coordinating preparedness for response, which entails both strengths and challenges. Including a higher (ministerial) level committee ensures the political willpower to mainstream DRR activities in a whole-of-government approach and is overall positive. **Creating additional layers of responsibility at the regional and district levels may create more challenges for**

efficient coordination, without tangible benefits.

- **There is a need to establish clear mechanisms for monitoring the implementation of disaster preparedness and response actions, as outlined in existing legal frameworks and policies for both Tanzania Mainland and Zanzibar.** This could lead to enhanced accountability and feedback between PMO-DMD/SVPO-DMC and national and local levels of government. To address this, clear guidelines or regulations could be established to monitor, assess and report on the implementation of these actions by all levels of government.
- **There are capacity challenges within PMO-DMD/SVPO-DMC, including a high staff turnover rate that results in the loss of valuable knowledge and institutional memory.** At the local level, reliance on volunteers for preparedness activities and training poses limitations. It is advisable to consider addressing these challenges through proactive capacity building, implementing strategies to enhance staff retention, and exploring alternative approaches to ensure consistent and effective disaster management.
- **Although the Disaster Management Acts include reference to the inclusion of other relevant stakeholders (UN representatives, civil society representatives) in the National Disaster Management Stakeholder Forum, it does not mention the private sector as being part of any strategic forum, nor is there any mention of operational engagement with any of these entities.** There is limited mention of engagement with stakeholders outside of government, which may result in missed opportunities to collaborate and to access resources.

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- While strategies and plans in Tanzania Mainland and Zanzibar emphasize the importance of conducting regular drills and exercises at all levels, **the current practice of regular drills and simulations within PMO-DMD/SVPO-DMC is not standardized.** To enhance preparedness, it is essential to establish a regular practice of drills and simulations, promoting a proactive approach to disaster management.
 - **First responders in both Tanzania Mainland and Zanzibar face several challenges.** Limited or outdated equipment and the absence of an interoperable emergency communication system hinder their effectiveness. Furthermore, reliance on volunteers, who cannot fully commit to preparedness activities and training, poses additional limitations. The effectiveness of early warning systems in disseminating localized information remains undocumented.

5.6 Recommendations to strengthen preparedness for disaster response and recovery, classified by priority for implementation

#	Recommendation	Priority level Zanzibar	Priority Level Tanzania Mainland
4.1	Strengthening of coordination and collaboration is crucial to address the existing gaps in clarity regarding roles and responsibilities in disaster preparedness and response. It is important to clarify responsibilities among staff from LGAs and sectoral institutions, ensuring a common understanding of DRM, and fostering coordination with PMO-DMD/SVPO-DMC. It is recommended to encourage the design of multi-sectoral preparedness and response plans that clearly define the contribution of each sector. This will promote effective collaboration and coordination among sectors and stakeholders in disaster management activities. Preparedness for response activities not only call for standard operating procedures, legislation and plans, but also established relationships with all stakeholders. These relationships can be forged through regular engagements.	High	High
4.2	Further develop national risk profiles included in disaster preparedness response plans, using an all-hazards risk assessment methodology with clear and transparent criteria. This methodology assesses the realistic risk of disaster scenarios, examining the factors that cause and increase risk, as well as the potential impact of those scenarios. This process could be carried out following the experiences of countries such as Canada.	High	High
4.3	PMO-DMD/SVPO-DMC are encouraged to take measures to engage the private sector in both disaster preparedness and response activities. Drawing on experiences in other countries, this could involve creating platforms for regular dialogue and cooperation between PMO-DMD/SVPO-DMC and private sector stakeholders. These platforms can facilitate the sharing of expertise, resources and best practices. Additionally, PMO-DMD/SVPO-DMC can explore the possibility of forming public-private partnerships to enhance disaster management capabilities. Engaging the private sector in a coordinated manner will leverage their expertise, resources and capabilities, ultimately strengthening overall disaster preparedness and response efforts in the country.	High	High

#	Recommendation	Priority level Zanzibar	Priority Level Tanzania Mainland
4.4	To enhance accountability and feedback, it is recommended to establish clear guidelines and regulations for monitoring, assessing and reporting on the implementation of disaster preparedness and response actions at all levels of government. This will create a robust mechanism for monitoring the implementation of legal frameworks and policies.	High	High
4.5	Develop a Response and Recovery Framework with details on the roles of lead and support sectors, especially at national, regional, and local levels where all operations are implemented. In addition to working with the focal points for the relevant ministry, this could be done in coordination with MoF and PO-RALG in Tanzania Mainland, and with the Revolutionary Government of Zanzibar Special Department.	High	High
4.6	Create a specific department for training within PMO-DMD/SVPO-DMC. The department should train government departments in all stages of DRR and CCA. PMO-DMD/SVPO-DMC do have a unit responsible for training. However, a monitoring and evaluation tool must be implemented to measure the effectiveness and efficiency of such training. It would be important for PMO-DMD/SVPO-DMC to link up with relevant academic institutions to roll out DRM training for PO-RALG, RSs, MDAs, LGA staff and authorities. The SimEx function could sit within this department. Training and exercising should go hand in hand.	High	Low
4.7	There is a need to focus on training and capacity building in DRR concepts across ministries, with an initial focus on building local-level capacity to plan for and respond to disasters. The focus would be placed on building the capacity of PORALG in Tanzania Mainland and Zanzibar due to its leading role during disaster response and strategic planning. The PMO-DMD/SVPO-DMC training department could develop the curriculum for such training, in close collaboration with the relevant ministry focal points for DRR and CCA and other relevant stakeholders.	High	High

#	Recommendation	Priority level Zanzibar	Priority Level Tanzania Mainland
4.8	In accordance with the provisions of the preparedness response plans, it is recommended to standardize the practice of SimEx. PMO-DMD and SVPO-DMC could regularly conduct full-scale SimEx for the most likely hazards, either annually or biannually. Include local Red Cross and other CSOs and NGOs in the regular drills and exercises. It is recommended that regular simulations be held, which can initially take the form of tabletop exercises that test coordination, communication and/or roles and responsibilities. Simulations allow for transfer of knowledge and skills and sensitization of role-players to their and others' responsibilities.	High	High
4.9	Develop SimEx training and modules for schools. PMO-DMD/SVPO-DMC could, together with the Ministry of Education, develop disaster response drill training/modules to be included in the school curriculum.	High	High

Strengthening disaster and climate risk management capacities at local level: an everyday challenge

Summary of findings of the visit to the districts of Chamwino (Dodoma Region) and Mvomero (Morogoro Region)

To better understand how the DRM system works at the local level, the mission team visited the districts of Mvomero (Morogoro Region) and Chamwino (Dodoma Region). During the visit, a series of interviews were conducted with the government authorities and other relevant stakeholders, including private sector and civil society organizations. The questions focused on governance, implementation capacities, financing, risk knowledge, and availability of tools and technologies. The key findings of these two visits are summarized below (for more details see Annex 5).

Key findings

- While there are established national policies and regulatory frameworks, it has been observed that local DRR capacity may not always be adequate to implement these frameworks successfully. Local-level plans and strategies exist but are often only partially implemented due to resource or capacity constraints. It is recommended to prioritize capacity building at the local level to bolster the implementation of existing plans and strategies. Additionally, it is essential to raise awareness of the new DRR frameworks at the LGA level to foster their effective adoption, as most people at the lower level are completely unaware of DRM policy.
- Addressing the critical technical capacity challenge at the local level, particularly in terms of the quantity and quality of DRR officials, necessitates focused capacity-building efforts to enhance institutional functioning.
- LGAs face financial challenges, primarily due to lower levels of budgetary allocation, which pose limitations on their capacity to implement existing plans and strategies effectively. Hence, there is a critical need to establish a sustainable financial framework for DRR at the local level. To ensure long-term support and strengthen resilience, it is recommended to explore a range of diversified funding sources.
- There is a significant challenge regarding equipment and technology at the LGA level, which hinders their capacity to prepare for, respond to and recover from disasters. Therefore, it is important to assess their needs and provide, where necessary, comprehensive support for both hardware and other essential equipment, including vehicles, fire-fighting trucks, excavators, warehouses, etc. This support is crucial for enhancing the capabilities of LGAs in effectively managing disasters.
- Knowledge management systems at the LGA level are often limited in nature, with impacts on the capacity to generate, analyse, store, update and effectively disseminate information to users, including affected communities. DRR awareness and training is limited among LGA staff and among communities. There is limited understanding of how resilience building and DRR go together, or of DRR as a cross-sectoral issue.



Photo: UN WFP

Sector-specific chapters

6. AGRICULTURAL SECTOR

6.1 Overview

The agricultural sector contributes about 27% of the country's GDP and about 24% of total exports. The sector remains central to Tanzania's industrialization and is a source of livelihood for approximately 65% of the population (FYDP III)⁶⁶. Development of the agricultural sector is considered crucial for growth of the national economy. It is equally essential for assuring adequate food and nutrition security for the Tanzanian population (ASDP II)⁶⁷ and for poverty reduction.

Main agricultural subsectors include crop cultivation, livestock production, forestry and fisheries. Crop production in Tanzania is centred around several key food crops, including maize, cassava, rice, sweet and Irish potatoes, bananas, sorghum and sugar cane.⁶⁸ About 80% of

agricultural food production comes from rainfed, low-input smallholder farms highly vulnerable to weather variability.⁶⁹

Given the sector's importance for social and economic stability, the national government has established strategic guidelines in its long-term development policy for integrating climate and disaster risk management into programmes and sectoral plans. Investment in climate and disaster risk management was one of the priorities of the Tanzania Agriculture and Food Security Investment Plan (TAFSIP) 2011–2021⁷⁰ (a 10-year investment plan for the sector) and of the Agriculture Climate Resilience Plan 2014–2019. ASDP II (2017/18–2027/28) and FYDP III (2021/22–2025/26) give continuity to the priorities established in the TAFSIP.

6.2 Impacts of disaster on the agricultural sector

According to FAO,⁷¹ the four main types of crises affecting the agricultural sector are natural hazards and climate-related risks, food chain crises, socio-economic crises (financial and market risks, regulatory changes), and violence and conflict.⁷² In terms of natural hazards and climate-related risks, “generally, droughts, floods, storms, earthquakes and landslides affect, to a greater extent, small-scale farmers, herders, fishers and forest-dependent communities”... “However, no other single natural hazard has affected more people than drought, which has been responsible for over 90% of all people affected by disasters in the past 20 years”.⁷³

In 2021, the Southern Africa Drought Resilience Initiative (SADRI) prepared a detailed drought resilience profile for Tanzania.⁷⁴ According to this assessment, under the current climate conditions an average of 4.8 million people per year are directly affected by drought, and the annual economic losses in agriculture are estimated at around US\$140 million. This would substantially increase under the projected climate change conditions in Tanzania. Cattle herders, who are largely made up of mobile pastoralists, are facing decreases in available grazing pasture and water sources to sustain their livestock. Besides the direct impacts of drought on the agricultural sector, such as reduced crop yields and decrease in natural resources, some of the indirect impacts

on human mobility pose major challenges in the country. Cities are struggling to provide services and to grow sustainably due to the increasing rate of urbanization, which is accelerating rapidly due to loss of livelihoods in rural areas. Meanwhile, dwindling natural resources and unregulated mobility have led to aggression and hostility between pastoralists and smallholder farmers, some of which ends in deadly conflict.⁷⁵

The fishing industry has been greatly impacted by changes to the water table due to changing rainfall patterns. In some instances, excess rain has led to the desalinization of certain waterbodies, causing a decline in common fish species and biodiversity that are crucial to sustain existing ecosystems. This has major impacts on supply chains and on the food security of populations who are reliant on fishing for subsistence.

6.3 Institutional and policy framework for DRM in agriculture

Tanzania has developed a solid policy framework for integrating climate and DRM into the agricultural sector over the past decade. The ASDP II guides the implementation of prioritized interventions for the Tanzania Development Vision 2025, the TAFSIP, the Zanzibar Development Vision 2020, and the Zanzibar Strategy for Growth and Reduction of Poverty (ZSGRP/MKUZA III, 2016–2020).

The main objective of the ASDP II is to improve income for smallholder farmers and to guarantee food and nutrition security. Management of climate and disaster risks, including adaptation, is a key component of this programme. The expected benefits of the ASDP II include more sustainable land and water management practices, the development of measures to

increase resilience and adapt to climate change, and improvements to the DRM system through exploration of innovative risk management tools. Implementation involves all stakeholders from the public and private sectors, development partners, financial institutions and non-state actors.

Furthermore, both the Ministry of Agriculture in Tanzania Mainland and the Ministry of Agriculture, Irrigation, Natural Resources and Livestock (MAINRL) in Zanzibar are members of the national and regional coordination mechanisms responsible for defining and coordinating the implementation of disaster management programmes and plans. This framework defines the role and responsibilities of the ministries as regards disaster management response and recovery at national and local levels.

6.3.1 Challenges and gaps

The sector has a well-structured policy and action plan for integrating DRM into its programmes and plans. The programmes include actions to strengthen the ministries' disaster and climate risk management capacities. However, it is unclear what institutional arrangements are in place to lead, coordinate and monitor the implementation of actions in relation to the disaster and climate risk objectives. No evidence of a team or unit responsible for this task was found in the ministry's organizational structure.

For instance, in the case of Tanzania Mainland, according to the Disaster Management Act 2022, the Ministry of Agriculture's representation in the national disaster management coordination system is delegated to different authorities. The Minister for Agriculture participates in the national disaster steering committee, the Ministry's Permanent Secretary responsible for agriculture and food safety is involved in the national committee of experts on disaster management, and the head of the department responsible for disaster management participates in the national disaster management stakeholders'

forum. The new National Disaster Management Strategy addresses this gap by requiring MDAs to appoint a unit or desk officer(s) specifically for DRM issues.

Moreover, there appears to be an opportunity to enhance officials' understanding and knowledge of the sectoral climate and DRM policy. Once the term 'disaster risk management (DRM)' was mentioned, the officials referred to PMO-DMD/SVPO-DMC, stating that DRM was not "within their mandate". This shows that, although the sector is conducting many activities contributing to resilience building and disaster preparedness, this is not necessarily understood as such. PMO-DMD/SVPO-DMC mandate the sector to establish and identify their roles, responsibilities and guidelines on DRR and CCA. In contrast, sectoral institutions seem to assume that responsibility for identifying and clarifying roles and responsibilities lies with PMO-DMD/SVPO-

DMC, which results in a gap. This also represents a challenge to strengthening coordination and collaboration.

It remains challenging to establish a clear connection/alignment between short-term humanitarian requirements and the sector's long-term development goals (humanitarian–development–peace nexus). The former are aligned with the scope and objectives of the national climate and DRM strategies, programmes and plans. The latter are aligned with national development plans. There is a lack of clarity about the presence of coordination mechanisms to align disaster preparedness and response plans with longer-term resilience-strengthening programmes. It is important to assess how disaster management plans are updated in light of progress made in implementing long-term sectoral development programmes.

6.3.2 Recommendations for governance

General (both Tanzania Mainland and Zanzibar)

- The Ministry of Agriculture (Tanzania Mainland) and MAINRL Zanzibar) could develop and establish SOPs for the integration of disaster and climate risk management into the agriculture and food security sector. For instance, they could develop Emergency Preparedness Planning (EPP) guidelines. It is important to ensure that SOPs and EPP guidelines are well understood across all levels to assure timely action, from the preparedness stage to response in the event of a disaster.
- Build institutional capacity for implementing and mainstreaming gender equality and absence of discrimination towards women, youth and people with different needs in policy frameworks that support agriculture and food security on DRR and DRM.
- It is recommended to actively pursue the involvement of the private sector in generating and scaling up applied DRR technologies and knowledge in the agricultural sector. This could include initiatives such as developing drought-tolerant crop varieties and promoting public access to relevant information.
- Regularly conduct technical briefings with PMO-DMD/SVPO-DMC to inform and update them on recent DRR developments within the agricultural sector and subsectors.

Zanzibar

- Revise the Livestock Development Policy and Legislation (2011), Agriculture Policy (2002) and Forestry Policy (1996) to clarify institutional roles, responsibilities and

mandates concerning disaster management, DRR and CCA across all stages of prevention, mitigation, preparedness, response and recovery.

- Policy and regulatory frameworks for the Ministry of Water, Energy and Minerals –

starting with the Zanzibar Water Authorities and Zanzibar Utilities Regulatory Authority – could clarify roles and responsibilities of the sectors in ensuring food and nutrition security across all stages of prevention, mitigation, preparedness, response and recovery.

Tanzania Mainland

Establish a technical working group addressing the migration, environment and climate change (MECC) nexus. Strengthen collaboration between the Ministry of Agriculture and the Ministry

of Livestock and Fisheries in addressing the challenges of irregular and unregulated mobility, in order to reduce farmer-herder conflict.⁷⁶

6.4 Access to information on disaster risk and climate change

In general, there is good knowledge of the main hazards that may impact the agricultural sector at the national level. This indicates that the Ministry of Agriculture has the capacity to generate data and information to support disaster management

preparedness activities at the national level. However, this needs to be further analysed. The Tanzania Meteorological Authority provides the weather and climate information advisory required for this.

6.4.1 Challenges and gaps

Generation of sector-specific disaster and climate risk information to support long-term decision-making is not systematic. It relies on periodic assessments, missions and surveys supported through projects and programmes. Findings show that data collection and reporting is scattered, managed independently, and dependent on budget availability from central government and bilateral partners.

While the agriculture and food security sectors are aware of the potential impacts of climate change, there is a need for improved understanding and coordination in managing climate and disaster risk information. Although institutions within the sector have clear mandates for generating risk information, there is a lack of common understanding of all types of disaster risk, beyond climate-related hazards.

There seems to be an absence of adequate systems for storage, analysis and reporting of the information and data collected. Most of it is not stored systematically following data management standards. Findings also show that when information and data are stored on a digital platform, there are barriers to data sharing and exchange across platforms and institutions, due to inadequate structures for data interoperability, privacy and security policies.

According to FAO,⁷⁷ risk information is not collated, systematically available, or transferred to smallholder farmers to build awareness, inform farm-level risk-sensitive decision-making and provide early warning for crises or shocks.

Findings revealed that there are no sector-specific monitoring and evaluation mechanisms in place to support the implementation of long-term programmes and plans relating to DRR and CCA. To some extent, most of the monitoring and

evaluation relies on the National Food Security Division, which also does not have a standalone mechanism for data collection and analysis. In addition, it is still difficult to determine to what

extent the climate and disaster risk information available is used to support decision-making in the sector.

6.4.2 Recommendations for information management

General (both Zanzibar and Tanzania Mainland)

- Establish an agriculture and food security database linked to the national disaster database for more centralized, real-time and near real-time monitoring of DRR and DRM relating to agriculture and food security. This should have open access to information and standardized methods for analysis, interpretation, monitoring and reporting.
- There is a need to break down existing privacy- and security-related barriers to sharing and exchange of data on DRR and preparedness across platforms. Information sharing and exchange is essential to reducing operational costs, increasing transparency and improving preparedness in DRR.
- Establish agriculture and food security risk profiles for Tanzania Mainland and Zanzibar, to enable better planning and strategizing on reducing impacts based on the potential risks and projected impacts. Invest in increasing the use of technologies – including geospatial tools, disaster database systems and other surveillance technologies – to better understand the vulnerability and exposure to disaster of the agriculture and food production systems.
- Engage non-state actors, higher learning institutions and the private sector in increasing awareness of the vulnerability of the agriculture and food security sector to human and man-made disasters, through innovative ideas on DRR and DRM disseminated through regular publications, technical meetings, symposiums, workshops and policy briefs.
- It is vital to identify cost-effective means for timely access and sharing of agriculture and food security early warning information for DRR and DRM (beyond mainstream media, bulk SMS sharing and exchange), in order to reduce operational costs, increase transparency, and enhance preparedness and risk reduction.
- The Ministry of Agriculture, MAINRL and PMO-DMD/SVPO-DMC should encourage sharing of information and data in relation to food and nutrition security across institutions and stakeholders, to ensure informed planning and preparedness.
- Start using the Disaster Communication Centre for dissemination of information to the public, and start linking it to agriculture and food security extension services for technical support on DRR and DRM including drought and floods, based on weather information and advisories as provided by relevant authorities.
- Conduct training/workshop with food security and nutrition security officers, across all levels, on the vulnerability of the agriculture and food security sector to different types of disasters, along with their thresholds for significant impacts on the agriculture and food security sector in Zanzibar and Tanzania Mainland.

Zanzibar

- Establish a Disaster Communication Centre to disseminate agriculture and food security information to the general public on Pemba Island.

- In collaboration with development partners, non-state actors, higher learning institutions and the private sector, SVPO-DMC could organize Training of Trainers sessions. These sessions would aim to train emergency committee members and emergency focal persons on the SOPs for DRR and DRM within the agriculture and food security sector.
- Increase awareness and diversify knowledge of the vulnerability of the agricultural sector through workshops/training, especially on the impact of salt intrusion, inundation and outbreak of crop and livestock diseases.

6.5 Investment in disaster resilience

The ASDP II component ‘Improved and sustained integrated land and water resource use and management’ includes the sub-component ‘Mainstreaming resilience for climate variability/change and disasters’. The plan defines key performance indicators, prioritized investment areas and proposed projects. It also estimates budget requirements for implementing prioritized activities in the plan. Most of the activities proposed under this component could be considered as aiming to reduce climate and disaster risk. In addition, the plan includes an estimation of the budget required to “Strengthen Comprehensive Agricultural Early Warning System and Emergency Preparedness” capacities.

In 2009, Tanzania adopted the KILIMO KWANZA (‘Agriculture First’) resolution to create the conditions for modernizing the agricultural sector and attaining the economic transformation needed for sustained poverty reduction. One of the mechanisms to achieve this goal was to mobilize the private sector to substantially increase its agricultural investment. The purpose of the resolution was to create and operate an appropriate enabling environment to guide public and private sectors, donor communities and other stakeholders in public-private partnerships to achieve this goal. The policy needed clear guidelines and procedures on investments in DRR/DRM/CCA-specific actions targeting the agriculture and food sectors.

6.5.1 Challenges and gaps

The agriculture and food security sector is mandated by law⁷⁸ to allocate a budget for disaster risk preparedness and prevention. In addition, in the event of a disaster, the Ministry of Agriculture coordinates with PMO-DMD/SVPO-DMC to issue an alert and to request financial support from the Ministry of Finance and Planning (MoF). A contingency fund in MoF is set aside for emergencies, but there are no specific disaster funds. The contingency funds are often reallocated to finance other government priorities that are not disaster-related. Findings also show that DRR (resilience building) budgets are often confused with disaster response budgets.

There are only limited inclusive and equitable financial instruments and services for climate and disaster risk financing for agriculture and food security.

It remains challenging to monitor the integration of climate and disaster risk management criteria into the design and implementation of sectoral programmes and plans. This is despite the existence of the Environment Management Unit and the Early Warning Unit within the Ministry of Agriculture in Tanzania Mainland. The Environment Management Unit is linked to the Vice President’s Office – Division of Environment that is responsible for climate change issues. In contrast, the Early Warning Unit is linked to the

PMO-DMD. Since separate entities handle the two issues, it remains unclear how they collaborate to ensure their adequate mainstreaming throughout project design, implementation, monitoring and reporting. Neither these two units nor the Department of Policy and Planning seem to have

adequate human capacity and skills to ensure that DRM is mainstreamed, implemented and monitored during implementation of projects and programmes. This task is perceived to be under the jurisdiction of the PMO-DMD.

6.5.2 Recommendations for financing

General (both Tanzania Mainland and Zanzibar)

- Develop suitable insurance and disaster risk financing frameworks that are suitable in terms of affordability and access and that meet the needs of consumers, including food producers. Examples would be inclusive agriculture and crop insurance.
- Establish financial management systems or frameworks that will keep track of disaster-related public expenditure, especially in the agriculture and food security sector, to better manage the impact of disasters at the fiscal level.
- Conduct budget reviews and create separate budget lines for preparedness, prevention and response.
- Make deliberate efforts to enhance understanding of DRR and DRM in relation to agriculture and food security, and how to develop plans and budgets addressing preparedness and disaster response.
- Create an enabling environment for investment and partnership opportunities in the agriculture and food security sector, so development partners and the private sector can support DRR/DRM/CCA.
- Establish tracking systems that effectively manage disaster response efforts, identify gaps in funding, support accountability, and draw lessons learned for potential improvements in disaster risk financing arrangements.
- Enhance understanding and awareness of planning and preparing disaster risk preparedness budgets, with allocations focusing not only on disaster response.
- Build capacity and skills of planning and budgeting officers in understanding the difference between budgeting activities for disaster preparedness, prevention and response, to ensure that not only disaster risk response but also DRR and DRM are mainstreamed in government budgets.

Zanzibar

Enhance engagement of the private sector and development partners in understanding and supporting innovative solutions for DRR/DRM/CCA and start-up organizations, by financing prototype solutions such as those undertaken by the Resilient Programme students at the State University of Zanzibar.

6.6 Preparedness for response and recovery

The agricultural sector is well-integrated into the national disaster management system. Roles and responsibilities are clearly defined. As part of the preparedness process, climate and weather-related hazards are continuously monitored in coordination with the Tanzania Meteorological Authority and the disaster management authorities. In the case of drought, assessments are conducted by the Security Information Team coordinated by the Ministry of Agriculture and the Prime Minister's Office. Disaster response plans are activated as required by the corresponding authority (local, regional, national).⁷⁹

The National Multisectoral Nutrition Action Plan⁸⁰ (Tanzania Mainland) identifies the impact of natural hazards (earthquakes, seasonal floods/prolonged dry spells), pandemics and climate

change as part of the risks that potentially compromise its objectives. In this regard, it proposes, as a mitigation strategy, to accept and prepare for 'natural' (and related) disasters. It calls for the identification and prioritization of affected areas and the development of emergency/disaster response plans. It also calls for the development of a nutrition and climate change strategy.

The Zanzibar Food Security and Nutrition Policy⁸¹ (2008) includes strengthening of disaster management, emergency relief and food security, and nutrition information systems among strategic policies. This includes building the capacity of responsible institutions to adopt an effective targeting mechanism for food assistance, responding to those in need during potential disasters in a timely manner.

6.6.1 Challenges and gaps (Zanzibar)

Zanzibar's agriculture and food security sector has moderate implementation capacity for preparedness and response. The sector has limited technical, managerial, technological and soft skills required for proper preparedness, early warning and early action, and response.

The sector currently faces challenges in terms of technological capacity and skills for real-time or near real-time data collection, analysis and monitoring of events impacting the agricultural sector and nutrition-related programmes on the island. Most information is collected through irregular and inconsistent agricultural surveys,

stored in paper format and on individual computers, and analysis is conducted using simple tools such as MS Excel.

The livestock department currently faces challenges in capacity and technologies to effectively screen, monitor and diagnose livestock diseases at the points of entry on the island. Furthermore, insufficient capacity in data collection and analysis increases the vulnerability of the population to disasters, as key indicators and trends necessary for informed planning and preparedness remain unknown.

6.6.2 Recommendations for response and recovery

General (both Zanzibar and Tanzania Mainland)

- Increase awareness about accessing and using the PMO-DMD/SVPO-DMC disaster database for DRR and DRM.
- Improve early warning systems through an integrated system for timely action across sectoral ministries and PMO-DMD/SVPO-DMC.

- Connect the emergency call centre with the Ministry of Agriculture extension department to operate as a dispatch for queries in relation to DRR and DRM in the agricultural sector, to support food and nutrition security. The

centre could consider installing software providing the geo-location of callers, for effective and immediate assistance and appropriate guidance concerning DRR and DRM.

Zanzibar

- Improve coordination and sharing of information between the Zanzibar Maritime Authority, the State University of Zanzibar, SVPO-DMC and the Zanzibar Environmental Management Authority on marine and terrestrial surveillance for DRR and DRM, especially for the blue economy sector.
- Enhance capacity for periodic collection, analysis, interpretation, monitoring and reporting of DRR data for the agriculture and food security sector, especially for MAINRL and the Ministry of Blue Economy and Fisheries.
- Establish an emergency call centre dispatch unit in Pemba Island, to better serve agricultural stakeholders on the island who currently depend on the Unguja emergency call dispatch centre.
- Improve technical capacity and skills of disaster management committee members in identifying disaster and critical thresholds

for escalation, especially in agriculture and food security.

- Conduct stocktaking of early warning systems and digital platforms used in Tanzania Mainland, such as Ugani Kiganjani⁸² and M-Kilimo,⁸³ for potential adoption and use on the island.
- Increase awareness and establish SOPs for different types of disasters, including slow-onset disasters such as drought, and for developing contingency plans to assist in timely response to disaster and in resource mobilization.
- Increase use of technologies including geo-spatial tools, disaster database systems and other surveillance technologies to understand vulnerability in the agricultural production systems. A system such as Think Hazard!⁸⁴ could be considered.



Photo: UN OCHA

7. WATER, SANITATION AND HYGIENE (WASH) SECTOR

7.1 Overview

WASH is a cross-sectoral effort in Tanzania. Government interventions are implemented through the Water Sector Development Programme (WSDP 2006–2026).⁸⁵ The COVID-19 response played a significant role in improving the WASH sector. The WSDP encompasses various aspects, including water resources management, rural and urban water supply, and sanitation and hygiene. These activities are carried out by the Ministry of Water in Tanzania, the Ministry of Water and Energy in Zanzibar, the Water Utility Regulatory Authorities, the Ministry of Health, PO-RALG and other relevant agencies. The WASH sector policies align with the national Five-Year Development Plan 2021/22–2025/26 and the Tanzania Development Vision 2025.

According to a World Bank report,⁸⁶ Tanzania has made progress in access to water supply, sanitation and hygiene services, but more could be done to meet targets set by the UN Sustainable Development Goals. Only 61% of households currently have access to a basic water supply, 32% have access to basic sanitation, and 48% have access to basic hygiene (according to SDG definitions), with the burden falling heaviest on women, children and the poor and vulnerable. Data from the Ministry of Water in Tanzania indicate that an estimated 35% of water points in rural areas are non-functional.⁸⁷ The WSDP 2022–2026 (WSDP III) has set ambitious goals to close gaps in the quality and coverage of WASH services in Tanzania Mainland and Zanzibar.

7.2 Access to information on disaster and climate risk (understanding risk)

In line with national policies, the WSDP III identifies the risks that may compromise its implementation, and therefore the attainment of national development objectives regarding WASH. The WSDP III includes a 'risk ranking' matrix. This matrix presents a list of sources of risks to the programme, a qualitative assessment of their potential impact, and mitigation measures to address them. These sources include economic crisis, financial risk, operational performance, social pressure, political and environmental risks. Environmental risks (disaster and climate risks) include water availability, contamination, climate change and 'natural' disasters (events such as floods and droughts).

As part of the actions to improve disaster and climate risk management in the WASH sector, the WSDP III includes as a strategy the establishment of flood and drought early warning and forecasting systems. This includes developing the information system to collect, process, analyse and disseminate information to relevant stakeholders, including communities at the local level.

During the interviews carried out as part of the mission, no information was collected on the state of progress in resourcing and implementing the plan. According to a press release from the World Bank in December 2022,⁸⁸ the Government of Tanzania had obtained a credit to support the implementation of WSDP III.

7.2.1 Challenges and gaps

- Feedback received during the capacity diagnosis indicated that sector collaboration on monitoring and evaluation of WASH is limited, and that many stakeholders act independently, managing their own data collection and management systems.⁸⁹ Various stakeholders in the country involved with WASH employ a variety of monitoring systems, tools and approaches that do not always allow for effective comparison among them.
- Regarding development of the hydrological information monitoring network and the flood and drought early warning systems, WSDP III does not mention how integration with other national actors, particularly the Tanzania Meteorological Authority, will be established. Additionally, the flood and drought disaster management strategy does not address its connection to the national disaster management strategy and response preparedness plans.

7.2.2 Recommendations for management of disaster and climate risk information

- It is recommended to establish a coordinated and harmonized approach to monitoring and evaluation of WASH. This can be achieved by promoting the use of standardized monitoring systems, tools and approaches, facilitating the exchange of data and information.
- Concerning the development of the flood and drought early warning systems, it is recommended to ensure strong integration and collaboration with relevant national actors, especially the Tanzania Meteorological Authority. This can be achieved by actively involving them in the planning, design and implementation of the hydrological information monitoring network and the early warning system.

7.3 Institutional and policy framework for DRR in WASH (governance)

The policy and legal framework under which the WSDP III is implemented includes the National Water Policy (2002), the Water Resources Management Act No. 11 (2009) and the Water Supply and Sanitation Act No. 5 (2019). The National Water Policy (2002) provides a comprehensive framework for sustainable development and management of the nation's water resources. The Five-year Medium-term Strategic Plan, along with WSDP II and III, filled gaps in the 2002 policy concerning emerging issues such as disaster management and the impact of climate change in water resources.

The current WASH policy emphasizes the integration of DRR strategies and practices

into programme planning, implementation and monitoring. This involves measures such as building resilient water supply systems, constructing flood-resilient sanitation facilities, and integrating hygiene promotion and awareness programmes into disaster preparedness efforts.

Additionally, the NCCRS 2021–2026 identifies critical activities to ensure sustainability of freshwater resources and climate resilience in the face of changing climate conditions. These activities include promoting sustainable management and resilience of water resources under the changing climate, and enhancing the climate resilience of WASH systems to ensure sustainable service delivery.

7.3.1 Challenges and gaps

- Despite the clear mandates in WSDP III regarding climate and disaster risk management, the assignment of roles and responsibilities for implementation of the programme (functions and responsibilities of the stakeholders) does not specify which stakeholders are responsible for leading and

monitoring compliance with the established objectives in this area. Furthermore, it is not explicitly mentioned how collaboration and coordination with the authorities in the national disaster management system will be ensured.

7.3.2 Recommendation

- It is recommended to define the specific roles and responsibilities of stakeholders in the implementation of WSDP III concerning climate and disaster risk management. This can be achieved by explicitly specifying which stakeholders are responsible for leading and

monitoring compliance with the established outcomes, objectives and targets in this area. Additionally, it is important to emphasize the need for collaboration and coordination with the authorities in the national disaster management system.

7.4 Investing in disaster resilience

In Tanzania, inadequate WASH services are responsible for over 10% of premature deaths and cost the economy more than \$2.4 billion each year in excess medical costs and lost productivity. Investing in and achieving universal access to basic WASH could reduce Tanzania's economic losses by \$1.9 billion per year by 2030.⁹⁰

The WSDP III Programme Results Matrix,⁹¹ under Objective I, “ensure the nation’s water resources are sustainably managed and developed”, includes three intermediate outcomes related to disaster and climate risk management. These outcomes are measured by the following indicators: reduced water-related disasters, improved resilience to climate change, and improved adaptation to climate change. In the Programme Monitoring Plan, the corresponding indicator is the “degree of implementation of a sound climate change adaptation and disaster management system”. This indicator is defined as “a documented programme prepared to address climate-sensitive issues, including floods, drought, adaptation to climate change and disaster management systems”. The programme sets an ambitious target of addressing

100% of disaster and climate change issues by the end of this phase in 2026.

In accordance with the goals defined in WSDP III, it is clear that there is a political will to invest the resources necessary to close the gaps related to the WASH sector at the national level. Additionally, it is clearly stated that programmes and projects must plan and allocate budgets to manage disaster and climate risk effectively. The project is very ambitious. The financing requirements of WSDP III are estimated at \$6.5 billion. The World Bank experts⁹² argue that delivering the goals of WSDP will reduce economic losses faced by Tanzania due to inadequate WASH services by \$1.9 billion per year by 2030. Within five years, these savings would enable the government to generate benefits equal to its initial investment of \$4.1 billion.

7.4.1 Challenges and gaps

- As regards financing, there is no separate budget line for DRR and it is therefore impossible to estimate how much is being allocated to WASH services related to DRR. Furthermore, fundraising for the WASH sector in Tanzania is challenging, both in

emergency and development contexts. In respect of the emergency programme, some stakeholders report that the lack of funding impacts the ability to provide an adequate level of WASH services in refugee camps.⁹³

7.4.2 Recommendation

- Regarding the financing of WSDP III, the Ministry of Water could consider synergies with initiatives implemented by other sectors or institutions. For example, the Tanzania Meteorological Authority is working with the

support of development cooperation partners to improve the hydrological monitoring network and develop weather and climate services, including early warning, for different stakeholders.


7.5 Preparedness for response and recovery

The coordination structure outlined in the National Disaster Preparedness Response Plans (NDPRP/ZEPRP) assigns primary responsibilities for DRM and humanitarian services to legally mandated core sectors, with support from each other and from all relevant stakeholders. As previously indicated, WASH interventions are cross-sectoral. The NDPRP assigns specific

responsibilities to the Ministry of Water and the water supply authorities, at the different territorial levels, in relation to WASH preparedness, response and recovery of services in the affected areas. The Disaster Rapid Response Team that should be established within 72 hours of a disaster will include experts from various technical areas, including water and sanitation.

7.5.1 Challenges and gaps

- As described above, WSDP III aims to strengthen the disaster management capacities of the sector, in coordination and collaboration with other relevant stakeholders. One of the main challenges for the WASH sector, as identified in the field visits to Mvomero and Chamwino districts, is addressing the critical gaps in technical capacity and institutional functioning at the local level. This includes the quantity and quality of DRR officials, as well as equipment and technology to enhance their capacity to prepare for, respond to and recover from disaster.
- Additionally, there is a need to strengthen and empower local authorities to respond to emergencies. Availability of clean and safe water remains a challenge in rural areas, even in the absence of disasters. The early warnings are not reaching the most vulnerable groups, especially people with specific needs, on time. Improvements are needed to community structures and communication channels during emergency response.
- A key component of emergency planning is the development of a specific emergency preparedness and response plan for the WASH sector. This would include forecasts



of impacts that different hazards may have on the WASH system, contingency strategies and their triggers, systems and procedures that will be activated during emergencies, roles and responsibilities, etc. Although an overall WASH Emergency Preparedness and Response plan has not been developed, specific plans are being put in place.

- During the recent outbreak of Marburg virus disease in Tanzania in March 2023,

it was found that hygiene promotion and awareness need to be strengthened in health centres and communities. It was also found that misinformation and lack of knowledge in communities pose significant risk, which needs to be addressed and improved through engagement at both community and institutional levels through local leaders, stakeholders and actors. Data collection and monitoring is crucial in enhancing awareness raising.

7.5.2 Recommendations

- It is recommended to prioritize capacity building initiatives to address the critical gaps in technical capacity and institutional functioning at the local level in the WASH sector. This could include training programmes to enhance the skills and knowledge of DRR officials, as well as providing them with necessary equipment and technology. Additionally, establishing mechanisms for regular monitoring and evaluation of local-level disaster management capacities would

help to identify and address any ongoing gaps or challenges.

- To improve the efficiency and effectiveness of the emergency response at the local level, it is recommended to focus on empowering local authorities and enhancing community communication channels for response during emergencies.



8. EDUCATION SECTOR

8.1 Overview

This diagnosis of capacities for DRR and CCA within the education sectors includes several analytical perspectives: promotion of DRR in teaching and learning, promotion of school safety and disaster management, and provision of safe school environments.

National policies and plans need to address all three aspects. Both Tanzania Mainland and Zanzibar – through the Education Sector Development Plan (2016/17–2020/21) and the Zanzibar Education Development Plan II (ZEDP II) (2017/18–2021/22) – have embedded DRR in their educational plans

and policies, which is critical for its application and sustainability.

Education is instrumental in building the knowledge, skills and attitudes necessary to prepare for and cope with disasters, and promotion of DRR in teaching and learning prepares both teachers and students for potential disasters, thereby reducing the impact of disaster. Tanzania has solid provisions of inclusion of DRR in the national curriculum, along with other activities that increase understanding of risk in national education and schools, both for students and teachers.

8.2 Understanding risk

The National Curriculum Framework for Basic and Teacher Education (2019) identifies and prioritizes key generic competencies relevant to Tanzanian students and their teachers and seeks to specify standards in the education system. The framework specifies that disaster preparedness, as a cross-cutting theme, must be considered when developing curricula for pre-primary, primary, secondary and advanced education. Climate change must also be integrated, although it is not compulsory during pre-primary education.⁹⁴

While disaster preparedness and climate change are integrated into the national curriculum framework, it was noted that general disaster risk knowledge – including disaster prevention, mitigation, recovery and rehabilitation – has not been promoted to be included in the school curriculum.

Other initiatives are being conducted to further enhance understanding of risk in Tanzania. For example, workshops have also been held to further mainstream DRR into the educational system. Over the past five years, a series of Training of

Trainers workshops were conducted to provide teachers and heads of schools with necessary and enhanced knowledge of DRR concepts, to enable them to integrate the topic into their daily teaching. One thematic area, ‘Understanding disaster risk reduction’, focused on developing the teachers’ and heads of schools’ own understanding of the core concepts of disaster risk and DRR, the relationship between DRR and development, and the role and responsibilities of all stakeholders in DRR.⁹⁵

Additionally, in 2018 the Ministry of Education, Science and Technology and PO-RALG, with support from UNICEF, carried out capacity building for school children to build resilience through disaster response simulation drills, integrating Education in Emergency issues into school clubs, and mapping the level of schools’ preparedness and response to emergencies and disasters.⁹⁶

In order to create national expertise and capacities for DRR and CCA in Tanzania, the education system offers two postgraduate master’s

programmes focusing on DRM, engineering and reduction, as well as short courses at Ardhi University. The Disaster Management Training Centre at Ardhi University also runs several short training courses aimed at imparting disaster-

related knowledge to governmental and non-governmental sectors, in both Tanzania Mainland and Zanzibar, and provides technical services to the government in matters related to disaster.

8.3 Governance

8.3.1 Tanzania Mainland

The Education Sector Development Plan (2016/17-2020/21), which is aligned with the current national Five-Year Development Plan (2016/17-2020/21), sets out the objectives and the overarching policy for the education sector, and highlights a key policy initiative which is the commitment to providing 12 years of free and compulsory basic education to the entire population, leaving no one behind. The plan outlines the vision for “quality education that will provide learners at all levels with the relevant knowledge, competencies, skills and abilities”, with the objective that awareness, including of disaster prevention, is mainstreamed in the curriculum at all levels of education, through improved curricula and capacity development for relevant staff.

The Ministry of Education, Science and Technology is responsible for education and skills development systems in Tanzania Mainland. This ministry governs all activities related to the education sector, in close coordination with the Ministry of Regional Administration and Local Government and the Ministry of Health. These

two ministries assist the Ministry of Education in policy formulation, inspection, curriculum development, and facilitation of the education sector.

The Ministry of Education has prepared a draft ‘Education Sector Multi-Hazard Disaster Preparedness, Response, Recovery and Mitigation Strategy’⁹⁷ for Tanzania that would adopt an all-hazard approach through multi-sectoral, integrated, inclusive and coordinated mechanisms. The strategy, which is expected to be endorsed in 2023, would identify and recommend both policy- and programme-level strategic interventions covering the whole cycle of disaster management (preparedness, response, recovery and mitigation) that would be implemented through short (0–6 months), medium (6 months–2 years), and long-term (2–5 years) approaches. A total of seven major disasters have been identified through Risk and Vulnerability Analysis, and hazard-specific strategies have been developed to protect the education sector from disasters impacting it.

8.3.2 Zanzibar

The Ministry of Education and Vocational Training is responsible for Zanzibar’s education and skills development systems. The ministry developed the Zanzibar Education Development Plan II (ZEDP II, 2017/18–2021/22), which is the second comprehensive sector-wide strategic plan for education. It presents priorities, strategies and activities to achieve sustainable goals that

place quality and relevance at the centre of the ministry’s work.

The Education Policy (2006) is the main core policy framework for ZEDP II. It highlights challenges such as the lack of emergency and disaster equipment in school facilities and the lack of emergency and disaster training facilities. The

Education Policy includes a strategy to address these challenges, namely through establishing a separate body or unit to regulate and enforce safety standards in schools, and through training teachers and students on emergencies and

disaster preparedness.⁹⁸ However, although there are provisions in the Education Policy to further integrate DRR into the sector, this is not reflected in ZEDP II.

8.4 Financing

International guidelines suggest that 15–20% of total government expenditure should be devoted to education. Zanzibar falls within this range, with Ministry of Education spending accounting for around 16–22%⁹⁹ of the total, while Tanzania Mainland falls slightly short with a total of 13.7% spent on the education sector.

With respect to financing, there is no separate budget line for DRR and it is therefore impossible

to estimate how much is being allocated to education related to DRR. However, in the Risk-sensitive Budget Review (UNDRR, 2020), which analyses public investment planning for DRR in Tanzania and highlights the level of public investment in DRR in the country, the Ministry of Education, Science and Technology share of spending towards significant DRR activities from 2016 to 2019 was 0.4%.¹⁰⁰


8.5 Preparedness for response

The National Disaster Management Strategy (2022) outlines the actions to be taken by DRR stakeholders to enhance disaster prevention, mitigation and preparedness capacity at all levels to strengthen community resilience. The strategy aims to achieve this through conducting regular multi-hazard and multi-sectoral training, exercises and drills at all levels, and through participation in regional and international training and SimEx on DRM. Drills provide everyone with the chance to practise the actions they will take before, during and after an emergency, and are an essential component of school safety plans.

While one of the objectives to increase understanding of disaster risk at all levels is to develop and include DRM curricula and training kits in higher and technical educational systems, it was noted that awareness training for children and young adults is not included. It may be feasible to introduce disaster response drills to children to raise awareness at an early age.

A key component of emergency planning in the education sector is the creation of school Emergency Operations Plans that outline how a school will prepare for, respond to and recover from an emergency. However, there are no provisions in the National Disaster Preparedness and Response Plan (2022) nor in the National Disaster Management Strategy (2022) for the education sector and schools to enforce such plans.

In the National Disaster Communication Strategy (2022), there are provisions to conduct disaster education programmes to increase citizen disaster awareness and preparedness, which *may* include presentations in schools. There are also provisions to develop a variety of educational materials dealing with emergency management and disaster preparedness and response. Such materials will also be customized for school children.



Mainstreaming DRR into the education sector also pertains to the resilience of new and existing critical infrastructure, including educational facilities, to ensure that they remain safe, effective and operational during and after disasters to

provide life-saving and essential services. However, guidance and regulations for construction of safer schools and other educational infrastructure are not considered in the plan or strategy.

8.5.1 Recommendations

- Operationalize the Education Sector Emergency Response, Preparedness, Recovery and Mitigation Strategy at all levels.
- Develop national operational guidelines for school Emergency Operations Plans that clearly define procedures for command and communication, different levels of alertness, alarm detecting systems, firefighting equipment needed and site maps, including information about assembly point, evacuation and escape routes in case of a disaster.
- Education authority to establish and guide a full simulation drill, held annually, at all levels, to practice response preparedness and review response plans.
- Define the DRR budget within the general education budget, in order to prepare the schools training programme, conduct regular assessments of school safety, conduct regular drills at all levels, and run other risk reduction and preparedness activities.

9. HEALTH SECTOR

9.1 Overview

In Tanzania Mainland, health sector interventions are guided by the fifth Health Sector Strategic Plan 2021–2026 (HSSP V), while in Zanzibar they are guided by Health Sector Strategic Plan IV 2020/21–2024/25 (HSSP IV). Both plans are in accordance with the priorities outlined in the national Five-Year Development Plan and the Zanzibar Development Strategy for 2021–2026. As part of their implementation, a key priority is enhancing capacities to respond to epidemics and disasters. Moreover, the plans seek to strengthen cross-sectoral collaboration involving sectors such as water, agriculture and infrastructure to ensure the effective implementation of health policies.

Furthermore, the government developed the Tanzania Health National Adaptation Plan (HNAP) 2018–2023, a nationwide cross-sectoral initiative to provide strategic guidance for establishing a climate-resilient health system in Tanzania Mainland and Zanzibar. The plan promotes the integration of health adaptation to climate change into national health planning strategies, processes

and monitoring systems. It is expected that the HNAP will maximize synergies across sectors, particularly those that determine health, such as food, water, environment, energy and housing.

The importance of developing and strengthening DRM capacities is clearly reflected in the health sector policies and strategies. However, the mission's findings indicate opportunities to improve human and technical capacities to enable more effective operationalization at the regional and local levels. For instance, this could include raising awareness and enhancing cross-sectoral capacities to integrate health-related issues into disaster and climate risk management plans and budgets. Furthermore, the government could consider boosting actions to strengthen preparedness as part of efforts to increase response capacities.

While it is acknowledged that women hold leadership positions in various sectors, it is evident that most existing plans do not comprehensively address the issues of gender-based violence, sexual and reproductive health, and gender equity.

9.2 Governance: institutional and policy framework for DRM in the health sector

In Tanzania, health-related issues are managed through two distinct institutional arrangements. In Tanzania Mainland, the Ministry of Health (MoH) plays a central role in policy formulation and implementation, while regional and local government authorities oversee health services at their respective levels. In Zanzibar, the Ministry of Health (MoHZ) takes charge of health policies, and the Zanzibar Health Services Council is responsible for service provision.

In Zanzibar, MoHZ is linked to SVPO-DMC for health and health-related disaster interventions. The Disaster Management Policy 2011 establishes

the disaster management responsibilities of MoHZ. According to HSSP IV, MoHZ has established a Public Health Emergency Operation Centre responsible for coordinating emergency issues. However, a Multi-Hazard Emergency Preparedness and Response Plan has not yet been developed.

In Tanzania Mainland, one of the strategic outcomes of HSSP V is the creation of a resilient and robust health and community system with sufficient capacity to prepare for, detect, prevent, respond to and recover from health epidemics, emergencies and disasters. As part of this

strategy, the government aims to develop 'All Hazard' Emergency Preparedness and Response Plans and hazard-specific plans at all levels of the health system. Furthermore, using a multisectoral approach, PMO-DMD has developed the second National One Health Strategic Plan 2022–2027. The plan aims to create and maintain active collaboration, coordination and communication among the relevant sectors for better prevention, prediction, detection and response to health threats.¹⁰¹

The National Action Plan for Health Security (NAPHS)¹⁰² is an overarching strategy for preparedness that considers health DRM. This follows the Joint External Evaluation of the capacity assessment conducted in Tanzania Mainland (2016) and Zanzibar (2017),¹⁰³ which established the level of preparedness across the different International Health Regulation (IHR) core capacities. The Annual Operational Plan for the NAPHS is developed annually and addresses the implementation of health DRM in line with sustained efforts to implement activities to strengthen it.

There is a strong infrastructure for DRM within MoH in Tanzania Mainland and MoHZ in Zanzibar. The coordination and operational structure are well-defined at the national, regional, district and community levels. This coordination mechanism also facilitates joint planning under the One Health policy framework, and this has improved the aspects of planning and governance. The MoH Emergency Preparedness and Response Unit is responsible for leading public health actions during emergency/disaster preparedness, response and recovery. However, no specific officer in MoH/MoHZ has responsibility for DRR/DRM and CCA directly or as part of their schedule.

MoH has established an IHR focal point, supported by the IHR technical working group and the steering committee responsible for overseeing implementation of health emergency and disaster risk management (EDRM). An active and operational IHR technical working group facilitates the coordination and implementation of NAPHS as the primary framework for Health EDRM. MoH has a dedicated surveillance unit that focuses on prevention and preparedness for major health-related hazards, guided by recent risk assessments and hazard profiling.

9.2.1 Challenges and gaps

- The Disaster Management Acts in Zanzibar and Tanzania Mainland make provisions for MoH/MoHZ to provide technical leadership in all public health events. This implies that MoH/MoHZ has significant and recognized roles in managing all health events beyond biological hazards and risks. While the ministries have taken steps to address non-biological hazards and risks, there may be room for further optimization in their efforts.
- While there is a certain degree of awareness about risks in different sectors, there may be a gap in comprehending the significance of health in the context of EDRM governance and coordination. The limited understanding of the Emergency Operation and Communication Centres (EOCCs), the Incident Management Structure and operations in strengthening coordination, and the lack of EOCCs across all regions, were seen as challenges to effective EDRM.
- The mission's findings indicate that a reactive approach to DRM still prevails even though a comprehensive approach has been proposed in the strategy documents. Planning and actions for Health EDRM focus more on response, with only limited attention to preparedness.
- MoH/MoHZ have limited staff to support Health EDRM and health service delivery as a whole, and only a few staff have limited exposure to specific training for DRR. High

turnover of personnel creates knowledge gaps in many sectors, including health. It is unclear whether the strategy is adequate to support

continuous capacity building, mentorship and monitoring of staff transfer within and across MDAs, to avoid significant knowledge gaps.

9.2.2 Recommendations

- Advocate for improved representation of MoH/MoHZ on the disaster technical committees and at the subnational levels.
- Finalize, disseminate and implement a plan for rolling out the Health EDRM policy across all levels of the health system, giving it the deserved gravitas.
- Formalize and integrate community health workers into the national health structures/systems to complement health, social welfare and other community security service needs, including DRM and CCA.
- Update regulations to include the roles and contributions of for-profit private health organizations in EDRM and CCA. Create linkages between institutions and sectors, and strengthen inclusive inter-agency collaborations, partnerships and coordination to enhance cross-border and in-country EDRM and CCA.
- Strengthen continuous capacity building, with a clear policy to address the observed high turnover of personnel.
- Establish EOCCs across all regions, and provide training on EOCCs, Incident Management Structure and operations for Health EDRM/CCA at all levels.
- Resource the disease surveillance unit and EOCC within MoH to better implement Health EDRM activities.
- Ensure adequate provision and proper dissemination of existing health plans, guidelines, SOPs, etc., related to EDRM and CCA, down to the subnational and community levels. Include a dissemination plan as part of the concept note for plans or guidelines to be developed, particularly in the health, safety and environment subsectors.

9.3 Health sector – information on disaster risk and climate change

According to the disaster management policy of Tanzania Mainland and Zanzibar, MoH/MoHZ is responsible for providing early warning on outbreaks of diseases or epidemics and education on prevention of public health emergencies. Health information systems have been developed to support the ministries in implementing their mandate. These include, for instance, the electronic Integrated Disease Surveillance and Response System (e-IDSRS), the District Health Information System II (DHIS2),¹⁰⁴ the Afya call centre in Tanzania Mainland, and the event-based

and community-based surveillance systems in Zanzibar.

MoH/MoHZ follows adapted WHO guidelines for conducting assessments, identifying hazards, developing comprehensive country risk profiles, creating contingency plans and organizing SimEx. However, these activities are currently limited in scope. It should be noted that comprehensive risk profiles have not yet been updated for many regions.

In 2022, MoH/MoHZ joined the Epidemic Intelligence from Open Sources (EIOS) community. The EIOS system is a collaboration between WHO and various stakeholders that brings together new and existing initiatives, networks and systems to create a unified all-hazards, One Health approach to early detection, verification and assessment of public health risks using open source information.

In September 2022, MoH in Tanzania Mainland, with the support of WHO and ECSAHC, conducted the National Strategic Risk Assessment using the Strategic Tool for Assessing Risks (STAR)

methodology. The qualitative risk assessment was developed using an ‘all of government’ and ‘all of society’ approach. The experts identify hazards across sectors and evaluate vulnerability and related impacts on the population, with a focus on health effects. The resulting all-hazards national risk profile (Risk Assessment Matrix) informed the review of the Tanzania Mainland National Multi-Hazard Emergency Response Plan.¹⁰⁵ In Zanzibar, a risk assessment done in 2018 is being used to inform the response plan for health emergencies. Zanzibar planned to conduct the Strategic Risk Assessment and Multi-Hazard Emergency Response Plan in June 2023.

9.3.1 Challenges and gaps

- The availability of the STAR assessment, electronic Integrated Disease Surveillance and Response System, electronic event-based surveillance, DHIS2, and recently the EIOS systems have helped to support Health EDRM risk information and monitoring for actions. It is crucial to implement and use these tools nationwide in a timely manner to aid planning and budgeting. In addition, there appears to be a potential area for improvement concerning the dissemination of EDRM/CCA knowledge among regional and district staff.
- It was also noticed that, while information sharing works well during response interventions, this is not the case when working on EDRM/CCA preparedness.
- Institutions highlighted the need to upgrade and improve electronic health information systems in both Tanzania Mainland and Zanzibar, extending their reach to the community level.
- The current cross-border surveillance and collaboration mechanisms with neighbouring countries are not sufficiently robust.
- Strengthening of risk communication and community engagement is advocated, especially around priority hazards. Limited research related to EDRM and CCA was observed in both Tanzania Mainland and Zanzibar.
- The irregular scheduling of meetings and the suboptimal performance of certain relevant national technical working groups and sub-committees have presented challenges to advancement of the agreed objectives. Limited inclusivity or insufficient multisectoral representation within certain technical working groups and sub-committees has had an impact on their overall productivity and effectiveness. This is probably similar in other sectors.

9.3.2 Recommendations

- Review the terms of reference, mandates and coordination structure of the research and development sub-committee/technical working group, to ensure inclusivity and capacity to support Health EDRM or CCA effectively.

- Strengthen research and innovation related to EDRM and CCA. Focus on building evidence and public health data to inform comprehensive public health/EDRM actions.
- It is crucial to enhance the information-sharing mechanisms to ensure timely responses. Collaborations among sectors or subsectors should be further strengthened to enhance knowledge acquisition and sharing concerning EDRM.
- To manage infectious hazards effectively, it is crucial to strengthen contact tracing and monitoring capacity by implementing an easy-to-use, easy-to-deploy data-based system using IT/technology infrastructure.
- Ensure that personnel across the social sectors at the national level are well-informed about risks that could potentially threaten the health and safety of the population.

9.4 Investment in disaster resilience in the health sector

HSSP V (Tanzania Mainland) and HSSP IV (Zanzibar) allocate specific resources to strengthening of emergency preparedness and response capacities. This covers the areas that fall under the specific responsibility of MoH, as well as their role in the broader disaster and climate risk management system. The plans consider incremental actions to reach targets set for 2026 in accordance with the corresponding development strategies.

Recently, there has been an increase in investment in critical care. A significant amount of investment has been made in Health EDRM, including for electronic-based surveillance. However, this only

covers the bare minimum needed to ensure health security across the country. Currently, fewer than half of the regions have fully functioning electronic event-based surveillance systems. There is no Surge Fund, and available funds have not prioritized emergency/disaster preparedness. Financial resources are inadequate to meet needs for manpower, equipment and technology, and multiple porous points of entry need to be addressed. Meanwhile, MoH and partners have been investing in outbreak preparedness, although much more is required – especially at subnational level – to achieve more resilient emergency preparedness capacity.

9.4.1 Challenges and gaps

- Government and stakeholder dedication to Health EDRM is indeed commendable. However, it is essential to acknowledge that additional funding is required to ensure capacities are adequate to support efficient planning and implementation of Health EDRM and CCA measures. A 2018 survey found that hospital disaster preparedness is at an early stage of development in Tanzania Mainland, and there are significant opportunities to better prepare regional hospitals to respond to disasters.¹⁰⁶
- In Zanzibar and Tanzania Mainland, the Medium Term Expenditure Framework (MTEF) is used for planning and budgeting activities, but insufficient funds pose a challenge in supporting Health EDRM interventions. This results in a budget that is highly dependent on donors, with bilateral agencies and UN agencies such as WHO, UNICEF and UNFPA being the primary funding sources.
- During emergencies, limited support is provided by the private sector, but there is no support during the preparedness phase for Health EDRM activities. SVPO-DMC leads coordination efforts for resource mobilization in the health sector and private sector for Health EDRM, with support from MoH.

WHO, together with MoH and partners, has initiated a joint work plan to prioritize and budget activities for one year. In emergencies

or disasters, some seed money is accessible through the emergency response fund for contingencies.

9.4.2 Recommendations

- Mobilize and allocate sustained resources annually to support Health EDRM and CCA activities in the health sector. Advocate for creating an Emergency Preparedness Fund or Surge Fund with a well-funded and easily accessible management structure.
- Develop SOPs to facilitate rapid access to funds for preparedness and Health EDRM.
- Strengthen partnerships and conduct advocacy towards the private sector and development partners to finance Health EDRM activities. For instance, explore opportunities for public-private partnerships to invest in inventories and map existing health sector resources for Health EDRM/CCA.

9.5 Preparedness for response and recovery in the health sector

MoH/MoHZ has established the National Technical Committee for Public Health Events, chaired by the Chief Medical Officer and co-chaired by the WHO Country Representative. This committee is responsible for coordinating the public health response to emergencies and disasters. Planning and implementation of activities by the committee are carried out through sub-committees. MoH/MoHZ has set up a functional Public Health Emergency Operational Centre with an Incident Management Structure.

Operational guidelines are in place, supported by relevant SOPs that guide execution at both the national and subnational levels. Regular support supervision is conducted to ensure compliance and effectiveness. MoH has a dedicated Emergency Preparedness and Response Unit. At the

subnational level, the Regional Health Management Team and District Health Management Team are responsible for managing health issues, including emergency preparedness and response. The rapid response teams are established at all levels to provide support during emergencies.

A well-trained critical mass of community health volunteers, connected with nearby healthcare facilities, contributes to early detection and reporting of events. The logistic supply chain is established, with all supplies stored at the Central Medical Store warehouse for quick access and deployment when required. Pre-planned and pre-signed Memoranda of Understanding and frameworks are in place to ensure a shortened turnaround and response time.

9.5.1 Challenges and gaps

- There is a shortage of human resources, making it challenging to readily mobilize support for DRR initiatives. While a few staff members have received training in DRM-related areas, most of the training has been conducted within Zanzibar's Integrated Disease Surveillance and Response framework. Nevertheless, implementation capacity for DRR remains low, due to limited funding opportunities to support the human resources component.

- In Tanzania Mainland, a considerable number of personnel are deployed to the MoH Emergency Preparedness and Response Unit. However, they are still inadequate to simultaneously oversee routine activities and emergency/disaster response effectively. Integrating DRM and CCA into operational practices needs further attention to garner the deserved focus. In addition, while the introduction of emergency medical services is still in its early stages, there is a noticeable presence of privately-led pre-hospital services, including options for insurance coverage.
- The current emergency medical team arrangement is not well-structured or fully functional. There is an insufficient number of well-equipped ambulances and personnel at all levels, leading to challenges in the emergency medical team setup.
- Also, operationalization of the Incident Management Structure is encountering difficulties due to a lack of comprehensive understanding, limiting its potential benefits. Similarly, the limited number of EOCCs (currently in 5 out of 26 regions) and limited understanding of EOCCs and the Incident Management Structure are hampering capacities for optimization.
- There is limited implementation of early warning and alert systems, resulting in challenges with early detection across many regions and districts, due to insufficient human and financial resources. For example, all districts are lacking electronic early warning systems, and there are only limited risk-informed electronic early warning systems or sensors for disasters in all institutions. Collaboration with various MDAs, partners and civil society organizations is integral to implementing emergency and disaster response efforts.
- MoH/MoHZ has established five isolation centres in different regions of the country to handle public health emergencies. Additionally, MoH/MoHZ and partner warehouses are strategically located nationwide and stocked with drugs, food and non-food items to support mild to moderate disasters.
- At the national level, MoH has relatively strong capacity for DRR/CCA. However, there are limitations regarding awareness and capacity building for EDRM at the subnational levels within MoH.

9.5.2 Recommendations

- Establish, operationalize and sustain support for EOCCs/Incident Management Structure across all regions in the country.
- Develop a clear national emergency medical team plan and implementation strategy.
- Develop multisectoral contingency and preparedness plans for all major biological and non-biological hazards.
- Conduct inclusive intra- and after-action reviews for every major public health event, with a clear improvement plan, and periodic SimEx to enhance readiness against major identified hazards, particularly in relation to EDRM/CCA.
- Strengthen implementation of Integrated Disease Surveillance and Response across all levels to build the necessary capacities, and support the effective and complete rollout of electronic event-based surveillance across all regions and districts.
- Strengthen the capacity of regions to isolate infectious cases, including having more designated and equipped facilities at high infectious hazard treatment centres.

10. SOCIAL PROTECTION SECTOR

10.1 Governance: institutional and policy framework for DRM in the social protection sector

Social protection in Tanzania Mainland and Zanzibar is considered a priority for increasing the resilience of vulnerable households, social groups and communities to adverse events. The national Five-Year Development Plan (FYDP III, 2021/22–2025/26) and Zanzibar Development Plan (ZADEP 2021–2026) include provisions highlighting the crucial role of social protection actions to address root causes of risk, vulnerability and poverty.

The Prime Minister's Office – Labour, Youth, Employment and Persons with Disabilities (PMO-LYED) is crucial in addressing governance issues related to disaster and climate risk in Tanzania's social protection sector. PMO-LYED has four departments (Youth, Employment, Disability and Labour), each with its own policies, strategies, guidelines and SOPs. The social protection division is within the Department of Labour.

In Tanzania Mainland, a proposed social protection policy has been developed, accompanied by a costed implementation plan. The proposed social protection policy covers four pillars – social protection non-contributory, social protection contributory, productive inclusion, and social

welfare services. These efforts will provide a strategy for the government to develop a social protection shock response plan in social assistance programmes and social security. The Productive Social Safety Net (PSSN) programme in Tanzania Mainland and Zanzibar has a robust decentralized system, structures and human resources in place to expand horizontally and vertically during times of disaster. This allows for effective response and support during challenging situations.

In Zanzibar, the Ministry of Community Development, Gender, Elderly and Children approved the Social Protection Policy 2014, which focuses on the lifecycle approach. The Social Protection Policy does not provide linkage to disaster management plans. However, social assistance programmes such as PSSN and the Zanzibar Universal Pension Scheme for residents aged 70 and over have implementation structures and systems for rapid expansion during shocks or disasters.

There is a need to develop shock response plans at different levels to ensure that the most vulnerable groups receive support during a disaster.

10.2 Social protection sector – information on disaster risk and climate change

There is limited knowledge about social protection shock response during emergency and disaster, at both the national and subnational level. This is compounded by limited human resources. The proposed national social protection policy provides for the development of shock response and climate adaptation with solid linkages to DRM. Development of social protection shock

response plans at different levels will be part of preparedness and response to support the most vulnerable. At the programme level, PSSN II does not have a shock response plan, but it has a robust delivery mechanism and systems capacity to expand vertically and horizontally during disasters. It also has public works components for long-term resilience plans.

Various government agencies such as the Department of Social Welfare and Zanzibar Social Security Fund, along with NGOs, clearly understand social protection activities and implement measures to respond to shocks. Through disaster management committees in district and *shehia* social welfare, the government ensures inclusive participation by vulnerable groups, including people with disabilities and women.

Social protection is not well considered in disaster preparedness and response training. Leaders at

the local community level are not adequately aware of government strategies for disaster management. There is inclusion of people with disabilities, PSSN recipients and other vulnerable groups to some extent, but there is a need for strengthening across the government and private sectors. Sectoral mapping on disaster occurrence and assessment of the most affected groups should be done regularly to support strategic and gender-inclusive plans for risk reduction. Particular focus should be given to skills and knowledge development for school children on risk management during disasters.

10.3 Investment in disaster resilience in the social protection sector

While social safety net programmes do exist in the country, the affected and vulnerable are not reached promptly during emergencies, particularly by the social fund transfer, which precipitates or aggravates health consequences. There is currently no dedicated allocation for response interventions. However, over the past two years, communities have faced concerns that required coordinated responses facilitated by SVPO-DMC and the social protection sector. There is a gap in appropriate planned response mechanisms, as the ministry depends on SVPO-DMC for support during an emergency.

Social protection is multisectoral, hence the ministry engages stakeholders from a different angle to support DRR initiatives for vulnerable populations. For example, the family reintegration process is supported by SOS Children's Villages, and the operationalization of Safe Houses by the International Organization for Migration. The government funds most social protection issues, including health insurance and universal

pension up to TZS 70,000 per month for elders, support for families at risk and foster parents, and training to support children. The laws on the age of the elderly are contradictory – for example, the Elder Protection Act recognizes a person as elderly at 70 years, while the Utumishi Wa Uma Act recognizes an elder as a retired person aged 60 or above. Age is the criterion for universal pension, so this needs to be investigated further.

The financing of social protection is limited. The PSSN programme is externally funded through World Bank credit and development partners, with some funds from government. There is a shortage of social welfare personnel, who provide care and support to vulnerable groups such as people with disabilities, orphans, widows and the elderly. It is estimated that there is a gap of 94% of personnel at the subnational level. Due to the shortage, during emergencies training is given to other professionals (e.g. health workers, teachers, community development officers) to deliver psychosocial support to affected groups.

10.4 Preparedness for response and recovery in the social protection sector

There are only limited staff to support protection roles at all levels, including for social security and

social assistance. The coordination mechanism established, although not yet fully functional,

is multisectoral with four pillars: productive inclusion, social assistance – non-contributory, social security – contributory and health insurance schemes, and social welfare. Once operational, it is expected to help in creating awareness and implementing the programmes that can play a key role during emergencies to provide care and support to the most vulnerable groups. At the programmatic level, Tanzania’s PSSN programme has solid decentralized implementation, with 40 experts at headquarters and 181 Technical Monitoring Officers in all districts in Tanzania Mainland and Zanzibar. At regional, district and village levels, focal points support implementation. PSSN has a robust unified registry of beneficiaries, with more than 6 million data on the poorest

households. There is a robust management information system linked to the government.

In Zanzibar, the use of skilled social welfare officers at each *shehia* and district level of government provides an opportunity to create awareness in the community on socio-economic risks, how to prevent them, and measures of response to various groups, including women and children. The government should also continue to create awareness in the community for those with income to join national health insurance, and for those with low or no income to join group insurance to access social services easily. It is recommended that the government earmark contributions to support the most vulnerable to access health insurance.

10.4.1 Recommendations

- Emergency preparedness and response needs to be included in the education curriculum, so that the vulnerable population of children is not left behind. An assessment needs to be done to assist the PSSN programme during a crisis. The government needs a focal point at the top who knows sign language. They also need to be involved in the planning process. More special education experts are needed in the country.
- It is important to raise awareness about social protection among all members of the community, with a particular focus on individuals with disabilities and those receiving social assistance. A committee could be formed specifically for registered elders to voice their protection concerns. Additionally, there could be an increase in qualified human resources to support these services, including training.
- Social welfare officers and other key community members need to be trained on early identification; this will promote a better response to emergencies.
- The social protection policy should be approved.
- Develop social protection shock response plans for social assistance programmes (e.g. PSSN, Zanzibar Universal Pension Scheme) and social security institutions, and for pension funds. Enhance the DRR guidelines or SOPs to incorporate the Shock Responsive Social Protection approach. Training could be conducted to adapt these frameworks and disseminate the documents at all levels.
- Prioritize people with special needs and other vulnerable groups in planning and implementation of EDRM policy and programmes.

II. ANNEXES

II.1 Annex 1: Assessment team members

II.2 Annex 2: List of institutions visited

II.3 Annex 3: Criteria for prioritizing recommendations

II.4 Annex 4: Inventory of available sources of risk information

II.5 Annex 5: Summary of findings of visits to districts of Chamwino (Dodoma Region) and Mvomero (Morogoro Region) – local-level diagnosis

B. Objective

The objective is to better understand how the DRM system works locally in Tanzania. This includes coordination and cooperation between stakeholders – particularly the government, private sector and civil society organizations.

The interviews with local stakeholders addressed issues related to governance, implementation capacities, financing, risk knowledge and availability of tools and technologies.

C. General observations

- While there are established national policies and regulatory frameworks, it has been observed that local DRR capacity may not always be adequate to implement these frameworks successfully. Local-level plans and strategies exist but are often only partially implemented due to resource or capacity constraints. It is recommended to prioritize capacity building at the local level to bolster the implementation of existing plans and strategies. Additionally, to foster their effective adoption it is essential to raise awareness of the new DRR frameworks at the LGA level, as most people at the lower level are completely unaware of DRM policy.
- Addressing the critical challenges in technical capacity at the local level, particularly in terms of the quantity and quality of DRR officials, necessitates focused capacity-building efforts to enhance institutional functioning.
- LGAs face financial challenges primarily due to lower levels of budgetary allocation, which pose limitations on their capacity to implement existing plans and strategies effectively. Hence, there is a critical need to establish a sustainable financial framework for DRR at the local level. To ensure long-term support and strengthen resilience, it is recommended to explore a range of diversified funding sources.

- There is a significant challenge regarding equipment and technology at the LGA level, which hinders their capacity to prepare for, respond to and recover from disasters. Therefore, it is important to assess their needs and provide, where necessary, comprehensive support for both hardware and other essential equipment, including vehicles, fire-fighting trucks, excavators, warehouses, etc. This support is crucial in enhancing the capabilities of LGAs to effectively manage disasters.
- Knowledge management systems at the LGA level are often limited, with impacts on the capacity to generate, analyse, store, update and effectively disseminate information to users, including affected communities. DRR awareness and training is limited among LGA staff and among communities. There is limited understanding of how resilience building and DRR go together, or of DRR as a cross-sectoral issue.

Summary of key findings – Chamwino District, Dodoma Region

Function	DRR aspect	Response
Major disasters	Disaster types and impacts	<ul style="list-style-type: none"> • Health – COVID-19, cholera, HIV, maternal health • Drought – many people are prevented from conducting agricultural activities in the hills, leading to food insecurity and loss of income • Flood – less prevalent than droughts but exacerbated by environmental degradation
Governance	<ul style="list-style-type: none"> • DRR laws, policies, strategies and plans at the local level • Technical expertise and methodologies for data collection and analysis and for generating and integrating relevant information • Gender mainstreaming 	<ul style="list-style-type: none"> • Guidelines are available in every sector, but not specific to DRM and climate change • Coordination was poor; there is no structure defining who does what. The protection and safety committee under the District Commission is the lead respondent • There is less involvement at the district level. They are not aware of any guidelines or policies on EDRM; they would like to educate the wider community but they do not have the resources

Function	DRR aspect	Response
Implementation capacity	<ul style="list-style-type: none"> • Human resources, competencies and skills • Databases, information management and knowledge systems 	<ul style="list-style-type: none"> • Funds are not sufficient to support prevention and response and there are inadequate human resources; no transport to regularly visit and review preparedness initiatives • They only respond when disasters hit, but they have no prevention and preparedness skills • The work with community health workers, who raise awareness; 107 villages have 2 each • Raising community awareness, refraining from eating unsafe meats (Ebola) • Isolation centres are in place (although not sufficient, especially when Ebola strikes) • There are systems in place to inform of any unidentified movements to remove people invading the catchment areas • They have planted about 200,000 trees, of which 50% do not survive (this is an assumption and the assessments have not been done; no funds to go and see how the trees are progressing) • They have built dams to harvest rainwater and use it for irrigation. A big dam is currently under construction. It is also used to prevent flooding • Health • E.g. COVID-19: when endemics hit, a team (main and sub) coordinates case management, logistics, burial; the health team is well coordinated. After that, they raise community awareness of the endemic/pandemic • The health team usually goes to media stations to raise awareness of disasters. They have 75 health posts in Chamwino, and only 5 have TVs. Out of the 75, 34 do not have clinical officers and are run by nurses only • There is a toll-free number for clarity needed on COVID19 and other calamities • The district hospital is used as an isolation centre and for containing other patients with communicable diseases • Infection prevention and control is well managed to prevent further infection, but in the case of Ebola equipment and human resources are inadequate • Drought • Millet is the best crop to grow, along with cassava and sunflowers, so as to maintain food supply in this semi-arid region • Farmers are advised to use semi-arid friendly seeds, advise on when to plant; this information is provided in the community-level meetings where everyone is involved • Schools • Every school is advised to have at least 2 acres of crops to sustain hunger and feed students • Fires in schools: the students are taught how to respond to fires. Having sand buckets on standby – so far this has not happened in all schools. Both primary and secondary • Some schools have tree nurseries and water harvesting systems

Function	DRR aspect	Response
Financial	<ul style="list-style-type: none"> • Availability of financial resources • Use of available funds • Participation of the private sector in financing DRR and CCA-specific actions, technologies, services and infrastructure 	<ul style="list-style-type: none"> • Transport is not adequate; staffing is funded at 50% – not enough to respond to emergencies • There is no implementation of budgets for climate change and DRM – they have never used that budget at the local level; it is usually channelled elsewhere • More knowledge needed on budget use for DRM, since it only focuses on response and not prevention • People cannot afford semi-arid seeds; they are expensive. So food security is unsure. The government sometimes provides seeds but it is not consistent
Technology and equipment	<ul style="list-style-type: none"> • Technology and equipment including information and communication technology (ICT) and GIS? • To what extent are technology and equipment available, adequate and effectively used in emergency/disaster preparedness and response? 	<ul style="list-style-type: none"> • It is hard to get information on GIS in Chamwino. This is because this technology has just been brought in; it is not effectively used. More knowledge should be given to users of GIS. The DRM committee needs to be used and registered so that they can feed information. A site needs to be developed • There are no data collection tools, except for health but those are not sufficient • There needs to be a pool of tablets available for use • The available databases can give some basic contribution that can feed into DRM and CCA, but it needs to be multisectoral data – from agriculture, health, education, etc. – so that it can directly feed in information for DRM/CCA

Function	DRR aspect	Response
Knowledge management	<ul style="list-style-type: none"> • <i>Understanding of DRR approaches, including gender- and diversity-inclusive</i> • <i>Knowledge and understanding of the interconnectivity between various types of risks</i> • <i>Training programmes for DRR</i> 	<ul style="list-style-type: none"> • <i>Inclusivity is minimal and mostly limited to schools; in the local community this is not practised</i> • <i>Special groups are considered but they are not all reached in schools. There need to be more efforts on awareness but also access to reach them: there are poor roads and infrastructure to access them</i> • <i>In schools they are cognizant of special education but also inclusive education; they add them to the mainstream and they are made aware of any disasters but not adequately</i> • <i>There is a study camp designated for those who are blind; during COVID-19, they were visited and made aware. They are also involved in livelihood activities; they also get loans</i> • <i>Training was done 10 years ago; the current staff are not trained at all on EDRM, they need to be updated on this knowledge</i> • <i>Knowledge of DRR and CCA structures and policies is limited</i> • <i>The risks are readily known at the district level because they have already experienced them. However, they need better understanding of the interconnectivity of risks. But for this to happen, there needs to be integration of different sectors</i> • <i>Not all villages have land use education. 50 out of 107 are the ones aware; others are in the plan. And it is continuous</i> • <i>It is not tailored to DRM; there is a need to address this at the district level – to have knowledge of DRM response and prevention within land use</i> • <i>There are courses on DRR, but few are trained and the information is not cascaded to the district level and below</i>

Summary of key findings – Mvomero District, Morogoro Region

Governance	DRR aspect	Response
Major disasters	<ul style="list-style-type: none"> Disaster types and impacts 	<ol style="list-style-type: none"> Drought – Milela, Mangae, Songozi and Doma wards Floods – Dakawa, Hembeti, Mtibwa, Diongozo, Muhonda, Mziha and Sunga wards Landslide – Mgeta and Pemba wards; landslide happened only once <p>These disasters affect livelihoods across key economic sectors. For example, 100+ households were relocated from flood-prone areas in the past few years.</p>
Implementation capacity	<ul style="list-style-type: none"> DRR laws, policies, strategies and plans at the local level Technical expertise and methodologies for data collection and analysis and for generating and integrating relevant information Gender mainstreaming 	<ul style="list-style-type: none"> Disasters Management Act 2015, which has been replaced by the new Disasters Management Act 2022 Other existing national DRR frameworks guide local DRR governance There is a district DRR plan and district DRR strategy but outdated. Their implementation is a challenge. There are disaster management committees at the district, ward and village levels. Membership includes Council Management Team, CSOs, security committees, the private sector, religious organizations and famous figures. These meet on an <i>ad hoc</i> basis due to financial constraints. The district DRR committee coordinates DRR activities at this level, including resource mobilization and DRR communication with multiple groups including communities. There is an established SOP to share and communicate disaster information starting from the low level, but challenges exist due to the lack of incentives. DRR is not fully prioritized and mainstreamed into the LGA's development plans and budgeting process due to pressing budgetary needs in other development sectors. Gender is not mainstreamed There is close collaboration with TMA in terms of the provision of weather forecasts. No regular communication with PMO/SVPO and other sectoral ministries as far as DRR is concerned, only when disaster happens or when there is a donor-supported project such as the ongoing ecosystem-based adaptation project (with VPO).

Governance	DRR aspect	Response
Implementation capacity	<ul style="list-style-type: none"> • <i>Human resources, competencies and skills</i> • <i>Databases, information management and knowledge systems</i> 	<ul style="list-style-type: none"> • There is a critical challenge in terms of staff and expertise. There is some expertise in some areas including ICT and GIS. • Staff shifting is a challenge – regular capacity building needed • There are challenges in the structure and establishment of the DRR committees
Financial	<ul style="list-style-type: none"> • <i>Availability of financial resources</i> • <i>Use of available funds</i> • <i>Participation of the private sector in financing DRR and CCA-specific actions, technologies, services and infrastructure</i> 	<ul style="list-style-type: none"> • Financial constraints are a key barrier • Internal source of funds key but very limited • Sometimes the private sector such as Coca-Cola support when disasters happen. • Development partners such as FAO also support in some situations, for example with provision of seedlings.
Technology and equipment	<ul style="list-style-type: none"> • <i>Technology and equipment including ICT and GIS?</i> • <i>To what extent are technology and equipment available, adequate and effectively used in emergency/ disaster preparedness and response?</i> 	<ul style="list-style-type: none"> • Availability of equipment and access to the required technologies are the challenges. • ICT/GIS technologies are not commonly used for DRR at the LGA level, thus limiting the capacity to generate information and communicate. • Geographical location of the district also compounds the technological and equipment challenge. Multiple emergency stations might be needed. • Vehicles are dilapidated.
Knowledge management	<ul style="list-style-type: none"> • <i>Understanding of DRR approaches, including gender- and diversity-inclusive</i> • <i>Knowledge and understanding of the interconnectivity between various types of risks</i> • <i>Training programmes for DRR</i> 	<ul style="list-style-type: none"> • Information and data are collected in collaboration with the local level management when a disaster happens, but there are challenges regarding data quality and capacity needed at the local level, including the system for local-level data collection. • No awareness programmes or training internally conducted. The last training on DRR was conducted in 2016.

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