THE UNITED REPUBLIC OF TANZANIA

PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT

DAR ES SALAAM REGION

DarMAERT

Emergency Response Plan

MAY 2020

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Dar es salaam Multi-Agency Emergency Response Team

Emergency Response Plan

May 2020

Preface

The Dar es Salaam Region is Tanzania's international hub for business and promises a brighter future for its people through providing economic opportunities for greater social mobility and over-all development. However, these opportunities that the Dar es Salaam Region offers are also challenged by various disaster risks and hazards. Disasters, whether related to natural hazards or human-induced, such as floods, landslides, disease outbreaks, explosion, traffic accidents and collapsed structures, have impacted lives, livelihoods, and properties in Dar es Salaam and can erase important developmental and economic progress. It is therefore imperative that the leadership take a proactive stance in managing risks in the Region.

In this regard, the Regional Government is in full support of projects and programs aimed to build the preparedness and capacities of the Region to cope with and manage disasters and emergencies – a core stakeholder for which is the Dar es Salaam Multi-Agency Emergency Response Team (DarMAERT). On behalf of the Regional Commissioner's Office, through the Regional Disaster Management Committee, we would like to congratulate DarMAERT for updating its Emergency Response Plan 2020. The update is a testament to the steadfast commitment of DarMAERT to take part in the continuing development of the Region, by providing more organized and strategic emergency management services for the people of Dar es Salaam.

Many improvements in the emergency management systems and infrastructure for DarMAERT, and the Dar es Salaam Region as a whole, are still needed. However, the update of the Emergency Response Plan provides a sound foundation for further enhancements as the Region endeavors to continually build its emergency management capabilities. We hope that this Emergency Response Plan helps unify objectives and protocols and strengthen coordination among all stakeholders for a more efficient response to emergencies in Dar es Salaam.

Hon. Abubakar Kunenge
REGIONAL COMMISSIONER
Dar es Salaam

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The update of the 2017 DarMAERT Emergency Response Plan was done using a highly participative process. The active involvement of many institutions, key actors, experts and professionals with their extensive contributions made possible the materialization of this 2020 Emergency Response Plan.

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These key representatives went through a series of co-development processes which proved to be instrumental to the update of the 2017 DarMAERT Emergency Response Plan. In this light, we would like to acknowledge with our sincerest thanks the contributions of these individuals and their respective institutions in the revision of this Emergency Response Plan 2020 of DarMAERT under the leadership of the DarMAERT Coordinator, Dr. Christopher Mnzava, without which this process would not have been possible. Thank you for spending time and resources to participate in the different activities conducted for the ERP 2020 Update under the Training, Exercises and Drills Program from May 2018 to May 2020.

Special thanks are due to the significant efforts of the Kigamboni Municipal Council, Kinondoni Municipal Council, Temeke Municipal Council, Ilala Municipal Council and Ubungo Municipal Council. Their collective and meaningful contributions provided a unique opportunity for the Dar es Salaam region to have a resilient and coordinated approach in updating the Emergency Response Plan 2020.

Our deepest appreciation likewise goes to the United Kingdom's Department for International Development and the World Bank for their support to the continuing endeavors of the Regional Government to build its resilience to disasters through the Tanzania Urban Resilience Program. Detailed review and comments were provided by the World Bank Team comprised of Eric Dickson (Senior Urban Development and Disaster Risk Management Specialist), Claudia Lorena Trejos (Senior Disaster Risk Management Consultant) and Nyambiri Kimacha (Disaster Risk Management Consultant). We also thank Earthquakes and Megacities Initiative for the technical assistance they provided to DarMAERT throughout the Training, Exercises and Drills Program, particularly Jerome Zayas (Project Manager), Nicholas Burk, Ritche Angeles, Jose Mari Daclan and Mary Luanne David (Emergency Management Specialists) and Precious Zara and Denise Suarez (Project Coordinators). Likewise, we extend our

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It is our expectation that this Emergency Response Plan be utilized by all stakeholders for the continuing improvement of DarMAERT's emergency management services for the people of Dar es Salaam.

Paul Makanza
REGIONAL ADMINISTRATIVE SECRETARY
Dar es Salaam

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Acronyms and Abbreviations

ARU	Ardhi University
CCG	Communication Coordinating Group
ConOps	Concept of Operations
DarMAERT	Dar es Salaam Multi-Agency Emergency Response Team
DART	Dar es Salaam Rapid Transit Agency
DMD	Disaster Management Department
DDMC	District Disaster Management Committee
EM	Emergency Management
EMAP	Emergency Management Accreditation Program
EMI	Earthquakes and Megacities Initiative
EOC	Emergency Operations Center
ERF	Emergency Response Function
ERP	Emergency Response Plan
FEMA	Federal Emergency Management Agency
ICS	Incident Command System
IAP	Incident Action Plan
LATRA	Land Transport and Regulatory Authority
MDMC	Municipal Disaster Management Committee
NDMP	National Disaster Management Policy
NGO	Non-Government Organization
NOG	National Operational Guidelines for Disaster Management
PHC	Population and Housing Census
PO-RALG	President's Office – Regional Administration and Local Government
RAS	Regional Administrative Secretary
RDMC	Regional Disaster Management Committee
RMO	Regional Medical Officer
SAR	Search and Rescue
SitRep	Situation Report
SLR	Sea-Level Rise
SOP	Standard Operating Procedures
TARURA	Tanzania Rural and Urban Road Agency
TDMA	Tanzania Disaster Management Act
TNOG	Tanzania National Operational Guidelines for Disaster Management
TED	Training, Exercises and Drills
TEPRP	Tanzania Emergency Preparedness and Response Plan
TRCS	Tanzania Red Cross Society
TURP	Tanzania Urban Resilience Program
UNDRR	United Nations Office for Disaster Risk Reduction
WB	World Bank

Key Concepts

Capacity

Capacity is the combination of all the strengths, attributes and resources available within an organization, community or society to manage and reduce disaster risks and strengthen resilience. Capacity may include infrastructure, institutions, human knowledge and skills, and collective attributes such as social relationships, leadership and management. (United Nations Office for Disaster Risk Reduction [UNDRR], 2017)

Common Operating Picture

An overview of an incident by all relevant parties that provides incident information enabling the Incident Commander/Unified Command and any supporting agencies and organizations to make effective, consistent, and timely decisions. (Federal Emergency Management Agency [FEMA], 2010)

Critical Infrastructure

The primary physical structures, technical facilities and systems whose disruption, failure or destruction have a serious impact on the functioning of society, the economy or the state within a natural hazard induced disaster context. (UNDRR, 2009)

Critical Facility

Critical facilities are facilities needed for emergency response such as hospitals, fire stations, emergency centers, police stations, certain public buildings that house functions needed by the public, data centers, and power plants. (UNDRR, 2009)

Disaster

Disaster means a serious disruption of the functioning of a community or a society at any scale due to hazardous events interacting with conditions of exposure, vulnerability and capacity, leading to one or more of the following: human, material, economic and environmental losses and impacts.

Annotations: The effect of the disaster can be immediate and localized, but is often widespread and could last for a long period of time. The effect may test or exceed the capacity of a community or society to cope using its own resources, and therefore may require assistance from external sources, which could include neighbouring jurisdictions, or those at the national or international levels. (UNDRR, 2017)

Disaster Management

This refers to organization, planning and application of measures preparing for, responding to and recovering from disasters.

Annotation: Disaster management may not completely avert or eliminate the threats; it focuses on creating and implementing preparedness and other plans to decrease the impact of disasters and "build back better". Failure to create and apply a plan could lead to damage to life, assets and lost revenue.

Disaster Response

This refers to actions taken directly before, during or immediately after a disaster in order to save lives, reduce health impacts, ensure public safety and meet the basic subsistence needs of the people affected.

Annotation: Disaster response is predominantly focused on immediate and short-term needs and is sometimes called disaster relief. Effective, efficient and timely response relies on disaster risk-informed preparedness measures, including the development of the response capacities of individuals, communities, organizations, countries and the international community.

The institutional elements of response often include the provision of emergency services and public assistance by public and private sectors and community sectors, as well as community and volunteer participation. "Emergency services" are a critical set of specialized agencies that have specific responsibilities in serving and protecting people and property in emergency and disaster situations. They include civil protection authorities and police and fire services, among many others. The division between the response stage and the subsequent recovery stage is not clear-cut. Some response actions, such as the supply of temporary housing and water supplies, may extend well into the recovery stage. (UNDRR, 2017)

Disaster Risk

This refers to the potential loss of life, injury, or destroyed or damaged assets which could occur to a system, society or a community in a specific period, determined probabilistically as a function of hazard, exposure, vulnerability and capacity. The definition of disaster risk reflects the concept of hazardous events and disasters as the outcome of continuously present conditions of risk. Disaster risk comprises different types of potential losses which are often difficult to quantify. Nevertheless, with knowledge of the prevailing hazards and the patterns of population and socioeconomic development, disaster risks can be assessed and mapped, in broad terms at least. It is important to consider the social and economic contexts in which disaster risks occur and that people do not necessarily share the same perceptions of risk and their underlying risk factors. (UNDRR, 2017)

Disaster Risk Management

Disaster risk management is the application of disaster risk reduction policies and strategies to prevent new disaster risk, reduce existing disaster risk and manage residual risk, contributing to the strengthening of resilience and reduction of disaster losses. Disaster risk management actions can be distinguished between prospective disaster risk management, corrective disaster risk management and compensatory disaster risk management, also called residual risk management. (UNDRR, 2017)

Disaster Risk Reduction

Disaster risk reduction is aimed at preventing new and reducing existing disaster risk and managing residual risk, all of which contribute to strengthening resilience and therefore to the achievement of sustainable development. Disaster risk reduction is the policy objective of disaster risk management, and its goals and objectives are defined in disaster risk reduction strategies and plans. (UNDRR, 2017)

Emergency Management

The organization and management of resources and responsibilities for addressing all aspects of emergencies, in particular preparedness, response and initial recovery steps. EM differs from Disaster Management in that it not only deals with managing disasters, but all types of emergencies and crises. (UNDRR, 2009)

Hazard

A process, phenomenon or human activity that may cause loss of life, injury or other health impacts, property damage, social and economic disruption or environmental degradation.
Annotations: Hazards may be natural, anthropogenic or socionatural in origin. Natural hazards are predominantly associated with natural processes and phenomena. Anthropogenic hazards, or human-induced hazards, are induced entirely or predominantly by human activities and choices. This term does not include the occurrence or risk of armed conflicts and other situations of social instability or tension which are subject to international humanitarian law and national legislation. Several hazards are socionatural, in that they are associated with a combination of natural and anthropogenic factors, including environmental degradation and climate change. (UNDRR, 2017)

Incident

This refers to an occurrence or event, either human-caused or by natural phenomena, that threatens human welfare, environment or security of the country and that requires action by emergency response personnel to prevent or minimize loss of life or damage to property and/or natural resources. (Tanzania National Operational Guidelines for Disaster Manaement [TNOG], 2014)

Incident Commander (IC)

This refers to the officer that has overall responsibility for managing the incident and dictating tactics and resource management. (TNOG, 2014)

Incident Command System (ICS)

The ICS is a standardized on-scene emergency management construct specifically designed to provide for the adoption of an integrated organizational structure that reflects the complexity and demands of single or multiple incidents, without being hindered by jurisdictional boundaries. ICS is the combination of facilities, equipment, personnel, procedures, and communications operating within a common organizational structure, designed to aid in the management of resources during incidents. It is used for all kinds of emergencies and is applicable to small, as well as large and complex incidents. ICS is used by various jurisdictions and functional agencies, both public and private, to organize field-level incident management operations. (FEMA, 2010)

Preparedness

Preparedness refers to the knowledge and capacities developed by governments, response and recovery organizations, communities and individuals to effectively anticipate, respond to and recover from the impacts of likely, imminent or current disasters. Preparedness action is carried out within the context of disaster risk management and aims to build the capacities needed to efficiently manage all types of emergencies and achieve orderly transitions from response to sustained recovery.

Preparedness is based on a sound analysis of disaster risks and good linkages with early warning systems, and includes such activities as contingency planning, the stockpiling of equipment and supplies, the development of arrangements for coordination, evacuation and public information, and associated training and field exercises. These must be supported by formal institutional, legal and budgetary capacities. The related term "readiness" describes the ability to quickly and appropriately respond when required. (UNDRR, 2017)

Prevention

This refers to activities and measures to avoid existing and new disaster risks. Prevention (i.e., disaster prevention) expresses the concept and intention to completely avoid potential adverse impacts of hazardous events. While certain disaster risks cannot be eliminated, prevention aims at reducing vulnerability and exposure in such contexts where, as a result, the risk of disaster is removed. Prevention measures can also be taken during or after a hazardous event or disaster to prevent secondary hazards or their consequences. (UNDRR, 2017)

Risk Identification and Assessment

A structured analytical process for determining the nature and extent of risk by analyzing potential hazards and evaluating existing conditions of vulnerability that together could potentially harm exposed people, property, services, livelihoods and environment they depend on. (UNDRR,2009)

Resilience

The ability of a system, community or society exposed to hazards to resist, absorb, accommodate, adapt to, transform and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions through risk management. (UNDRR, 2017)

Response

This refers to actions taken directly before, during or immediately after a disaster to save lives, reduce health impacts, ensure public safety and meet basic subsistence needs of people affected. Disaster response is predominantly focused on immediate and short-term needs and is sometimes called disaster relief. Effective, efficient and timely response relies on disaster risk-informed preparedness measures, including the development of response capacities of individuals, communities, organizations, countries and international community. The institutional elements of response often include the provision of emergency services and public assistance by public, private and community sectors, as well as community and volunteer participation. (UNDRR, 2017)

Strategy

The general plan or direction selected to accomplish incident objectives. (FEMA, 2010)[1]

[1] The term "strategy" is used in this document as an Incident Command System terminology

Introduction

Dar es Salaam is one of Tanzania's major commercial hubs and is emerging to be a global megacity in the coming decades. With a current estimated population of over 6 million, it is expected that Dar es Salaam will have more than 10 million inhabitants by 2030[2]. Forecasts of Dar es Salaam's population suggest the city will reach almost 16 million by 2050,[3] an estimated 37 million by 2075, and over 73 million by 2100.[4]

It is therefore essential that the Region builds its resilience to both natural and human-induced threats. Flooding, Dar es Salaam's most frequently occurring hazard, includes recent occurrences in 2008, 2009, 2011, 2014, 2016, 2018, 2019 and 2020, which have resulted in damage to hundreds of houses and the displacement of tens of thousands of residents. In the May 2019 severe flood event alone, Dar es Salaam suffered over 1,200 displaced households, and the destruction of 1,560 dwellings and important infrastructure, with severe impacts to livelihoods. Dar es Salaam has coped with additional human-induced hazards with over the past decade as well, including structural fires, gas explosions, and ammunition explosions. As of the publication of this Emergency Response Plan (ERP), Dar es Salaam is deeply engaged with the Government of Tanzania in response to the rapidly evolving COVID-19 global pandemic.

Part of resilience-building is the establishment of organizations that are mandated and capable to provide services aimed to save lives and properties in the event of, and in preparation for, disasters and other emergencies. For this purpose, the Dar es Salaam Multi-Agency Emergency Response Team (DarMAERT) - a group of emergency management stakeholders, was created with the primary mandate to serve tactical functions under the Regional Disaster Management Committee (RDMC), beyond the regular operational functions already being performed by each member agency[5] during pre-disaster times.

In line with this, the first ERP for DarMAERT was drafted in 2011 however, this 2011 ERP was never finalized, endorsed or implemented. The 2011 ERP was revisited and updated through a series of collaborative consultations with DarMAERT members from April 2016 to June 2017. This set of co-design activities were supported by the World Bank (WB) through the Tanzania Urban Resilience Program (TURP) funded by the United Kingdom's Department for International Development (DFID). Completed, approved, translated to Kiswahili and implemented, the ERP 2017 was key to consolidating DarMAERT's capacity to support

[2] United Nations Department of Economic and Social Affairs (2019). "United Nations World Urbanization Prospects: The 2018 Revision." Retrieved 20 May 2020 from https://population.un.org/wup/Publications/Files/WUP2018-Report.pdf

[3] United Nations Department of Economic and Social Affairs (2019). "United Nations World Urbanization Prospects: The 2018 Revision." Retrieved 20 May 2020 from https://population.un.org/wup/Publications/Files/WUP2018-Report.pdf

[4] Hoornweg, D. and Pope, K. (2017). "Population Predictions for the World's Largest Cities in the 21st Century." *Environment and Urbanization*. 29 (1): 195-216.

[5] In this context, "agency" refers to the various organizations that are members of DarMAERT and provide emergency response support to DarMAERT operations.

response by ensuring that all emergency management stakeholders: (i) know and understand their role; (ii) are competent to carry out the tasks assigned to them; (iii) have access to available resources and facilities; and (iv) work together as a partnership.

From May 2018 to May 2020, in consonance with *Pillar 3: Emergency Preparedness and Response* of the TURP, DarMAERT benefited from a Training, Exercises and Drills (TED) Program aimed to build the multi-agency's emergency management capabilities. Part of the TED Program was the update of the 2017 ERP to ensure it remains at par with the changing needs of DarMAERT and enhancements in its protocols that were developed. The ERP 2020, aims to: (i) help build the competence ("know-how") of the organization and its member agencies in performing their responsibilities, (ii) provide guidance on resource management and coordination to facilitate efficient accessibility and utilization of staff, facilities and equipment, and (iii) help establish a clear coordination system and strengthen cooperation among member agencies of DarMAERT.

DarMAERT's ERP 2020 updated the contents of the DarMAERT ERP 2017. The ERP 2020 was developed by integrating international best practices in emergency management that can be adopted to the legal and institutional context of DarMAERT. The plan covers emergency *response* processes for control and coordination of DarMAERT resources, in the event of a major emergency, generally corresponding to the activation and deactivation protocols for an Emergency Operations Center (EOC) and does not provide information for systems and protocols for mid-and long-term *recovery*. The processes prescribed in this plan are also framed within the systems and processes implemented at the DarMAERT EOC, supporting and complementing information contained in the EOC Handbook and Standard Operating Procedures (SOP) Handbook which were also developed for DarMAERT.

All contents of the ERP 2020 were developed through a series of collaborative co-design workshop sessions by key representatives from DarMAERT core member agencies with Earthquakes and Megacities Initiative (EMI) and its partners from Ardhi University (ARU), and with technical support from the WB. The plan is organized into seven main chapters based on international standards of basic emergency response plan structure: (i) Legal and Institutional Arrangements, (ii) Demographics and Major Hazards, (iii) Risk Analysis, (iv) Planning Assumptions, (v) Emergency Management Directives, (vi) Concept of Operations and (vii) Financial and Administrative Procedures .

The ERP 2020 shall be treated as a living document, which shall be revisited after every major incident to ensure that contents remain relevant to the legal and practical (on-the-ground) needs of DarMAERT. Likewise, in the absence of a major incident, DarMAERT, with support and approval from the RDMC, shall implement an annual testing of the plan through a functional exercise. From this exercise, the needed additional contents and revisions on the ERP could be identified, such as annexes for specific hazards or response functions, contact details for

DarMAERT members, among others. Results of the functional exercise[6], such as after-action reports / hotwash[7], and related plan review activities shall also be referenced for training programs and other capability-building programs (such as equipment and inventory building[8]) for DarMAERT. It is noted, however, that any changes to the ERP shall only be finalized upon: (i) submission of a documented recommendation by DarMAERT, through the DarMAERT Coordinator, to the Regional Disaster Management Committee (RDMC) and (ii) a formal approval by the RDMC thereafter, through the Regional Administrative Secretary (RAS).

1. Legal and Institutional Arrangements

1.1. Authority and Support

In Tanzania, the Disaster Management Department (DMD), under the Prime Minister's Office (PMO), functions as the primary coordinating body of the government for all aspects of disaster management. It provides central coordination during emergency response operations, and promotes and implements prevention, mitigation, preparedness and recovery initiatives to minimize the adverse effects of disasters to the Tanzanian population, properties and environment. The Dar es Salaam Multi-Agency Emergency Response Team (DarMAERT), as the special body organized to provide frontline disaster management services in the Dar es Salaam Region reports to the DMD-PMO through the Regional Disaster Management Committee (RDMC) under the Regional Administrative Secretary (RAS). In turn, DarMAERT is supported by the Municipal disaster management committees at the five municipalities in the Region (Ilala, Kigamboni, Kinondoni, Ubungo and Temeke) and the Wards that comprise these Municipalities. These institutional relationships are described in Figure 1.

[6] For the ERP 2020, one key update based on the results of the Functional Exercise conducted during delivery of the TED Program Module 4 is the inclusion of "pandemics" (i.e. Covid-19) in the list of hazards in Dar es Salaam. Recommendations from the participants also point to additional trainings on Emergency Operations Center Business Continuity Processes, Emergency Response Functions and other practice-based trainings using other disaster scenarios aside from flooding.
[7] The term "hotwash" in emergency management parlance commonly refers to immediate "after-action" discussions and evaluations of an agency's (or a group of agencies') performance following a drill, exercise, training activity, or major incident.
[8] Equipment and inventory building activities may include stock-taking, periodic assessments, procurement planning, purchasing and storage of equipment and supplies.

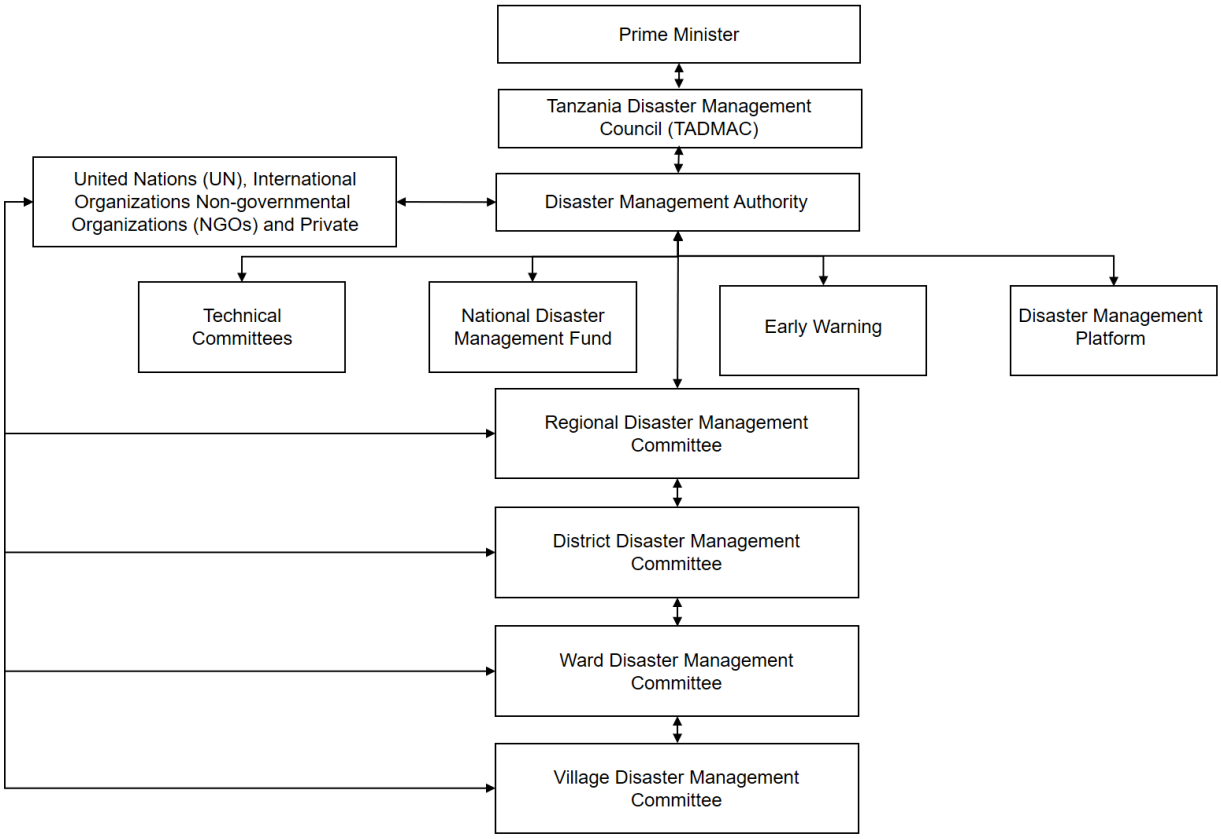

Figure 1. Disaster Management Structure in Tanzania

(Source: National Operational Guidelines for Disaster Management 2014)

The PMO-DMD is authorized by law to prepare the Tanzania Emergency Preparedness and Response Plan (TEPRP) and the Tanzania Disaster Communication Strategy (TDCS). These plans are cascaded to the Regional and Local Government levels. Hence, the alignment of this DarMAERT Emergency Response Plan (ERP) 2020 to the TEPRP 2012.

1.2. The Tanzania National Framework for Disaster Management

Tanzania enacted its **Disaster Relief Coordination Act** (DRCA) in 1990. However, consistent with the increasing understanding for the need to expand disaster management beyond the usual relief coordination and operations, the country has reviewed and expanded its disaster management instruments. Review of the DRCA resulted to the issuance of the **National Operational Guidelines for Disaster Management** in 2003 (NOG 2003) which defined roles and responsibilities of various stakeholders in responding to disasters. This was followed by the updating of the **National Disaster Management Policy** in 2004 (NDMP 2004) – expanding coverage of the law from relief to all aspects of disaster management, i.e. mitigation, preparedness, response and recovery. The NOG 2003 and NDMP 2004 were instrumental in commencing initiatives to operationalize an effective and efficient management system to

minimize disaster risks and lessen their impacts in the country. In 2016, the Tanzania Disaster Management Regulations were also drafted to expand the coverage, guidelines, and protocols to further refine for the country's disaster management system. The regulations were published on Government Notice No. 12 on January 27, 2017. As of March 2020, the Regulations have yet to be formally enacted and promulgated.

With the review of disaster management legislation, consistent with continuing efforts to strengthen disaster management mechanisms in Tanzania, the National Operational Guidelines were updated in 2014 (NOG 2014), identifying the most common hazards in the country and the lead and support agencies mandated to address them. This was followed by the enactment of the **Tanzania Disaster Management Act** in 2015 (TDMA 2015). As of the publication of this document (2020), the TEPRP 2012, NOG 2014 and the TDMA 2015 are the most updated primary national policy references to which DarMAERT adheres. It is also noted, however, that many other legal instruments support disaster management initiatives in Tanzania, albeit indirectly linked through support functions needed during disaster times including for example, security, transportation, and health, among others.

1.2.1 The Tanzania Disaster Management Act of 2015

Central to the implementation of disaster management for the country is the Tanzania Disaster Management Act (TDMA) No 7 of 2015. It provides for the establishment of the Disaster Management Agency and the basic policies governing disaster risk management, disaster management funding and coordination mechanisms for disaster prevention, mitigation, preparedness, response and recovery. It is within the definitions and requirements provided by the TDMA 2015 that DarMAERT operates.

The TDMA 2015 defines **disaster** as *an occurrence or series of occurrences, whether natural or man-made, that causes or poses a significant disruption or threat to the functioning of a community, causing widespread human, natural, economic or environmental losses which exceed the capacity of that community to cope with the disaster using its own resources*. The same Act defines **disaster management** as *a continuous and integrated multi-sectoral process of planning and implementation of measures aimed at: (a) preventing the danger or threat of a disaster; (b) mitigating the severity or consequences of a disaster; (c) creating or enhancing disaster preparedness;* ***(d) creating rapid and effective response to disaster****; and (e) creating or enhancing mechanisms for post disaster recovery and rehabilitation*. In addition, it refers to **disaster response** as *any measure taken immediately prior to or following a disaster impact that is directed towards saving life, protecting property and the environment or dealing with the immediate damage and other effects caused by the disaster*. These provisions provide the general rationale for the establishment of DarMAERT for "creating rapid and effective response to disaster" in the Dar es Salaam Region. DarMAERT's establishment is therefore consistent

with Section 17(d) of the TDMA, which states that Regional and District Disaster Management Committees can establish sub-committees for the purpose of proper discharge of its functions.

1.3. DarMAERT Membership

DarMAERT's current membership as of 2020 is composed of the following agencies and organizations:

- Regional Commissioner's Office (Regional Secretariat)
- Municipal Councils
- Tanzania Fire and Rescue Force
- Tanzania Police Force
- Tanzania Red Cross Society
- Public and Private Hospitals
- Public and Private Ambulance Services
- Private Sector
- Non-Government Organizations (such as Plan International-Dar es Salaam, and Shia Community)
- Tanzania National Roads Agency (TANROADS)
- Tanzania Rural and Urban Roads Agency (TARURA)
- Tanzania Electric Supply Company (TANESCO)
- Dar es Salaam Water and Sewerage Authority (DAWASA)
- Tanzania Meteorological Authority (TMA)
- Land & Marine Transportation Agencies (LATRA)

DarMAERT is a dynamic organization wherein members may be changed as necessary, depending on the needed activities and functions to support emergency management in Dar es Salaam. However, while engagement of its members evolves depending on the nature of the emergency, there are agencies that are almost always involved in DarMAERT's emergency response operations, hence, are considered as core DarMAERT members. This core group is composed of representatives from the following:

- Regional Commissioner's Office;
- Tanzania Police Force;
- Tanzania Fire and Rescue Force;
- Tanzania Red Cross Society;
- Hospitals and Ambulance Services, and
- Disaster Management Coordinator/s from the concerned municipalities.

2. Situation Overview - Demographics and Major Hazards [9]

2.1 Geophysical Features

Dar es Salaam is one of Tanzania's major Regions. It is a coastal city located in the eastern part of the Tanzanian mainland at 6°51'S latitude and 39°18'E longitude. With an area of 1,350 square kilometers, it occupies 0.19 percent of the Tanzanian mainland, stretching about 100 kilometers between the Mpiji River to the North and beyond the Mzinga River in the South. The Indian Ocean borders it to the East. The Dar es Salaam Region is one of 30 Administrative Regions in Tanzania with its Regional Capital as the city of Dar es Salaam. The Region consists of five districts – Ilala, Kinondoni, Temeke, Kigamboni and Ubungo and is each governed by their own Municipal Councils, in addition to a coordinating Dar es Salaam City Council (DCC) – collectively known as the Dar es Salaam Local Government Authorities (DLGAs). However, the Municipal Councils (MCs) do not report to the DCC but rather directly to the President's Office – Regional Administration and Local Government (PO-RALG).

The city is divided into three ecological zones, namely the upland zone comprising hilly areas to the West and North of the city, the middle plateau, and the lowlands, which include Msimbazi Valley, Jangwani, Mtoni, Africana and Ununio areas. Natural vegetation mainly includes coastal palm groves, coastal shrubs, Miombo woodland, coastal swamps, and swampy mangrove trees and reeds. Prolonged human interference has reduced the diversity of woodland and scrub.

Dar es Salaam receives over 1,000 mm of rainfall per year and has a bimodal rainfall distribution, the two main rain seasons being the long rains and the short rains, associated with southward and northwards movements respectively of the Inter-Tropical Convergence Zone. The long rains season (Masika) occurs from mid-March to end May, and the short rains (Vuli) from mid-October to late December. Mean rainfall is projected to increase during the long rain season over coastal areas, including Dar es Salaam, by up to 6 percent by 2100.

In relation to rainfall intensity, records for the period 1971-2009 show that the mean 24-hour maximum rainfall ranges from over 50 mm in April-May to 10mm for July-August. Both rainfall amount and intensity are variables of concern from the point of view of flooding in Dar es Salaam. Intensity and variability of precipitation is likely to increase in the coming years with the progression of climate change.

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[9] The United Republic of Tanzania: President's Office – Regional Administration and Local Government, *Dar es Salaam Multi-Agency Emergency Response Team (DarMAERT) Emergency Response Plan (ERP)*, 2017.
The United Republic of Tanzania: National Bureau of Statistics and Office of Chief Government Statistician, 2012 *Population and Housing Census (PHC)*, 2013.
The United Republic of Tanzania: National Bureau of Statistics and Office of Chief Government Statistician, *Population Distribution by Age and Sex*, 2013.
The United Republic of Tanzania: National Bureau of Statistics and Office of Chief Government Statistician, and The International Bank for Reconstruction and Development/ The World Bank, *Tanzania Mainland Poverty Assessment*, 2013.

With regard to temperature, Dar es Salaam has a mean annual maximum of 30.8°C, and a mean annual minimum of 21.3°C. Temperature projections estimate a significant increase in number of days exceeding 32°C in Dar es Salaam by 2050, which would affect health, as well as labor productivity in the city.[10]

2.2 Demographics and Socio-Economic Information

According to the 2012 Population and Housing Census (PHC), the Dar es Salaam Region is home to about 4.36 million people, accounting for about 10% of the total population in Tanzania. It has an average annual population growth rate (2002-2012) of 5.6 %. Gender distribution in the Region is balanced with females outnumbering males at less than 3%. The youth comprise about a quarter (23.8%) of the total population, while the elderly (aged 60 years and above) comprises only 3.5%. About two-thirds (66.3%) of people in the Region are of working age (15 years- 59 years).

Also, according to the 2012 PHC, Kinondoni is the most populated municipality at about 1.8 million people, followed by Temeke and Ilala with 1.3 million to 1.2 million population, respectively. While the 2012 PHC was conducted when Ubungo and Kigamboni municipalities were yet to be established, population at the said municipalities for the same time frame (i.e. August 2012) are estimated to about 1,189,518 and 766,569 persons, respectively.[11] Population density is estimated at 3,100 persons per square kilometer.[12] Current total population in the Region is estimated at about 6 million people based on historical population growth.[13] Dar es Salaam is expected to become a megacity by 2030 with a population of over 10 million.[14]

Aside from work in the public (government) or the private (manufacturing, trade and services) sectors, many Dar es Salaam residents are self-employed. Self-employment activities include business, petty trading, fishing, livestock-keeping and agricultural activities. An estimated 70-80% of residents in Dar es Salaam live in unplanned, informal settlements that lack adequate infrastructure and services, and over half of the total population survive on roughly a dollar per day. Poverty is mostly manifested in "income poverty" resulting from unemployment, accompanied by poor infrastructure, poor urban transportation, traffic congestion, unplanned

[10] The United Republic of Tanzania: President's Office – Regional Administration and Local Government, *Dar es Salaam Multi-Agency Emergency Response Team (DarMAERT) Emergency Response Plan (ERP)*, 2017.
[11] Tanzania National Bureau of Statistics (web). Retrieved, January 2020 at https://nbs.go.tz/index.php/en/, https://www.citypopulation.de/php/tanzania-coastal-admin.php?adm2id=070112, http://citypopulation.info/php/tanzania-coastal-admin.php?adm2id=070301.
[12] Macrotrends (web). Retrieved, January 2020 at https://www.macrotrends.net/cities/22894/dar-es-salaam/population
[13] World Population Review (web). Retrieved, January 2020 at http://worldpopulationreview.com/world-cities/dar-es-salaam-population/.
[14] World Bank. 2015. Project Appraisal Document. Dar es Salaam Metropolitan Development Project

building construction, among other problems and risks that come with poor (or lack of) urban planning.[15]

2.3 Major Hazards in Dar es Salaam[16]

Dar es Salaam is exposed to many hazards, especially as a coastal Region, and is one of the urban centers worst affected by flooding in Tanzania. Severe impacts in terms of loss of life and property are associated with floods in 2008, 2009, 2011, 2014-2016, 2018,2019 and 2020.

Aside from the most common hazard of flooding, human-induced hazards in Dar es Salaam include road accidents, fire outbreaks (may mostly be attributed to electrical faults and flammable industrial products), and building collapses (such as the 16-storey building collapse in 2013 that claimed 34 lives and involved a major rescue operation). Accidents involving ammunition have also been reported in the last decade. During the ammunition depot explosion in Mbagala on April 29, 2009, about 26 lives were lost, and 9,704 people were affected, also costing response and recovery expenses of about TZS 10.8 billion. Hazards in Dar es Salaam also include health epidemics such as Cholera, Malaria, Dysentery, Diarrhea, Swine Flu, Avian Flu, etc., and global pandemics such as Covid-19. Table 1 provides a summary of some of the major disasters experienced in the Dar es Salaam Region in the last decade.

Table 1. Summary of Selected Disasters in Dar es Salaam, 2011-2019[17]

Month and Year	**Type of Hazard**	**Affected Municipalities**	**Estimated Damages**
December 2019	Solid waste landslide/collapse	Temeke	- 8 houses destroyed - 3 casualties
October and December 2019	Floods	Ilala and Ubungo	- More than 1,000 people affected (some lost their houses) - Damage on public and private infrastructure
February 2019	Fire	Temeke (Bora Industry)	- 4 police officers injured - 3 godowns/warehouses destroyed
January 2018	Gas explosion	Ilala (Vingunguti)	- 50 people lost their houses -100 people were affected
March 2018	Fire	Temeke (market)	- 459 shops burned

[15] The United Republic of Tanzania, United Nations Development Programme, and Economic and Social Research Foundation, *Tanzania Human Development Report: Social Policy in the Context of Economic Transformation*, 2017.

[16] The United Republic of Tanzania: President's Office – Regional Administration and Local Government, *Dar es Salaam Multi-Agency Emergency Response Team (DarMAERT) Emergency Response Plan (ERP)*, 2017.

[17] Source: Disaster Loss and Damage Data (2017-2020), Disaster Management Department

Month and Year	Type of Hazard	Affected Municipalities	Estimated Damages
February 2018	Fire	Temeke	- 9 shops burned
April and May 2018	Floods	Kinondoni, Temeke, Ubungo, Ilala	- 2,151 households displaced, 42 houses and 21 latrines destroyed, 342 houses in Kinondoni severely damaged - Infrastructure damage (such as bridges and roads in Kinondoni and Ubungo) - City Bus Rapid Transit (BRT) system disrupted by the floods - 500 people affected (some lost their houses at Ilala) - 15 casualties in Kinondoni, 1 casualty in Temeke
February 2016	Floods	Temeke	- 4 casualties
October 2014	Fuel tank explosion	Temeke	1 guest house and 7 shops burned - 7 casualties
April 2014	Floods	Kinondoni and Temeke	-20,000 people were affected -13 houses were destroyed in Msimbazi and 283 cholera victims in Kinondoni - 19 casualties in Kinondoni, 7 casualties in Temeke
April 2012	Floods	Temeke	- 360 houses were partially damaged - 34 houses destroyed - 3 casualties
February 2011	Ammunition explosion	Ilala (Gongo la Mboto)	- 113 houses partially damaged - 46 houses destroyed - 30 casualties
December 2011	Floods	Kinondoni and Temeke	- Displaced 10,000 people in Kinondoni - Displaced 3,290 people in Temeke - 41 casualties

3. Situation Overview - Risk Analysis

Dar es Salaam is Tanzania's primary city, East Africa's largest city and, on some accounts, Africa's fastest growing metropolitan area. Most likely to become a mega city (with more than 10 million population) by 2030, the city, according to official disaster statistics, is the urban center worst affected by flooding in Tanzania. The city's flooding problems are expected to increase with urbanization and climate change, as much of the city is in low-lying areas, as well as the undulating topography– rendering most of Dar es Salaam highly vulnerable to flooding even from minor storms. However, it is important to highlight that flooding in Dar es Salaam is also largely a function of inadequate infrastructure (such as insufficient storm drainage), poor waste disposal practices, building in hazardous areas, unregulated housing and infrastructure development, and is not solely caused by extreme rainfall[18]. Studies also show considerable loss of life, injury and economic impact to diverse sectors (i.e. transportation, energy and social infrastructure) during and after major flooding events in the country[19] in the past decade, including those in the Dar es Salaam region[20].

An assessment of the Region's flood susceptibility[21] and vulnerability[22] is, therefore necessary. The preparation of a probabilistic flood risk model for the entire metropolitan area is being prepared under the TURP. To support enhanced understanding, the TURP has contracted a firm to develop a deterministic and probabilistic flood risk model for the entire metropolitan area of Dar es Salaam, inclusive of a flood risk and scenarios dashboard. The dashboard of this will allow the Government of Tanzania to: (i) explore and understand the causes and consequences of flooding within Dar es Salaam; (ii) identify potential hazards; vulnerabilities and exposed communities; (iii) identify potential risks and quantified losses to communities and key infrastructure; and more.

Flooding is not limited to unplanned settlements, as many planned settlements, especially in the coastal areas, commonly experience flooding particularly during high tide. About 8 percent of the city (with about 143,000 people and associated economic assets of about estimated US$168 million) are also vulnerable to Sea Level Rise (SLR). This scenario adds additional cause for alarm on top of the current estimates of 60,000 people and US$ 219 million worth of assets

[18] The United Republic of Tanzania: President's Office – Regional Administration and Local Government, *Dar es Salaam Multi-Agency Emergency Response Team (DarMAERT) Emergency Response Plan (ERP)*, 2017.
[19] The United Republic of Tanzania, the European Union, the United Nations Office for Disaster Risk Reduction and CIMA Research Foundation, *UR Tanzania: Disaster Risk Profile (Flood and Drought)*, 2019.
[20] The United Republic of Tanzania and The World Bank Global Facility for Disaster Risk Reduction, *Final Report: Lessons Learned Exercise for Emergency Preparedness and Response in Tanzania [draft]*, 2019.
[21] Susceptibility is related to spatial aspects of the hazard. It refers to the tendency of an area to undergo the effects of a certain hazardous process (floods, earthquakes, tsunamis, subsidence, etc.) without considering either the moment of occurrence or potential victims and economic losses (Encyclopedia of Natural Hazards, 2013)
[22] Vulnerability is defined as the characteristics and circumstances of a community, system or asset that make it susceptible to the damaging effects of a hazard (UNDRR, 2009)

exposed in a 1 in 100-year flood by 2030, even in the absence of climate change-related SLR.[23] Severe coastal and riverine flooding, as well as wind hazard, could potentially result from the landfall of a strong tropical cyclone. While a strong cyclone has not been experienced in Dar es Salaam since the early 1950s, it is possible that strong cyclones like Cyclones Idai and Kenneth in Mozambique and Southern Tanzania in 2019 could potentially occur, because of climate change.

Flooding also tends to aggravate other hazards, particularly landslides and disease outbreaks. For instance, the city's poor environmental conditions that contribute to water-borne diseases such as diarrhea, cholera, hepatitis A, and typhoid fever, as well as vector-borne diseases such as malaria, dengue fever and schistosomiasis, are commonly exacerbated by flooding incidence. Flooding can heighten conditions for disease, as it worsens already poor hygiene and living conditions, and lack of access to clean water, especially for unplanned areas, highlighting the need for immediate mitigating interventions, especially in the context of increasing climate variability.

Muruke (2012) of the Tanzania Meteorological Authority notes that the maps of the spatial extent of flooding is one of the flood management planning resources of government authorities, as they use the maps showing flood extent to properly manage flood hazards.

Meanwhile, from the period 2015 to 2016, the *Ramani Huria* Community Mapping Project implemented under the Tanzania Urban Resilience Program provided critical information especially on the flood extent within the 21 most flood-prone wards in Dar es Salaam. These were identified in collaboration with the municipal councils and the Tanzania Red Cross Society.

The map of flood inundation in 21 most flood-prone wards in Dar es Salaam (Magomeni, Bunguruni, Mwananyamala, Mchikichini, Jangwani, Ndugumbi, Mburahati, Vingunguti, Hananasif, Tabata, Tandale, Kigogo, Mzimuni, Mabibo, Ilala, Keko, Temeke, Makumbusho, Msasani, and Ubungo) produced by Ramani Huria (Open Map) is shown in Figure 2. Ramani Huria has mapped a total of 49 wards and 1,010,918 buildings in Dar es Salaam. About 607 Maps have been printed and distributed in the respective of wards and sub-wards to guide community level disaster risk reduction. In addition, an atlas has been created and 40 copies have been distributed to government institutions to support informative decision-making on flood risk management in the city.

[23] The United Republic of Tanzania: President's Office – Regional Administration and Local Government, *Dar es Salaam Multi-Agency Emergency Response Team (DarMAERT) Emergency Response Plan (ERP)*, 2017.

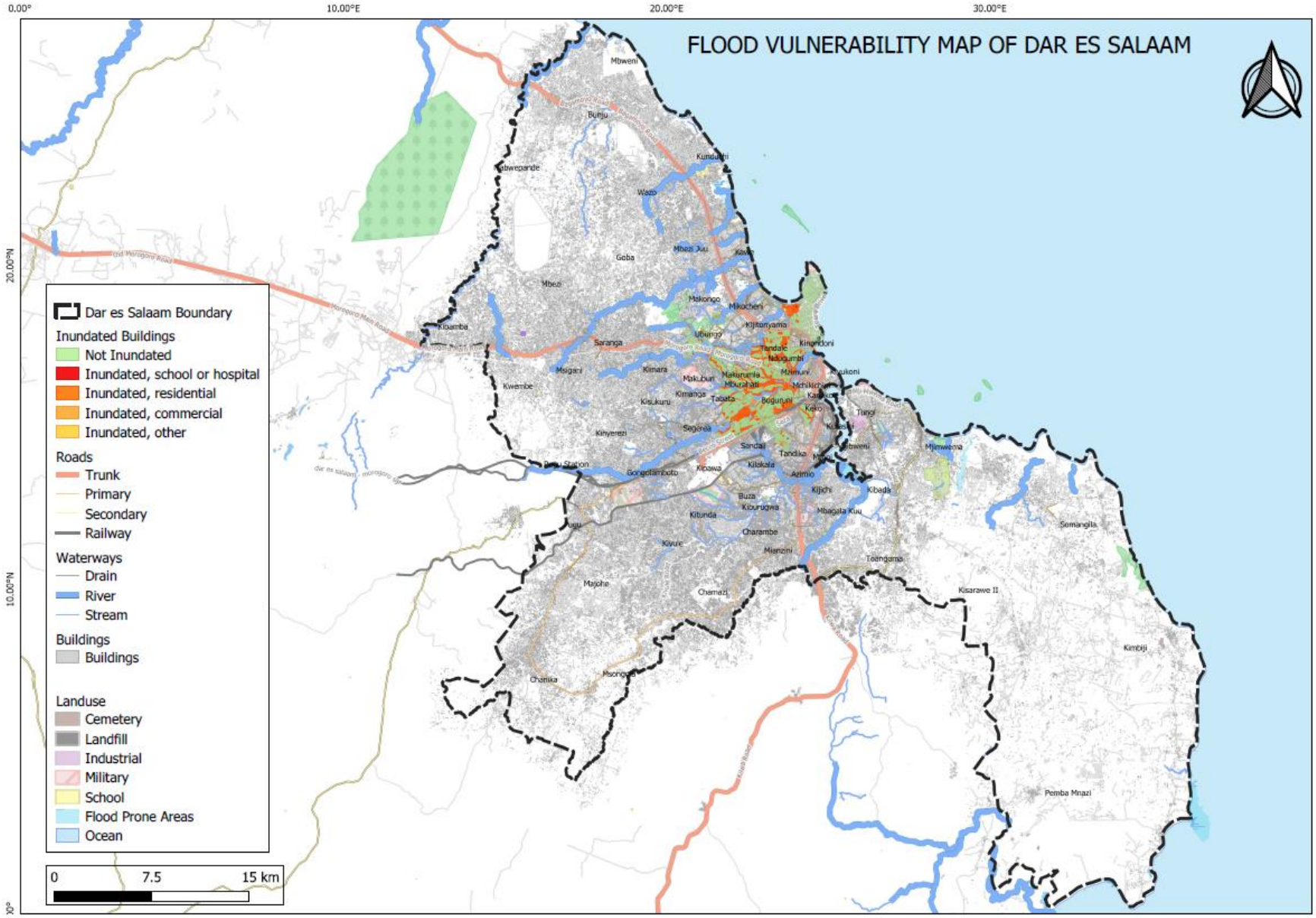


Figure 2. Map of 21 Flood-prone Wards under the Ramani Huria Project, 2016

In this community mapping project[24], the wards with the highest flood susceptibility were identified to be distributed in the municipalities of Ilala, Kinondoni, Temeke and Ubungo, while none were found to be in Kigamboni. Out of the 21 flood-prone wards, most were located in Kinondoni, with 9 flood-prone wards. Both Ilala and Ubungo had five (5) flood-prone wards each, while Temeke had 2 flood-prone wards. Kigamboni ward in the municipality of Kigamboni was mentioned to have a density of buildings in the center, but water can run off easily, making Kigamboni ward less susceptible to flooding.

Among all the wards, Mchikichini ward in Ilala Municipality had the largest percentage of flood prone land area compared to the total area of the ward, at 49% or almost half. It also had the highest percentage of buildings located within the flood-prone area at 39% or 1,374 buildings out of its 3,551 buildings. There were eight (8) school or hospital buildings built in flood-prone areas in the Mchikichini ward. The presence of the Msimbazi River makes the Mchikichini ward prone to flooding.

In terms of absolute value, Kigogo ward of Kinondoni Municipality had the highest number of buildings situated in flood-prone areas, standing at 4,450 buildings out of its total number of 8,869 buildings. Four (4) of the buildings in the flood-prone area were school and hospital buildings. Kigogo is surrounded by river valleys on both sides. In the past, Kigogo was not highly affected by floods, however, due to higher urban density and population increase, its flood-prone areas are currently expanding. The volume of solid waste dumped into waterways, coming from the higher number of residents developing settlements alongside the rivers, block the river and exacerbate flooding. There is an absence of additional solid waste collection points to alleviate the amount of waste going into the river. Moreover, a lack of drainage channels to transport water away from the settlement demonstrates the need to expand the current drainage infrastructure.

Ilala ward of Ilala Municipality had the greatest number of schools and hospitals in flood-prone areas, amounting to 38 buildings. Much of the terrain of Ilala ward is flat and it is underserved by a drainage network when compared to surrounding wards. The existing drainage channels are commonly blocked, which leads to the overflow and pooling of water, instead of channeling the water away from the settlement areas.

Within the 21 wards, 42,983 out of the total of 168,946 buildings were situated in flood-prone areas, translating to 25% or a fourth of all buildings. In terms of land area, 12 sq. km. or around a fifth of the 64 sq. km. of the total land area of the 21 wards were determined to be flood prone. These figures from the Ramani Huria's recent study show that given the flood susceptibility of

[24] The World Bank, Government of Tanzania and Tanzania Red Cross Society. Ramani Huria: The Atlas of Flood Resilience in Dar es Salaam, 2016. Retrieved from http://documents.worldbank.org/curated/en/200421524092301920/pdf/Ramani-Huria-Atlas-March-2016.pdf.

the most vulnerable wards in the Dar es Salaam Region, flooding remains a threat to its residents.

The participatory approach of the *Ramani Huria* study employs the community perception of flood risk, obtaining uniform results across different wards. The flood inundation extents were based on community input from the extents of annual flooding in combination with their recollection of the extents of flooding in 2011, which was one of the worst-case scenarios of flooding event in Dar es Salaam.

4. Planning Assumptions

Planning Assumptions are key presumptions that underlie the Emergency Response planning processes that can have a critical impact on how strategic, tactical, and operational response operations are framed and approached. Planning Assumptions are frequently accompanied by specific Emergency Management Directives to provide detail how these assumptions are to be addressed within a given emergency management organization. This DarMAERT ERP 2020 is framed within the following Planning Assumptions that were formulated by DarMAERT during the revision process of the 2017 ERP. Each Planning Assumption also has triggered a specific Emergency Management Directive, as found in Chapter 5.

a. DarMAERT does not have permanent staff. Upon establishment of full operations at the DarMAERT Emergency Operations Center (EOC), "permanent staff" will refer only to those who are located full time at the EOC, including core administrative and planning staff.

b. There is no financial support for DarMAERT operations outside what will be provided by the Regional Government.

c. DarMAERT has the responsibility to prepare media briefs for the Regional Administrative Secretary (RAS).

d. All interactions with the UN Cluster system and other international actors are a responsibility of the RAS. The DarMAERT Coordinator may be tasked by the RAS to work for this on his behalf.

e. DarMAERT is primarily a response agency potentially requiring coordination with recovery and rehabilitation actors based on the scale of the event.

f. It is possible that the DarMAERT EOC may experience downtime in a major disaster event.

g. EOC Level 3 (Full activation) operations may impact staff for 3 days or more, requiring self-organization for DarMAERT participants to engage in a sustained EOC activation.

h. DarMAERT is a model for other Regions within Tanzania.

i. DarMAERT will continue to train on best practices in Emergency Management, including utilizing simulations.

j. DarMAERT would benefit from international study exchanges to learn best practices relating to layout and structure of the Emergency Operations Center, the organizational structure of response operations, and integration of Incident Command System with Emergency Support Function-equivalent agencies.

5. Emergency Management Directives

Emergency Management Directives can be considered as direct responses to key Planning Assumptions. Frequently these are written as if these are authored and approved by the EOC Manager, with direct taskings to ICS Command and General Staff roles or Emergency Response Functions. As a direct result of the identified Planning Assumptions, below are the basic Emergency Management Directives that will guide the implementation of the ERP 2020.

a. The DarMAERT Coordinator shall coordinate with the DarMAERT Chairperson, RAS and other agencies to evolve the organizational structure over time to include permanent staff.

b. The DarMAERT Coordinator shall coordinate with the DarMAERT Chairperson, RAS and other agencies to evolve the organizational structure over time to include an operating budget.

c. The DarMAERT Coordinator shall supervise DarMAERT's preparation of media briefs and interact and recommend to the DarMAERT Chairperson and RAS accordingly. For this role, the DarMAERT Coordinator will be assisted by the DarMAERT Public Information Officer.

d. All interactions with international actors shall be vested in and coordinated by the DarMAERT Coordinator, who informs and coordinates with the DarMAERT Chairperson and the RAS.

e. During Post-Response transition, DarMAERT's Liaison Officer takes responsibility for coordinating recovery and rehabilitation interactions.

f. The DarMAERT Safety Officer will lead the development of a business continuity process to facilitate a more coordinated effort within DarMAERT.

g. All DarMAERT staff shall have one business day if lead time allows to self-organize and determine a staffing plan to prepare for Level 1 activations.

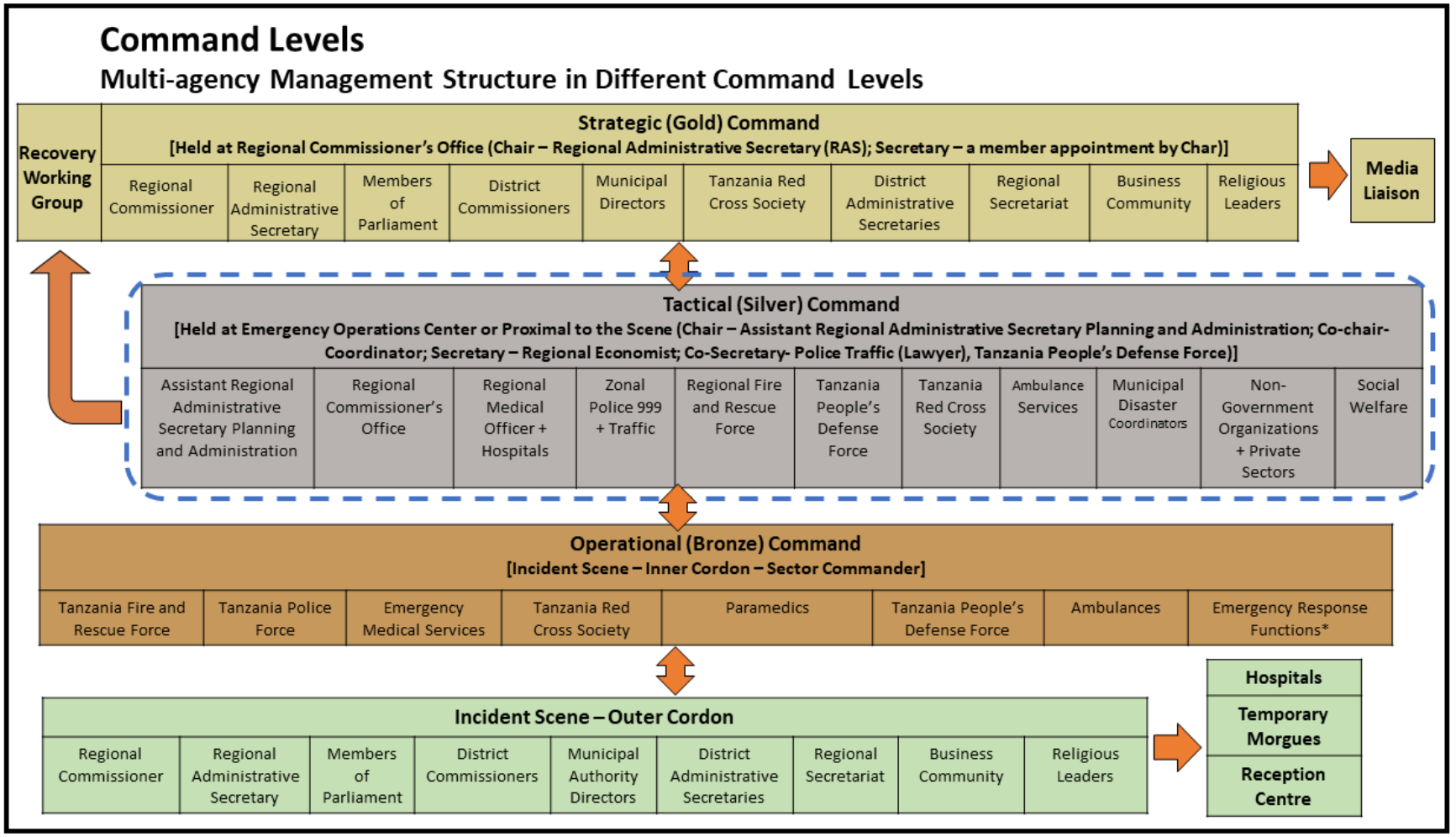
h. The DarMAERT Coordinator shall coordinate and support training and capacity building efforts outside and inside the Region through the Regional Commissioner's Office.

i. The DarMAERT Coordinator, with the assistance of the DarMAERT Planning Section Chief, shall create an internal training program with simulations to be conducted at least on an annual basis.

j. The DarMAERT Coordinator, with the assistance of permanent staff at the EOC, shall explore the possibility of international study opportunities to explore international best practices relating to Emergency Operations Center layout and protocols, organizational structure, and the integration of the Incident Command System (ICS) and Emergency Response Function-equivalent agencies in other countries.

6. Concept of Operations

This chapter is aimed to orient DarMAERT with the basic picture, sequence and scope of planned emergency response. The Concept of Operations (ConOps) explains the organization's overall approach to an emergency, such as, what should happen, when, and at whose direction. Response management in Tanzania, and subsequently in Dar es Salaam, is implemented following the Incident Command System (ICS) adopted through the National Operational Guidelines for Disaster Management (NOG 2014). In the ICS structure cascaded from the national level, DarMAERT works at the silver and bronze command levels, providing tactical and operational support to the strategic level (gold command) led by the Regional Commissioner's Office. Figure 3 provides a reference for this structure. In addition, DarMAERT's structure as a member of the Regional Disaster Management Committee is presented Figure 4.



*Emergency Response Functions (ERFs) are mobilized on a "needs" basis depending on the nature of the emergency

Figure 3. DarMAERT Command Level Structure as Prescribed by the NOG 2014

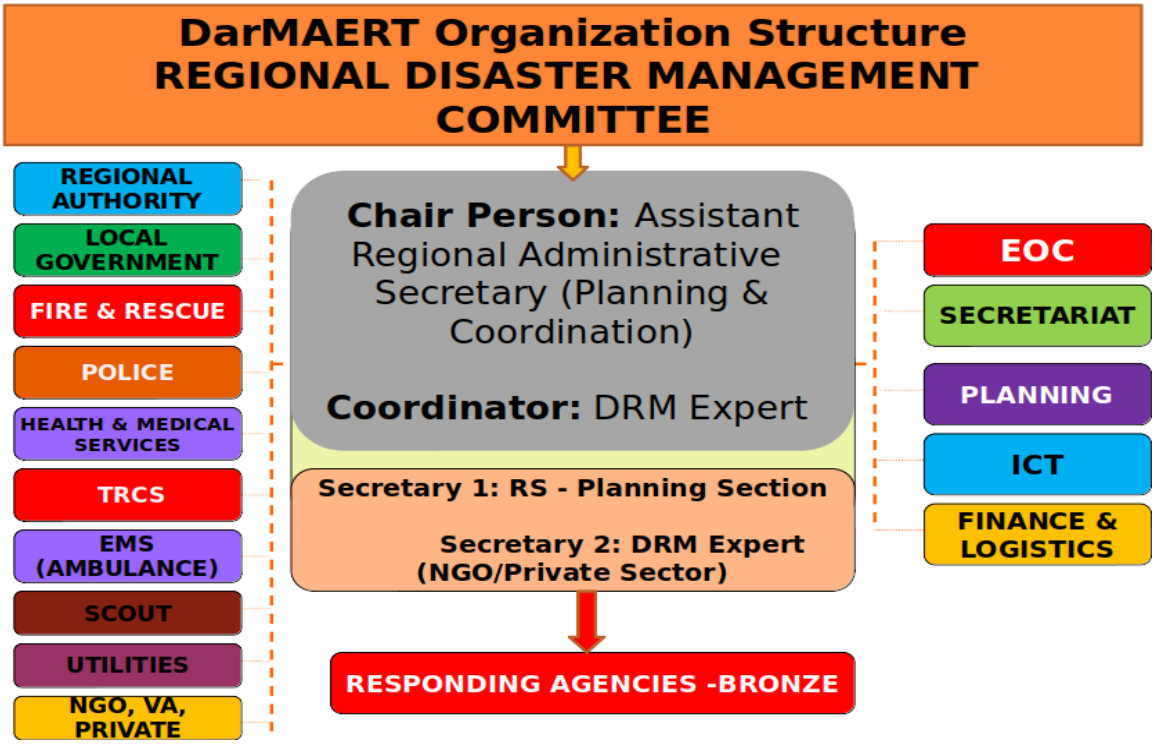


Figure 4. DarMAERT Structure under the Regional Disaster Management Committee

The Concept of Operations in this ERP provides the general approach on how the tactical level (silver command) "cascades" emergency management processes to the operational level (bronze command)[25], as DarMAERT members provide both tactical and operational functions for the Region. Organizational management of these dual-hatted functions of DarMAERT are further detailed in the DarMAERT Standard Operating Procedures[26]. For this ERP, general protocols for EOC operations (tactical level) and Emergency Response Functions (tactical and operational levels) are outlined. It is important to note that the definitions of "tactical" and "operational" are inverted from the definition of the Incident Command System. In standard ICS, "tactical" refers to field-based response operations, and "operational" refers to coordination of missions at the EOC level. In DarMAERT's definition, "tactical" refers to coordination of missions at the EOC level, while "operational" refers to field-based response missions. Please note that DarMAERT's interpretation of these definitions shall continue to be used in the ConOps. These definitions for DarMAERT's "tactical" and "operational" missions are referred from the National Operational Guidelines of 2014.

[25] Command levels adhered to by DarMAERT are prescribed in the National Operational Guidelines for Disaster Management 2014.
[26] The DarMAERT Standard Operating Procedures were also developed based on results of the different workshops and consultations with DarMAERT during the Training, Exercises and Drills Program (2018-2020).

6.1 Protocols for EOC Operations[27]

Tactical command occurs at the EOC level and is structured as discussed in Sections 6.1.1 to 6.1.4. Table 2 provides a summary of this information.

[27] Details in this section are drawn from the DarMAERT Emergency Response Plan 2017 with some adjustments based on consultation with DarMAERT. More details on these protocols are also provided in DarMAERT SOP Handbook 2020.

Table 2. Summary of EOC Tactical (Silver) Command Protocols

EOC is advised of imminent hazards	**Alert Phase**	**Standby Phase**	**Activation Phase**	
	Notify	***Prepare***	***Deploy***	
	Level 1: Routine Operations		**Level 2: Partial Activation**	**Level 3: Full Activation**
	*Emergency incident can be handled routinely by one or more departments/ agencies within the Dar es Salaam Region with only district/local resources.		*Emergency requires major response and resources from the Regional Government and several departments/agencies.	*Emergency requires extended coordinated response and resources from all departments/agencies.
	*Normal government operations are not affected.		*Emergency has the potential to require resources in excess of those available from responding agencies.	*Emergency could necessitate requesting assistance from the PMO, bilateral donors/ international humanitarian organizations/development partners.
	Actions to be taken:	**Actions to be taken:**	**Actions to be taken:**	
	1. Notify staff that an incident has taken place.	1. Consider implications of event and prompt the engagement of resources accordingly.	1. Deploy DarMAERT members to the EOC.	
	2. No other necessary action yet.	2. Prepare for activation if necessary.	2. Coordinate response operations under the direction of the Tactical Commander	
		3. Provide information to relevant staff.	3. Cascade information to all agencies involved (initially carried out by the agency declaring the incident).	
			4. Lead officer from each agency involved ensures that information is passed on to their relevant staff.	
			5. Regional Commissioner provides information to the public.	
			6. All agencies involved ensure record keeping of the information provided to staff and their level of readiness, and all decisions and actions taken.	

	Alert Phase	Standby Phase	Activation Phase	
	EOC Staffing	**EOC Staffing**	**EOC Staffing**	**EOC Staffing**
	Normal operations.	Normal operations.	EOC Staff augmented by responding staff from the Regional Government and responding departments/agencies.	EOC staff augmented by responding staff from the Regional and National Governments and partner/aid organizations.

6.1.1 EOC Activation Protocols

Activation of the DarMAERT EOC is by the declaration of the Regional Administrative Secretary of a major incident[28], based on situations such as:

- Control of an incident is beyond the response capabilities of the initial responding department;
- Disruption caused or likely to be caused is significant, i.e. escalation of emergency level (discussed in the succeeding sections);
- A Regional Emergency threatens, significantly impacts, or involves multiple agencies and/or political subdivisions;
- Pre-established hazard levels are reached.

Emergency levels are organized into a three-tier system to determine level of EOC activation, as follows:

- **Level 1:** An emergency incident can be handled routinely by one or more departments and government agencies within the Dar es Salaam Region, requiring only district/local resources. At this level, normal government operations are not affected, hence, **not requiring activation of the EOC.**

- **Level 2:** An emergency requires a major response and the significant commitment of resources from the Regional Government and several departments and agencies. It has the potential to require resources in excess of those available from the responding departments to bring the situation under control, hence, **a partial activation** of the DarMAERT EOC.

- **Level 3:** An emergency requires an extensive coordinated response and commitment of resources from all departments and government agencies and could necessitate requesting external assistance from the Prime Minister's Office, bilateral donors or international humanitarian organizations/development partners, including the UN Cluster System, hence, a **full activation** of the DarMAERT EOC.

The **Activation phase** is observed upon reaching Emergency Level 2 or 3 (i.e. partial or full activation of the EOC, respectively), while the **Alert** and **Standby phases** are observed in all levels, even in Emergency Level 1. The DarMAERT Coordinator/EOC Manager (as Incident Commander of the EOC) determines whether it is necessary to place the EOC into any one of the following three phases as needed:

[28] Declaration of a major incident by the Regional Administrative Secretary as RDMC Chairperson may also be directed by the Regional Commissioner.

- **Alert Phase** involves notifying staff that an incident has taken place, but no immediate action is necessary at present.
- **Standby Phase** encourages officers to consider the implications of an event that may prompt the engagement of resources, thus, the preparation of resources and staff. During this phase, the DarMAERT Coordinator/EOC Manager may call an emergency management team meeting to analyze the preparation and likely response of the Region.
- **Activation Phase** involves deployment of DarMAERT members to the EOC and coordination of the response operations under the direction of the Tactical Commander.

6.1.2 EOC Communication and Documentation Protocols

It is important that incident information is disseminated to all involved agencies immediately and this should initially be carried out by the agency declaring such an incident. It is the responsibility of the lead officer from each agency to ensure that information, with details on the level of response needed, is passed on to the EOC and relevant staff.

On the other hand, information to the public is provided by the Regional Disaster Management Committee (RDMC) led by the Regional Administrative Secretary (RAS). For this purpose, the EOC provides relevant information and recommendations.

Response preparations, operations, activities and other related actions (including resources and personnel utilized) should also be documented. Situation Reports, Incident Action Plans and Media Briefing Forms are among the tools that the EOC can use to document its actions. After Action Reports/Hotwash Reports are also useful to synthesize EOC activities and operations.

Coordination Tools for the EOC

Viable communications capabilities are vital for effective coordination of response and recovery operations. The EOC serves as a Region-wide communications hub, employing a full spectrum of telecommunications capabilities to maintain contact with partner organizations throughout all phases of an emergency incident. Information is received and distributed at the EOC year-round, 24 hours a day via a multitude of text, visual and voice systems.

The DarMAERT EOC, uses several tools to gather and analyze data and reports. Together these tools help provide a common operating picture, allowing responders at all levels to make effective, consistent and timely decisions. Table 3 provides a descriptive overview

of each coordination tool used by the EOC and the Direction and Control ERF.

Table 3. Coordination Tools for the EOC

Coordination Tool	Description of Tool
Conference Calls	The DarMAERT EOC hosts conference calls with Municipal, Regional and National partners to provide an overview of the current situation and receive reports from affected municipalities.
Emergency Operations Checklist	The DarMAERT EOC uses an Emergency Operations Checklist customized from international best practices that specifies tasks that the regional level may be required to perform during a flooding/cyclone response. The checklist ***identifies tasks*** for applicable Regional Emergency Management agencies and organizations and facilitates DarMAERT coordination with partner agencies during EOC flooding/cyclone activations.
Situation Report (SitRep)	The DarMAERT EOC publishes a daily situation report (SitRep) to summarize key actions taken in response to identified potential threats that: ▪ Explains the nature of the current threat(s). ▪ Specifies actions taken since the last report. ▪ Identifies committed or staged resources. ▪ Establishes mission priorities for the next operational period.
Text Messages (such as WhatsApp, Short Message Services [SMS])	The DarMAERT EOC sends updates such as SitReps, Alerts and Warnings to all DarMAERT members and officers.

Conference Calls

Conference calls are an essential coordination activity for emergency operations mostly facilitated by the EOC. Table 4 lists each type of conference call to be used with the appropriate facilitator, recommended participants and a description of the purpose.

Table 4. Types of Conference Calls at the EOC

Type	Facilitator	Participants*	Purpose**
District/ Municipal Call	District Disaster Management Coordinator /Municipal Disaster Management Coordinator	Jurisdictions/agencies in specific municipality	Assess situation for Disaster District Management Committee (DDMC) and/or Municipal Disaster Management Committee (MDMC) Chairs and allow locals to share information as needed.
Regional Call	Regional Disaster Management Coordinator (RDC)	DDCs/MDCs in specific Regions, and Regional Agency Representatives if required	Share information gathered by DDCs/MDCs during district calls to identify trends and coordinate message.
Region-wide Call	Emergency Operations Center (EOC)	(Potentially) impacted jurisdictions across agencies Region-wide	Disseminate information to state and local partners based on entire purview of EOC.

* Any parties not listed here should forward all questions/ queries to their respective office of emergency management.
**The purpose of each call varies based on current conditions.

6.1.3 EOC Deactivation and Debriefing Protocols

At an appropriate time after the incident has ended, the Tactical (Silver) Command level (i.e. DarMAERT EOC) will give advice to the RDMC to announce the closing of the emergency response. The latter, in turn, will approve deactivation of the EOC and will inform the Strategic Command level (Regional Commissioner) about the end of response.

Debriefings following a major incident must be carried out through group meetings or discussions by the persons who worked together. Among the items to be discussed in these meetings are what went well with the operations, what problems and issues were raised and addressed (should be addressed), what are the opportunities for improvement, what should be the next steps, etc.

6.1.4 ICS-aligned Organization and Adopted Framework for the DarMAERT EOC

Consistent with efforts to strengthen the emergency response capabilities of DarMAERT, the adoption of an EOC organizational structure and operational framework aligned to, and influenced by, the Incident Command System (ICS) has been developed. The ICS is an international all-hazard incident management system that provides a reliable framework for emergency management operations. Each operational period at the EOC now follows the clock-based system prescribed by the ICS, known as the "Planning P." Specific procedures and details on the ICS-aligned and influenced EOC organization and planning process are discussed in more detail in the DarMAERT Standard Operating Procedures (SOP) Handbook.

6.2 Emergency Response Functions

DarMAERT's fifteen Emergency Response Functions (ERFs) will organize its members based on their expertise and solicit the maximum added value from each member agency during emergency operations. These ERFs[29] provide support to the EOC and perform both tactical support at the EOC (silver command) and operational functions on scene (bronze command), as prescribed in the National Operational Guidelines for Disaster Management. Each of these ERFs are further described below.

6.2.1 Emergency Response Functions (ERFs) under DarMAERT

Consistent with the DarMAERT Emergency Response Plan of 2017, a set of 15 key Emergency Response Functions (ERFs) is maintained for this DarMAERT Emergency Response Plan 2020. These are (see Table 5):

Table 5. Description of Key ERFs in Dar es Salaam Region

EMERGENCY RESPONSE FUNCTION	DESCRIPTION
1. Direction and Control	Releasing of order, directing and controlling of all emergency response activities in Dar es Salaam Region, including making sure that the response is governed by the applicable legal framework, and efforts and resources are well coordinated and implemented.
2. Communication and Warning	Ensuring a rapid and reliable communication of official information for effective disaster response operations. Official information to be issued relates to the causes, effects,

[29] DarMAERT's ERFs are generally aligned to the ERFs prescribed by the Tanzania Emergency Preparedness and Response Plan 2012.

EMERGENCY RESPONSE FUNCTION	DESCRIPTION
	potential hazards and action to be taken to prevent death, injury or damage to property.
3. Evacuation	Controlling evacuation operation from the EOC, moving people from the emergency area to a safer place through identified routes and provision of return instructions.
4. Firefighting	Managing of firefighting operations, including preventing, detecting and controlling/extinguishing fire at the disaster scene.
5. Law Enforcement	Securing the incident area, maintaining public safety and order, crime prevention, ensuring access to justice and traffic and crowd control.
6. Health and Medical Services	Providing triage, stabilization, treatment, and caring for those injured at the scene and transferring them to health facilities, as well as appropriate transport of medical staff, resources and equipment.
7. Search and Rescue	Searching and rescuing of people trapped (by fire, wreckage, flood or debris), lost or at risk.
8. Shelter and Mass Care	Constructing temporary shelter and facilities in case of an evacuation, including their use and management. Likewise, it also entails family reunification and provision of health and medical services, emergency relief materials, food and psychosocial support.
9. Emergency Public Information	Timely releasing and disseminating official information to the public with regards to the disaster incident, including handling of its information enquiries.
10. Damage Assessment	Determining the magnitude of the disaster, potential associated risks and preparation of situation reports.
11. Public Works and Engineering	Organization of resources to repair and restore essential public facilities and services (roads/streets, solid waste management, sanitary sewer and wastewater treatment), removal of debris, inspection of damaged structures and provision of engineering solutions to manage the disaster situation.
12. Utilities	Restoring electricity, gas, clean water and wastewater services and their infrastructure in the affected areas. It also involves employing alternative measures to provide these services in times of an emergency.
13. Resources Management and Supply	Managing of resources (financial, material and human), inventory and prompt allocation of them as needed. It implies facilitation of logistics for relief supplies, including their procurement, transport, storages, distribution and inventory.

EMERGENCY RESPONSE FUNCTION	DESCRIPTION
14. Transportation	Transporting people and resources to, from and within the affected area, as well as the internal mobility of the city. It also entails enabling the ground, marine and aerial transport that is required.
15. Dead Bodies Management	Managing of dead, including their identification, investigation on the reasons for the death and burial of bodies that could not be identified or pose a health risk. This also includes installation and management of mortuaries.

6.2.2 Responsibility Assignment

Following the above mentioned 15 ERFs, primary (P) and secondary (S) roles are assigned to the main stakeholders (government departments and agencies and other organizations), as shown below. The primary stakeholder (also tagged in this plan as "lead agency") leads the ERF and is responsible for coordinating the emergency function with the support of the secondary stakeholder/s (also tagged in this plan as "supporting agency/ies"). It is noted that deputy primary stakeholders[30] (D) are also assigned in selected ERFs to note the special coordinative role of an agency/organization to liaise and provide/mobilize resources to support the ERF. considering its capacities, and perform the command roles for the ERF in the absence of the primary stakeholder if needed. Table 6 provides a summary of these roles.

[30] The assignment of deputy primary stakeholder/s in the ERFs is recommended to address the previous dual assignments of lead agencies, similar to the recommended future directions at the National level based on international standards and practice. During consultations with the DMD, it was found out that the previous assignment of dual lead agencies can be categorized into two major functions: 1. Expertise needed for the ERF, and 2. Access to resources for the ERF. For example, for the direction and control ERF, it was discussed that while the PMO-DMD provides command oversight to NEOCC operations, the TADMAC (formerly TANDREC) is the one that can mobilize resources from the different agencies that could support emergency management operations being done by the NEOCC and its partners. Likewise, experience shows the benefits of assigning deputy primary stakeholders to facilitate smoother shift changes by ensuring that command is continued especially in cases where primary stakeholders are challenged with a very wide range of responsibilities vis-à-vis the limited number of resources (as in the case of the Regional Office that holds primary responsibilities to about half of the 15 ERFs).

Hence, for the DarMAERT ERP 2020 Update, deputy primary roles are recommended to be assigned to agencies with similar mandates but also fall to any of the following: (1) scope of work is beyond emergency preparedness and response operations, (2) previous primary emergency management mandate is now limited or superseded by more recent political and legislative instruments, or (3) has the capacity to mobilize additional resources from external parties that could support the ERF (liaising functions for the ERF). This way the primary stakeholder can focus on the

Table 6. Roles of Key Emergency Response Stakeholders in Dar es Salaam Region

	FUNCTION														
AGENCY/ DEPARTMENT	1. Direction and Control	2. Communication and Warning	3. Evacuation	4. Firefighting	5. Law Enforcement	6. Health and Medical Services	7. Search and Rescue	8. Shelter and Mass Care	9. Emergency Public Information	10. Damage Assessment	11. Public Works and Engineering	12. Utilities	13. Resources Management and	14. Transportation	15. Dead Bodies Management
1. Dar es Salaam Regional Commissioner's Office (RCO) – Regional Disaster Management Committee	**P**	**P**							**P**	**P**			**P**		
2. RCO – Regional Social Welfare Department								**P**							
3. RCO – Regional Infrastructure Development Department											**P**	**P**		**P**	
4. RCO – Regional Department of Transportation														**P**	
5. RCO - Regional Medical Office						**P**									**P**
6. Tanzania Police Force			**P**		**P**			**S**	**S**	**S**	**S**			**S**	**S**
7. Tanzania Fire and Rescue Force				**P**		**S**	**P**	**S**		**S**	**S**				
8. Tanzania National Roads Agency (TANROADS)			**S**				**S**			**D**	**D**				
9. Tanzania Rural and Urban Roads Agency (TARURA)			**S**				**S**			**D**	**D**				
10. Tanzania People's Defense Force (TPDF)					**S**		**S**	**S**		**S**					
11. Tanzania Red Cross Society (TRCS)			**S**			**S**	**S**	**D**		**S**			**S**	**S**	**S**
12. Hospitals			**S**			**D**								**S**	**S**
13. Ambulance Services			**S**			**D**								**D**	

	FUNCTION														
AGENCY/ DEPARTMENT	1. Direction and Control	2. Communication and Warning	3. Evacuation	4. Firefighting	5. Law Enforcement	6. Health and Medical Services	7. Search and Rescue	8. Shelter and Mass Care	9. Emergency Public Information	10. Damage Assessment	11. Public Works and Engineering	12. Utilities	13. Resources Management and	14. Transportation	15. Dead Bodies Management
14. Tanzania Electric Supply Company (TANESCO)				S				S		S	S	S			
15. Dar es Salaam Water and Sewerage Authority (DAWASA)								S		S	S	S			
16. Municipal Councils	S	D				S		S		D			S		S
17. Tanzania Meteorological Authority (TMA)		D													
18. Tanzania Scouts Association			S	S			S	S						S	
19. Non-Governmental Organizations (NGOs) and Voluntary Organizations			S	S				S		S	S	S	S	S	S
20. Faith-Based Organizations and Community-Based Organizations (CBOs)			S	S				S		S	S	S	S	S	S
21. Public and Private Transport Agencies			S											S	
22. Private Sector				S			S			S	S	S	S		
23. Telephone Companies		S							S						
24. Media		S							S						

6.2.3 Protocols for ERFs under DarMAERT

DarMAERT's fifteen ERFs will organize its members based on their expertise and solicit the maximum added value from each member agency during emergency operations. These

ERFs[31] provide support to the EOC and perform both tactical support at the EOC (silver command) and operational functions on scene (bronze command), as prescribed in the National Operational Guidelines for Disaster Management. The **general guidelines for all ERFs** are as follows:

- The DarMAERT EOC will coordinate efforts and emergency response missions[32] of all ERFs including the Firefighting ERF, to include monitoring the deployment and tracking of all deployed resources in the field.
- The DarMAERT EOC will collect information regarding the extent of the incident to enable the team to develop an appropriate response strategy.
- The resources of any department or agency remain under the administrative and policy procedures and control of their home agency but will be under the operational control of the incident commander.
- Team members will monitor activities and deployments to ensure the core duties of their respective organizations can continue to be performed. The resources of any department or agency remain under the administrative and policy procedures and control of their home/sponsoring agency but will be under the operational control of the incident commander, both at the EOC and on-scene.
- Requests for resources will be prioritized based on the urgency of situation. Resources will subsequently be allocated and deployed through formal mission assignments related to these priorities.
- Contracts with commercial vendors will be initiated by the EOC, generally following a state of disaster declaration, to obtain supplies and equipment unavailable in existing inventories of the different ERFs.
- Emergency response missions will be tracked, and resources will be reassigned if they become available for subsequent uses.

A short background and the list of specific guidelines for each ERF are provided in the succeeding sections.

[31] DarMAERT's ERFs are generally aligned to the ERFs prescribed by the Tanzania Emergency Preparedness and Response Plan 2012.

[32] "Missions," in incident management general terminology, refers to specific tasks and activities assigned to be performed by the ERF within the incident area.

ERF # 1: Direction and Control

Lead Agency: Regional Commissioner's Office through the Regional Disaster Management Committee

Supporting Agencies: Municipal Director's Office (Municipal Councils)

DarMAERT coordinates Region-wide emergency response. DarMAERT supports local response efforts by coordinating Regional resources to fill unmet operational requirements. Emergency management agencies, voluntary organizations, and private sector partners work together in the EOC when it is activated in response to an imminent hazard. The Direction and Control ERF is responsible to ensure that all emergency response activities of DarMAERT are consistent with the applicable legal framework and that efforts and resources are well coordinated and implemented.

This ERF is performed by the disaster management committees at the different levels.

Guidelines:

- A Municipal Disaster Management Coordinator will be stationed in each district/municipality, to coordinate emergency response operations and serve as a liaison between the municipality and the Region.
- The Municipal Disaster Management Coordinator, if municipal resources are inadequate to support the type of assistance that has been requested, will forward the request for assistance to the DarMAERT EOC, who will then forward it to the RAS for the latter's approval and direction.

ERF # 2: Communication and Warning

Lead Agency: Regional Commissioner's Office through the Regional Disaster Management Committee
Deputy Lead: Tanzania Meteorological Authority, Municipal Councils
Supporting Agencies: Telephone Companies and Media

The Communication and Warning ERF ensures the rapid and reliable communication of official information for effective disaster response operations. Official information to be issued include the causes, effects, potential hazards and actions to be taken to prevent death, injury or damage to property. As the Regional Commissioner's Office (RCO) serves as the unified point for public information (including alerts and warnings), the Communication and Warning ERF will be managed at the DarMAERT EOC through a Communication Coordinating Group (CCG) that coordinates with the RCO.

At the request of a DDMC and the direction of the EOC, the CCG can provide support to coordinate: (i) tactical and operational communications, and (ii) communication infrastructure support, if an emergency exceeds the capabilities of local first responders.

Guidelines:

The Regional Commissioner's Office through the Regional Disaster Management Committee shall:

- Track available commercial, military and government communication resources.
- Coordinate with commercial vendors and assists in prioritizing the restoration of services.
- Review requests for communications assistance submitted to the EOC.
- Assist the EOC with assigning communications mission requests to the appropriate agency.
- Provide Subject Matter Experts to assist first responders with communications.
- Operate a network control center with systems-tracking capability to coordinate the use of deployed assets.
- Serve as a "channel of communication" between the stakeholders in National, Regional and Local agencies.
- Provide guidance and recommendations on functional requirements.
- Review information and issues provided by various groups to verify functions, resources and compliance with statutory guidance.
- Foster communication, information sharing and working relations with national emergency planning representatives.

ERF # 3: Evacuation

Lead Agency: Tanzania Police Force
Supporting Agencies: Tanzania Red Cross Society, Ambulance Services, Hospitals, Tanzania National Roads Agency, Tanzania Rural & Urban Roads Agency (TARURA), Tanzania Scouts Association, Municipal Councils, Non-Government/Voluntary/Faith-based/Community-based Organizations, Public and Private Transport Agencies, Private Sector

This ERF is concerned with the releasing of orders for evacuation, controlling evacuation operations from the EOC, moving people from the emergency area to a safer place through identified routes, and provision of return instructions. The Regional Government releases evacuation orders which are, in turn, implemented by the Tanzania Police Force, with tactical coordination by the DarMAERT Silver Command.

A catastrophic event may prompt the evacuation of a large percentage of the population to areas that face lesser risk. The size and scope of the evacuation is largely dependent on each event's anticipated hazards and location. To implement a large-scale evacuation in support of multiple threatened jurisdictions, the five districts and DarMAERT must perform several complex and interrelated activities across multiple emergency functions.

Guidelines:

- The Tanzania Meteorological Authority gives the most recent information and based on this the Tanzania Police Force continually adjusts the evacuation timelines as each scenario is unique. The scenarios vary based upon the forecast for the onset of hazardous conditions.
- The Regional Police Commander coordinates the Region-wide evacuation traffic management activities when multiple municipal traffic management plans are activated.
- The Regional Police must work closely with one another at the level of the threatened local jurisdictions, to successfully implement a large-scale, multi-jurisdictional evacuation. This coordination is required because many Regional Police have pre-identified responsibilities for traffic management within their jurisdictions.
- The Tanzania Police Force shall assist in coordinating evacuation flow within the municipality, as well as other municipalities.
- The local unit of government (i.e. municipal level) can issue by ordinance instructions regarding mandatory evacuation for residents who refuse to evacuate and delegate enforcement of evacuation orders to first responders.

Medical Evacuation

Individuals in hospitals, or home environments requiring sustained medical care for chronic or acute health conditions are the focus of medical evacuations. In the case of a large-scale evacuation, the number of individuals requiring medical evacuation may reach into the hundreds or more and can potentially overwhelm local jurisdictions (i.e. the Dar es Salaam Regional Government and/or any of its Municipal Governments).

If a Municipal Government is not capable of evacuating its medical population to safety, the Regional Medical Officer (RMO) can be requested to provide support. Individuals with medical needs may be evacuated to a medical shelter, to a hospital, or to another type of healthcare facility, depending on their current medical needs. In certain disasters or public health emergencies, the RMO may determine the need to preposition Regional medical assets and personnel prior to receiving a municipal request for medical

evacuation support.

Guidelines:

The supporting agencies shall:

- Maintain close contact with municipalities on potential medical evacuation needs.
- Provide ambulance support to ensure the movement of patients (i.e. Emergency Medical Task Force, Ambulance Strike Team or other contracted organizations).
- Ensure transportation of seriously ill or injured patients and people with medical needs from point of injury or casualty collection points in the impacted area to the designated reception facilities.
- Provide and monitor patient tracking from point of entry to final disposition.
- Monitor bed capacity for the purposes of bed allocation among healthcare treatment networks.

ERF # 4: Firefighting

Lead Agency: Tanzania Fire and Rescue Force
Supporting Agencies: Tanzania Electric Supply Company, Tanzania Scouts Association, Non-Government/Voluntary/Faith-based/Community-based Organizations, Private Sector

Managing firefighting operations, including preventing, detecting and controlling/ extinguishing fire at the disaster scene, are all activities of the Firefighting ERF.

Disasters may knock down power lines, buildings and other infrastructure, leaving communities vulnerable to fire risk. Re-entry personnel may require fire suppression resources to deal with ongoing fires. Because first responders in affected jurisdictions are often personally impacted, fire and rescue force personnel from outside jurisdictions may be needed to increase response efforts. Augmentation of fire service resources during emergency response is coordinated through the EOC.

Guidelines:

The Tanzania Fire and Rescue Force shall:

- Coordinate with other Regional, Municipal and National Firefighting ERF teams in the country in order to avoid duplication of missions and to maximize the results of all efforts.

- Coordinate any required cut-off of electricity or gas supplies through the DarMAERT EOC who will then subsequently coordinate with the appropriate companies.
- Monitor the status of its resources and capabilities and will have the same information recorded and reported in the EOC for the information of the Search and Rescue ERF in line with the complementary nature of the two ERFs.
- Track emergency response missions[33] and reassign resources as they become available for subsequent use.
- Participate in other emergency response missions[34] as necessary (such as debris management activities, response to hazardous material accidents, etc.).

Hazardous Material and Oil Spill Response

A major disaster resulting from complex incidents could result in one or more situations in which hazardous materials are released into the environment. Response to emergencies involving hazardous materials and similar accidents, such as oil spills, require specific expertise. Often, personnel involved in firefighting and other technical rescue activities are also trained to perform response operations related to such materials. Fixed facilities (chemical plants, container port areas, tank farms, laboratories, and industries operating hazardous waste sites that produce, generate, use, store, or dispose of hazardous materials) could be damaged either by storm surge or flood waters so that existing spill control apparatus and containment measures are not effective.

Guidelines:

The Tanzania Fire and Rescue Force shall:

- Initially respond and assess the emergency and then request activation of the Regional hazardous materials team for carrying out field response operations, and if the situation is beyond the capacity of Dar es Salaam, through the EOC it will be elevated to National agencies such as the National Fire and Rescue Force and the Tanzania Army.
- Coordinate hazardous materials-related response activities. Plans and procedures developed by the primary and supporting agencies provide the framework for carrying out those activities.

[33] Please refer to footnote 26
[34] Idem

- Issue requests for resources and assistance with hazardous materials in accordance with established guidelines and protocols. Once those resources have been exhausted, the DarMAERT EOC shall forward a request elevated to the National EOC.

ERF # 5: Law Enforcement

Lead Agency: Tanzania Police Force
Supporting Agency: Tanzania People's Defense Force

The Law Enforcement ERF is primarily tasked with securing the incident area, maintaining public safety and order, crime prevention, ensuring access to justice, traffic and crowd control, and maintaining security at the shelter and evacuation areas. The Tanzania Police Force functions as the lead agency for this ERF.

As law enforcement personnel also play a critical role in evacuation, traffic management, security and re-entry access control, the ERF must be prepared to help coordinate large-scale public evacuations and support local response operations following a disaster.

Guidelines:

- As soon as it is safe, the DarMAERT EOC will coordinate through the MDMC to provide security through the Tanzania Police Force and assist in establishing access control points that limit public access and exposure to dangerous conditions.
- The Tanzania Police Force personnel will assist with search and rescue responsibilities as required during the initial phases of re-entry operations, which are led by responders.
- Security resources of the Tanzania Police Force will escort commodities in transport, or maintain security at staging areas, temporary refueling points and points of distribution, as requested.
- The Tanzania Police Force shall assign security checkpoints, traffic direction and general police patrol responsibilities as needed.

Post Disaster Re-entry

Successful re-entry operations are necessary to rapidly restore infrastructure and services in an impacted area. Phased re-entry allows for the quick deployment of resources, minimizes public exposure to hazardous conditions, and provides timely access to affected areas for residents, businesses and industry.

The initial phases of re-entry involve deploying emergency responders and equipment into impacted areas as quickly as possible.

The Tanzania Police Force shall:

- Search for survivors.
- Provide essential medical and veterinary treatment.
- Restore life-sustaining medical care and veterinary services to support returning evacuees and their animals.
- Evacuate patients and their animals.
- Conduct assessments of immediate hazards.
- Establish access control points to limit access to areas with significant threats to life safety or public health.
- Lessen the most significant health and safety conditions within impact areas.

ERF # 6: Health and Medical Services

Lead Agency: Regional Medical Office
Deputy Lead: Hospitals, Ambulance Services
Supporting Agencies: Tanzania Red Cross Society, Tanzania Fire and Rescue Force, Municipal Councils

DarMAERT performs a Health and Medical Services ERF that provides treatment, stabilization and care for injured people on scene, and their subsequent transfer to appropriate health facilities. The Regional Medical Officer, as lead of the Health and Medical Services ERF, coordinates and provides medical equipment, supplies and/or personnel to support medical response operations during sheltering, evacuation and recovery efforts as needed.

The Regional Medical Officer also works with the surveillance committee, national health offices and other supporting agencies of the ERF to conduct disease surveillance and monitor other public health concerns within the general population, medical shelters, as well as the disaster area/s. The Regional Medical Officer shall lead the development of public health risk communications in conjunction with appropriate partners at the Joint Information Center (JIC) of the EOC, i.e. Public Information Officer and Emergency Public Information ERF. The JIC is the central point of contact for media and other interested parties at the EOC.

Guidelines:

The Regional Medical Office, with the assistance of its supporting agencies, shall:

- Lead public health risk communications in collaboration with the Joint Information Center at the EOC.
- Acquire and assess information on the incident on a continuous manner. Sources of information may include the Regional Administrative Secretary's office, first responders, and municipal officials.
- Support the Joint Information Center (JIC) in the development of general medical and public health response information to the public
- Transport seriously ill or injured patients and populations with medical needs from point of injury or casualty collection points in the impacted area, to designated reception facilities.
- Coordinate private vendor ambulance support to assist in the movement of patients if needed.
- Coordinate Regional response in support of emergency triage and pre-hospital treatment, patient tracking, distribution, and patient return.
- Implement the triage system and administer patient treatment.
- Implement patient tracking from point of entry to final disposition.
- Provide resources to assist in the movement of at-risk/medically fragile populations to shelter areas.
- Identify Regional bed capacity for the purposes of bed allocation among healthcare treatment networks.
- Use existing all-hazards surveillance systems to monitor the health of the general population, special needs populations (i.e. elderly, disabled, migrant, or those with bi-lingual/bi-cultural needs) as well as that of response workers, and identify emerging trends related to the disaster.
- Carry out field studies and investigations on emerging and re-emerging diseases and monitor injury and disease patterns and potential disease outbreaks, behavioral health concerns, and medical supply levels, and provide technical assistance and consultations on disease and injury prevention and precautions.
- Assist with isolation and quarantine measures as well as with medical countermeasure and vaccine point of distribution operations (mass prophylaxis).
- Support national, Regional teams and Local teams in the assessment of public health and medical needs, including status of healthcare system, facilities and infrastructures.

ERF # 7: Search and Rescue (SAR)

Lead Agency: Tanzania Fire and Rescue Force
Supporting Agencies: Tanzania Police Force, Tanzania People's Defense Force, Tanzania Red Cross Society, Tanzania Scouts Association, Private Sector

The objective of Regional SAR operations is to rescue individuals and stray abandoned, and/or injured animals and move them to a safer location in the immediate area. These operations usually commence before maximum flood heights are forecast. Rescue operations increase as a flood event escalates in severity, requiring transport of disaster survivors to medical facilities and shelters.

SAR teams are often pre-positioned prior to storm impacts and operations are initiated as soon as it is deemed safe to do so.

Like the Firefighting ERF, the Search and Rescue ERF is led by the Regional Fire and Rescue Force, with support from other DarMAERT member agencies such as the Tanzania Police Force, among others.

Guidelines:

The Tanzania Fire and Rescue Force shall:

- Obtain resource needs and requests from Regional Departments and Agencies, Municipalities, and other ERFs, before looking into sources outside the Region.
- Forward a request through the EOC Manager for the appropriate assistance or additional outside resources, if determined to be necessary.
- Monitor activities and deployments to ensure that their respective organizations can continue to perform their core duties.
- Participate in other emergency response missions as necessary (such as debris management activities).

ERF # 8: Shelter and Mass Care

Lead Agency: Regional Commissioner's Office through Regional Social Welfare Department
Deputy Lead: Tanzania Red Cross Society & Municipal Councils
Supporting Agencies: Tanzania Police Force, Tanzania Fire and Rescue Force, Tanzania People's Defense Force, Tanzania Electric Supply Company, Dar es Salaam Water and Sewerage Authority, Dar es Salaam Water and Sewerage Corporation, Tanzania Scouts

Association, Non-Government/Voluntary/Faith-based/Community-based Organizations, Municipal Councils

The Shelter and Mass Care ERF is responsible for the identification and/or construction of temporary shelters and facilities in case of an evacuation, including their use and management. This ERF also provides services for family reunification, and provision of health and medical services, emergency relief materials, food and psychosocial support.

An event can cause the evacuation of multiple areas. While many evacuees plan to stay in private accommodation or with relatives and friends, some may require public shelter and other mass care services. These services may include the provision of temporary shelter, water, food, short-term medical care, clothing, disaster survivor identification services, crisis counseling, pastoral care, functional needs support services and other essential assistance.
The Region works closely with local jurisdictions to pre-identify enough shelter capacity to provide short-term emergency shelters for the maximum estimated number of evacuees, their service and assistive animals, and household pets.

The Municipal Disaster Management Committee through their respective Municipal Disaster Management Coordinators shall submit daily shelter status reports to assist the EOC in tracking shelter activity at the local level. These reports are used by the EOC in part to determine the need to open additional shelters throughout the Region. They likewise provide the Shelter and Mass Care ERF the context it needs for its response activities.

Guidelines:

The Regional Commissioner's Office through the Regional Social Welfare Department shall:

- Facilitate the provision of mass care, emergency assistance, temporary housing, and human services resources, programs, and services.
- Provide life-sustaining services to the affected population, including hydration, feeding, and sheltering, as well as support for reunifying families.
- Support the establishment, management, and operation of congregate and non-congregate care facilities.
- Develop an initial temporary housing strategy to transition survivors from congregate to non-congregate care alternatives and provide relocation assistance or interim housing solutions for households unable to return to their pre-disaster residence.

- Coordinate and facilitate the return of evacuees to their pre-disaster or alternate locations.
- Anticipate and identify current and future shelter and mass care requirements in coordination with Municipal, Regional and National Governments, Civil Society Organizations, and private sector partners.
- Acquire, transport, and shelter and mass care resources and services to meet the needs of disaster survivors, including children and individuals with disabilities and others with access and functional needs.
- Provide general care for separated/unaccompanied minors until they are placed in the care of appropriate authorities.
- Support congregate care facilities including at-home daycare and childcare services.
- Provide technical assistance for the development of Municipal, Regional, National, Civil Society, and private sector operational plans for mass care, emergency assistance, temporary housing, and human services for the short to mid-term relief operations until the transition to recovery occurs.

ERF # 9: Emergency Public Information

Lead Agency: Regional Commissioner's Office through the Regional Public Relations and Information Officer, assisted by the DarMAERT EOC
Supporting Agencies: Tanzania Police Force, Telephone Companies, Media

Emergency public information to keep the public informed of the general progress of the incident and provide information on health and safety. The release of timely, consistent and effective information to the public regarding hazards, potential impacts, available services and timelines for response and recovery is very important.

Emergency management agencies and organizations with public information office duties shall be responsible for disseminating information to the public and the media during disasters or major emergencies. Public information shall be accessible to the whole community, including persons with disabilities, and consider foreign languages for foreigners as well.

In the case of DarMAERT, information for public consumption is prepared and recommended by the EOC with the support of the Emergency Public Information ERF to ensure the timely release and dissemination of disaster information to the public, including the handling of related enquiries. All information for public and/or media consumption is forwarded by the EOC Manager (i.e. DarMAERT Coordinator) to the RAS, who then screens and approves the release of official information under the Regional

Commissioner's Office. The lead for the Emergency Public Information ERF of DarMAERT shall be supported by the DarMAERT Silver Command, particularly the DarMAERT Coordinator, assisted by the Public Information Officer function for DarMAERT.

Guidelines:

The Regional Commissioner's Office, through the Regional Disaster Management Committee assisted by the DarMAERT EOC, shall:

- Ensure collective situational awareness and that a common operating picture is understood by the whole community through effective planning and information management.
- Develop reports and other products for incident situational awareness at the EOC and for issuance to the public through the RAS.
- Coordinate and manage the development of inter-agency remote sensing and geospatial information used in support of a potential or actual incident response.
- Develop credible, culturally appropriate, and accessible messages to inform the public of ongoing emergency services, protective measures, and other life-sustaining actions that facilitate the transition to recovery.

ERF # 10: Damage Assessment

Lead Agency: Regional Commissioner's Office through the Regional Infrastructure Development Department
Deputy Lead: Tanzania National Roads Agency, Tanzania Rural and Urban Roads Agency
Supporting Agencies: Tanzania Police Force, Tanzania Fire and Rescue Force, Tanzania People's Defense Force, Tanzania Red Cross Society, Tanzania Electric Supply Company, Dar es Salaam Water and Sewerage Authority, Municipal Councils, Private Sector

The Damage Assessment ERF Team led by the RCO through the Regional Disaster Management Committee will determine the magnitude of the disaster, potential associated risks and will participate at the EOC in the preparation of situation reports. The team for this ERF will conduct a rapid damage assessment immediately after the occurrence of a disaster and will continue the assessment up to post-disaster time.

A thorough damage assessment is essential to: (i) plan for recovery operation, (ii) establish priorities for repair of public facilities and roads, (iii) determine if outside assistance is necessary, (iv) compile data to assist with requests for disaster assistance, (v) ensure the safety of local residents, and (vi) plan mitigation measures that will lessen the effect of future occurrences.

Immediately following a disaster, local responders will be able to communicate initial damage assessment reports to the Emergency Operations Center. The Damage Assessment ERF will compile a complete situation report from all damage assessment activities to support the Communication ERF in its briefing of high officials, mandated government agencies and members of DarMAERT.

The initial (rapid) damage assessments will be reported by first responders at the scene of an incident. Other sources for damage information include government employees operating in the field, as well as private citizens who have witnessed the incident. Findings of all assessments reported during the response phase should be plotted on a map as needed. The DarMAERT EOC will use the location information available at the time of the report, which may be incomplete, to identify the areas with the most damage. These maps will also be used to identify possible areas impacted by the disaster but not assessed by first responders and areas needing the most assistance.

The EOC will determine if members of the Damage Assessment ERF are to be deployed, in which case the assigned teams/sub-teams from the ERF will be coordinated from the EOC. Any of three types of assessments may take place: residential, business, and public property.

Guidelines:

The Regional Commissioner's Office through the Regional Disaster Management Committee shall:

- Maintain damage assessment procedures consistent with Regional and National guidelines.
- Facilitate training of personnel in damage assessment procedures.
- Identify and establish liaison with other stakeholders who can provide assistance in damage assessment, such as civil society organizations, insurance agents, engineers and donors, among others.
- Coordinate private and public damage assessments.
- Support the Communication ERF in the collection and presentation of damage information in different briefers and reports.
- Assist Municipal, Regional and National Damage Assessment Teams.

ERF # 11 Public Works and Engineering

Lead Agency: Regional Commissioner's Office through the Regional Infrastructure Development Department

Deputy Lead: Tanzania National Roads Agency (TANROADS), Tanzania Rural & Urban Roads Agency (TARURA)

Supporting Agencies: Tanzania Police Force, Tanzania Fire and Rescue Force, Tanzania People's Defense Force, Tanzania Electric Supply Company, Dar es Salaam Water and Sewerage Authority, Non-Government/Voluntary/Faith-based/Community-based Organizations, Private Sector

The Public Works and Engineering ERF is primarily responsible for the organization of resources to repair and restore essential services (roads/streets, solid waste management, sanitary sewer and wastewater treatment), removal of debris, inspection of damaged structures, and provision of engineering solutions to manage the disaster situation. There are two types of roads within the city that are managed by the two lead agencies. TANROADS manages regional roads connecting districts, while TARURA manages district roads.

Damage from disasters can cause critical public works and utility infrastructure components to be out of service for days or weeks. Disruption of services impacts the ability of key businesses to reopen and citizens to return.

Requests for public works and engineering support are expected to routinely occur during response and early recovery operations. When public works assistance is requested by local officials through their MDMC, the EOC will coordinate the deployment of public works response resources to the reported/identified affected areas.

Guidelines:

The Tanzania National Roads Agency (TANROADS) / Tanzania Rural & Urban Roads Agency (TARURA) shall:

- Prepare for potential public works and engineering requirements. Activities include providing public information, contributing to situational awareness, establishing response teams, leveraging technological tools, participating in DarMAERT-led trainings and exercises, establishing private sector contracts and agreements to procure needed equipment and personnel to restore essential services, and coordinating with NGOs, and international agencies.
- Conduct pre-incident and post-incident assessments of public works and infrastructure.

- Execute emergency contract support for lifesaving and life-sustaining services.
- Provide assessment and emergency response support for water, wastewater treatment facilities, levees, buildings, bridges, and other infrastructure.
- Provide temporary emergency water and power to critical facilities (such as hospitals, water treatment plants, shelters, fire stations, police stations, EOCs).
- Construct critical public facilities to temporarily replace those destroyed or damaged following a disaster (such as schools, local government offices, fire stations, police stations, and medical facilities).
- Help in the monitoring and stabilization of damaged structures and the demolition of structures designated as immediate hazards to public health and safety.
- Provide structural specialist expertise to support inspection of mass care facilities and search and rescue operations.
- Manage, monitor, and/or provide technical advice in the clearance, removal, and disposal of debris from public property and the reestablishment of ground and surface water routes into impacted areas.
- Provide engineering and construction expertise, responders, supplies, and equipment to address disaster, to include providing advance measures in anticipation of imminent disaster; Support restoration of flood control, and other water infrastructure systems, including drinking water and wastewater utilities.

ERF # 12: Utilities

Lead Agency:
Regional Commissioner's Office through the Regional Disaster Management Committee

Supporting Agency(ies): Tanzania Electric Supply Company, Dar es Salaam Water and Sewerage Authority, Non-Government/Voluntary/Faith-based/Community-based Organizations, Private Sector

Restoring electricity, gas, clean water and wastewater services and their infrastructure in the affected areas is a function of the Utilities ERF. The ERF is also concerned with employing alternative measures to provide these services in times of an emergency. The Dar es Salaam Regional Department of Infrastructure is responsible for overseeing utility-related activities.

A major disaster could destroy or damage portions of Dar es Salaam's utility systems and disrupt local petroleum supplies. Widespread and possibly prolonged electric power

failures could occur. The transportation and telecommunications infrastructure are also likely to be affected.

Delays in the delivery of petroleum-based products may occur as a result of transportation infrastructure problems and loss of commercial power. There may also be extensive distribution failure in water, wastewater, and gas utilities, which may take hours, days, or even weeks to repair. Water pressure may be low, hampering firefighting and impairing sewer system function. Fire districts may have to coordinate with water providers as needed to shut off water just to ensure water will be used accordingly.

Guidelines:

- The Regional Infrastructure Department shall issue requests for assistance with energy/water/gas-related emergency response activities in accordance with any established protocols that may exist within the responsible agency. Once those resources are exhausted, the DarMAERT EOC may forward a request to the National EOC when the DarMAERT EOC cannot provide the additional resources to the responsible agency. The DarMAERT EOC will provide guidance for the coordination of utilities resources.
- Public and private utility providers, such as those providing power, water, natural gas, petroleum, sanitation (wastewater services and solid waste management), or communications services, will develop their internal organizational procedures to guide operations during and after a major incident.
- The DarMAERT EOC will establish coordination with utility providers through the Utilities ERF agencies, to coordinate resources, establish priorities, assess and document damages, and provide information to the public. The DarMAERT EOC may initiate information programs to keep the public informed of utility status and any restrictions in supply. The DarMAERT EOC will invite utility providers to send a liaison to the DarMAERT EOC to facilitate coordination between agencies.

ERF # 13: Resources Management and Supply

Lead Agency: Regional Commissioner's Office through the Regional Disaster Management Committee

Supporting Agencies: Tanzania Red Cross Society, Municipal Councils, Non-Government/Voluntary/Faith-based/Community-based Organizations, Private Sector

The Resources Management and Supply ERF shall handle the management of resources (financial, material and human) and their inventory and prompt allocation. These often refer to the facilitation of logistics for relief supplies, including their procurement, transport, storage, distribution and inventory.

The EOC's logistics sector is supported by the DarMAERT Silver Command led by the Logistics Section Chief who will coordinate resources and supply needs to the Regional Commissioner's Office (RCO).

A large-scale response can deplete Regional resources and overwhelm DarMAERT response capabilities. Effective resource management requires coordination across all levels of government to address gaps. Resources shall be deployed to Dar es Salaam from across the country when the impact is severe, and resources are depleted and scarce. Requests for resources by DarMAERT are submitted to the RDMC. More details for this procedure are provided in Chapter 7 of this ERP.

Resources shall be provided primarily by municipalities. If a municipality has unmet resource needs, they shall try to obtain the missing resources from the following entities:

- Local non-government or faith-based organizations
- Local contracts or private sector partnerships
- Disaster Management Department
- Pre-designated regional response teams or resources
- The DDMC and MDMC

Regional authorities may activate resource staging areas and points of distribution to manage and distribute resources. Points of distribution may be used to distribute commodities, resources or medical and other emergency supplies to the public. This maybe pre-assigned already or be disseminated later during the incident.

Guidelines:

The Regional Commissioner's Office through the Regional Disaster Management Committee shall:

- Coordinate resource support for survivors.
- Establish a resource management system that includes determining requirements, sourcing, ordering and replenishment, storage, and issuing of supplies and equipment.

- Establish a facilities management system that includes location, selection, and acquisition of incident facilities as well as storage and distribution facilities as needed.
- Establish and operate logistics support facilities that include the management of services related to lodging and feeding incident support personnel.
- Provide guiding references for personal property management that includes policy and procedures for maintaining accountability of material, as well as identification and reutilization of property acquired to support the response operation.
- Manage electronic data interchanges to provide end-to-end visibility of response resources.
- Prepare the DarMAERT EOC to support to recovery operations as directed by the RAS, as appropriate.

ERF # 14: Transportation

Lead Agency: Regional Commissioner's Office through the Regional Department of Transportation (Land Transport Regulatory Authority (LATRA), Dar es Salaam Rapid Transit Agency (DART)

Supporting Agencies: Tanzania Police Force (Traffic Unit), Tanzania People's Defense Force, Tanzania Red Cross Society, Hospitals, Ambulance Services, Tanzania Scouts Association, Non-Government/Voluntary/Faith-based/Community-based Organizations, Private Sector, Public and Private Transport Agencies

This ERF is responsible for: (i) transporting people and resources to, from and within the affected area, and (ii) maintaining mobility within the Region by enabling the ground, marine and aerial transport that is required to manage the incident. The Transportation ERF likewise participate in the conduct of rapid damage assessments in impacted areas to determine response priorities and transportation demands.

Disaster operations and/or hazardous conditions may require diversion of traffic or implementation of other methods for traffic control. Response operations, especially during initial operational periods, may exhaust Dar es Salaam's transportation capabilities, thus requiring assistance from neighboring jurisdictions and/or the National Government.

In the Dar es Salaam context, the Dar es Salaam Regional Department of Transportation (Transport Officer) is responsible for coordinating transportation- related activities. Plans and procedures developed by the lead and supporting agencies from DarMAERT provide the framework for carrying out those activities set by the Department of Transportation.

Requests for assistance with transportation facilities will first be issued in accordance with established protocols, and once those resources have been exhausted, a request for support may be forwarded by the DarMAERT EOC to the National EOC.

Guidelines:

The Regional Commissioner's Office through the Department of Transportation shall:

- Identify areas impacted and people at risk.
- Identify, designate, and maintain access and egress routes.
- Arrange to obtain additional emergency transportation resources, with highest priority given to resources needed for protection of life.
- Designate transportation bases, staging areas, and refueling and repair facilities.
- Ensure that transportation priorities and routes are consistent and coordinated to all affected areas.

ERF # 15: Dead-Bodies Management

Lead Agency: Regional Medical Office
Deputy Lead: Tanzania Police Force
Supporting Agencies: Tanzania Red Cross Society, Hospitals, Municipal Councils, Non-Government/Voluntary/Faith-based/Community-based Organizations

Managing of the dead, including their identification, investigation on the reasons for death, supervising the infection prevention and control during burial process of bodies that could not be identified or pose a health risk, including the installation and management of mortuaries during disaster times, are functions performed by the Dead Bodies Management ERF.

For this ERF, the Tanzania Police Force leads the identification of victims and accompanying investigative activities. On the other hand, part of the tasks of the Regional Medical Office, through the Regional Medical Officer, is to conduct data collection, analysis and reporting of disaster-related fatalities, and disseminate mortality surveillance reports and mass fatality management issues to Regional and National leadership with support from the other members of the ERF.

If the number of fatalities is anticipated to exceed the capacity of the jurisdiction, this ERF may activate special teams and accompanying resources.

Guidelines:

The Regional Medical Office shall:

- Evaluate mass fatality incident characteristics to determine necessary response resources.
- Assist in determining the size of the gap in necessary resources for dead-bodies management, including trained response personnel that will handle dead bodies and the personal protective equipment for these personnel, dedicated transportation aids for dead bodies such as stretchers and carriers, supplies such as cadaver bags and disinfectants, and receiving facilities such as mortuaries, among others.
- Provide support in submitting requests for Regional or National assistance and advocate for necessary resources and multi-agency involvement if additional resources are needed.
- Coordinate with local jurisdictions for body recovery, transport and establishment of a holding morgue, and the recovery and transport of disinterred caskets.

6.2.4 Emergency Response Timeframes

DarMAERT's response to a major disaster will involve many government and non-government agencies and organizations. These entities collaborate to monitor threats, provide support to local operations and assist in recovery. DarMAERT ERFs are mobilized along four response timeframes. These are:

- Alert **(A)**: notification of a potential hazard
- Standby **(B)**: personnel prepare for activation
- Activation **(C)**: resources begin movement to support response operations
- On-site/operational **(D)**: resources perform response functions

All mobilization of ERFs will be aligned to the activation phases implemented by the EOC, and the level of involvement of ERFs will differ based on the expertise needed in the emergency incident.

7 Financial and Administrative Procedures

7.1 Funding for Disaster Management

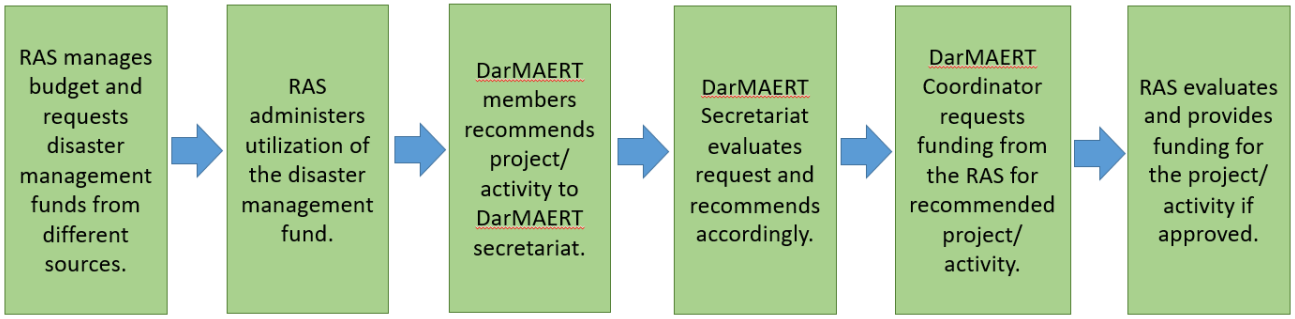
In Tanzania, the disaster management fund is maintained by the Disaster Management Department under the Prime Minister's Office (DMD-PMO). When a disaster is imminent, funds are released from the Ministry of Finance and Planning for early intervention. This fund is accessed as contingency for emergency operations in the event of a disaster. It is also accessed for immediate interventions necessary at the onset, during and immediate aftermath of disaster situations. It is noted, however, that only the national level maintains a budget specific to disaster management.

On the other hand, funds for mitigation projects and preparedness activities are often funded through the specific government agencies that perform them. For example, infrastructure projects such as maintenance of roads and bridges, even while part of and/or contributory to disaster mitigation, are budgeted under the Infrastructure Department. Expenses for emergency response operations by the Police and Fire Safety personnel, for example, salaries, equipment and logistics support, are also budgeted under their respective agencies. Municipal governments also provide for disaster management expenses within their scope, according to their local government's capabilities and resources.

7.1.1 Funding for DarMAERT Operations

The Regional Disaster Management Committee (RDMC), led by the Regional Administrative Secretary (RAS), is responsible to budget and request disaster management funds and assistance from different sources (DMD, private sector donors, development agencies, civil society partners, etc.). The RAS, as the overseer of all technical activities in the Region, will administer utilization of the disaster management fund. Funding for expenses related to DarMAERT operations will be funneled by the DMD to DarMAERT through the RDMC.

DarMAERT members will submit all requests for funding to the DarMAERT Secretariat, wherein the DarMAERT Coordinator will then request the necessary funding for the project/activity from the RAS. This funding process for DarMAERT applies to both non-emergency situations and disaster activations (Figure 5).



Note: Procedure is based on the Focus Group Discussion conducted by EMI/ ARU with DarMAERT during the January 2020 ERP Workshop. DarMAERT does not have its own funding and relies on provisions from the RDMC.

Figure 5. Approval Process for DarMAERT Projects/Activities

7.2 Management of Relationships with External Parties

7.2.1 Coordination with other agencies and organizations (liaising)

All liaising activities for emergency response are managed by the RAS at the Regional Level. The Liaison Officer will assist the RAS in its liaising functions and act as the RAS' contact person at the DarMAERT EOC for liaising concerns related to DarMAERT and its operations, under the direct supervision of the EOC Manager.

For smaller emergency incidents within the sub-regional levels (municipal, ward, sub-ward), coordination with other agencies or organizations will be done by the associated committees at the same level, i.e. Municipal Disaster Management Committee and Ward/ Sub-Ward Disaster Management Committee, particularly through their respective disaster management coordinators.

7.2.2 Coordination with media

In terms of protocol, DarMAERT will support the dissemination of information to the media through, and at the direction of, the RAS. The RAS decides what information to release and how to disseminate this information based on the information and recommendations provided by DarMAERT. Further details to this process are presented in *Section 6.2.3 ERF # 9 Emergency Public Information* of this plan.

7.2.3 Management of volunteers

In the absence of a "call for volunteers" from the government, volunteers working with the different member entities (Tanzania Red Cross Society, Tanzania Scouts Association and

other non-government/civil society organizations) are the responsibility of and managed by the organization that they are voluntarily working with. It is only during cases where the government issues a call for volunteers that volunteers become the responsibility of the government. DarMAERT, outside a call for volunteers from the Regional Government, will not be responsible for volunteers supporting its different members during emergency operations. A call for volunteers from the Regional Government is only likely to occur when government resources become exhausted/overwhelmed.

References

Disaster Management Department - Prime Minister's Office of The United Republic of Tanzania (2012). *Tanzania Emergency Preparedness and Response Plan (TEPRP)*.

Kiunsi, R. (2013). The constraints on climate change adaptation in a city with a large development deficit: the case of Dar es Salaam. International Institute for Environment and Development. Retrieved 9 June 2020 from <https://journals.sagepub.com/doi/pdf/10.1177/0956247813489617>.

Ministry of Labour, Youth Development and Sports (2003). *The National Social Security Policy*. Retrieved 9 February 2020 from <http://www.tccia.com/tccia/wp-content/uploads/legal/policy/socialsecuritypolicy.pdf>

Muruke, W. T. (2012). Analysis of heavy rainfall events over Dar es Salaam city: A necessity to lessen flood risks. Retrieved 11 June 2020 from <https://library.wmo.int/doc_num.php?explnum_id=2280>

National Bureau of Statistics of the Ministry of Finance and Office of Chief Government Statistician of the President's Office of Finance, Economy and Development Planning (2013). *2012 Population and Housing Census.* Dar es Salaam and Zanzibar, Tanzania: Ministry of Finance and President's Office of Finance, Economy and Development Planning.

National Bureau of Statistics of the Ministry of Finance and Office of Chief Government Statistician of the President's Office of Finance, Economy and Development Planning (2013). *Population Distribution by Age and Sex Report.* Dar es Salaam and Zanzibar, Tanzania: Ministry of Finance and President's Office of Finance, Economy and Development Planning.

Office of the Prime Minister of the United Republic of Tanzania (2017). *National Action Plan for Health Security 2017-2021.* Retrieved 9 February 2020 from <https://extranet.who.int/sph/docs/file/1467>

The United Republic of Tanzania (1977). *The Constitution of the United Republic of Tanzania*. Retrieved 9 February 2020 from <https://www.wipo.int/edocs/lexdocs/laws/en/tz/tz008en.pdf>

The United Republic of Tanzania: Prime Minister's Office – Disaster Management Department (2014) *National Operational Guidelines for Disaster Management (NOG).* Dar es Salaam, Tanzania: Prime Minister's Office of the United Republic of Tanzania.

The United Republic of Tanzania: President's Office – Regional Administration and Local Government (2017) *Dar es Salaam Multi-Agency Emergency Response Team (DarMAERT) Emergency Response Plan (ERP)*.

The United Republic of Tanzania. *The Disaster Management Act of 2015*. Retrieved on 9 February 2020 from <http://parliament.go.tz/polis/ uploads/bills/acts/1452062258-ActNo-7-2015-Book-1-10.pdf>

The United Republic of Tanzania and the World Bank Global Facility for Disaster Risk Reduction, *Final Report: Lessons Learned Exercise for Emergency Preparedness and Response in Tanzania [draft]*, 2019.

The United Republic of Tanzania, the European Union, the United Nations Office for Disaster Risk Reduction and CIMA Research Foundation, *UR Tanzania: Disaster Risk Profile (Flood and Drought)*, 2019.

World Bank Group (2011). *Understanding Urban Risk: An Approach for Assessing Disaster and Climate Risk in Cities.* Washington, D.C., United States: The World Bank.

World Bank Group (2015). *Project Appraisal Document. Dar es Salaam Metropolitan Development Project*. Washington, D.C., United States: The World Bank.

World Bank Group (2019). *Tanzania Mainland Poverty Assessment: Executive Summary*. Washington, D.C., United States: The World Bank.

Annex

DarMAERT Contact Checklist

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5	Regional Secretariat	Mr. Salum Hamidu	Geographic Information Systems Officer - Land Planning	salym407@gmail.com	0717351395
6		Mr. Masalida Zephania	Social Welfare Officer & Disaster Risk Management Expert	lida.zeph@yahoo.com	0717261320
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A-3					

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17		A/INSP. Abdalah Uluthu	Operation Commander - Ilala	auluthu@gmail.com	0715851414
A-4					
18	Tanzania Police Force/Zonal Police Commander	Mr. ACP Evance Mwijage	Commanding Office r of Police Marine	co.marine@tpf.go.tz evancemwijage@gmail.com	0658481002
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A-9					
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A-10					
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A-11					
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48		Eng. Benedict Julius	Regional Manager Tanzania Rural and Urban Roads Authority (TARURA)	benedictorjulius24@yahoo.com	0715434923
49		Eng. Eliseus Mtenga	Tanzania Roads Authority Agency (TANROADS)	eliseusmtenga@yahoo.com	0754286458
50		Eng. Gibson Balagura	Dar es Salaam Water and Sewage Authority (DAWASA)	basetsi@yahoo.com	0759497990
A-12					
51	Tanzania Meteorological Authority	Mr. Elias Lipiki	Meteorologist	elias.lipiki@meteo.go.tz	0765908951
A-13					
52	EOC Staff	A/Insp Longino Rwegoshora	Deputy Fire Officer - Temeke	longinikamugisha1@gmail.com	0783026695
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56		FC. Eva Masha	EOC Officer – Control Room	Evamagige8@gmail.com	0714187202
57		PF Thomas Mrema	EOC Officer – ICT	thomsonmrema@gmail.com	0718601138
58		Sr. Jane Urio	EOC Officer – Ambulance Dispatcher	janeurio@gmail.com	0713429660

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