UNITED REPUBLIC OF TANZANIA

PRESIDENT'S OFFICE REGIONAL ADMINISTRATION

AND LOCAL GOVERNMENT

DAR ES SALAAM REGION

Pandemic Continuity of Operations Plan for DarMAERT

September 2021

Pandemic Continuity of Operations Plan for Dar es Salaam Multi-Agency Emergency Response Team (DarMAERT)

September 2021

Preface

The Dar es Salaam region is Tanzania's international hub for business and is seen to have great development potential, promising continued economic opportunities for the people of Tanzania. However, the Dar es Salaam Region is also challenged by various disaster risks related to both natural and human-induced hazards, such as floods, landslides, health outbreaks, explosions, traffic accidents and collapsed structures. Such disasters have impacted lives, livelihoods and properties in Dar es Salaam which can erase important developmental and economic progress. Hence, a proactive stance in managing risks in the Region has become very crucial.

The current global emergency situation caused by COVID-19 highlights the importance of building the capacities of emergency response institutions not only to provide specific emergency medical services to address such health emergencies for the public, but, likewise, its internal capacities to sustain operations and continue to carry out its essential functions in the midst of such health situations. This Pandemic Continuity of Operations Plan (COOP) was developed to provide guidance for the Dar es Salaam Multi-Agency Emergency Response Team (DarMAERT) and its partners in determining critical protocols for succession of leadership and delegation of authority, alternate facilities, and information management, among others, to ensure that its essential functions can be continued throughout, or resumed rapidly, after a disruption of its normal activities due to a pandemic.

This Pandemic COOP is an evidence to the persistent and proactive efforts of DarMAERT to support the Regional Government in responding to emergencies in the region by ensuring that mechanisms to help sustain its operations during a pandemic are put in place. This Plan likewise complements the 2020 DarMAERT Emergency Response Plan (ERP) by prescribing continuity processes that support the continuous execution of protocols provided in the ERP while in a pandemic situation.

Thus, the Regional Commissioner's Office is very grateful for the collaborative work of DarMAERT and the continuing technical support from the World Bank and the Foreign, Commonwealth and Development Office of the United Kingdom for the development of this Pandemic COOP.

Hon. Amos Makalla
REGIONAL COMMISSIONER
Dar es Salaam

Acknowledgments

This Pandemic Continuity of Operations Plan was done using a highly participatory process. The active involvement of many institutions, key actors, experts, and professionals with their extensive contributions made possible the materialization of this Plan.

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Private Sector & Non-Government Agencies

Mr. Lawrence Mtui, Disaster Risk Management Expert of Delta Assessors and Surveyors Ltd; Mr. Adam Ismail, Coordinator of the SHIA Community; and Mr. Joseph Sulemani - THMS Private Ambulance.

These key representatives went through a series of co-development processes which proved to be instrumental to the development of this Plan.

Our deepest appreciation likewise goes to the World Bank Team comprised of Yohannes Kesete (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 support they provided to DarMAERT throughout the development of this Plan, particularly Jerome Zayas (Project Manager), Nicholas Burk, Ritche Angeles, Jose Mari Daclan and Mary Luanne David (Emergency Management Specialists) and Precious Zara-Dominguez, Ruby Magturo and Paul Luzon (Project Coordinators). Likewise, we extend our gratitude to the facilitation and expertise of Ardhi University, especially, Country Coordinator Dr. Guido Uhinga, and Research Fellows Bernadetha Mushi, Mwanamkuu Maghembe and Shafuri Mnzava.

It is our expectation that this Continuity of Operations Plan for Pandemic be utilized by all stakeholders in the event of a Pandemic and similar health emergencies in Dar es Salaam.

Hassan Abbas Rugwa
REGIONAL ADMINISTRATIVE SECRETARY
Dar es Salaam

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Acronyms and Abbreviations

ARU	Ardhi University
COOP	Continuity of Operations Plan
COVID-19	Coronavirus disease
DarMAERT	Dar es Salaam Multi-Agency Emergency Response Team
DMD	Disaster Management Department
EMI	Earthquakes and Megacities Initiative
EOC	Emergency Operations Center
EP&R	Emergency Preparedness and Response
ERF	Emergency Response Function
ERP	Emergency Response Plan
FEMA	Federal Emergency Management Agency
ICS	Incident Command System
ICT	Information and Communications Technology
NGO	Non-Government Organizations
PPE	Personal Protective Equipment
RAS	Regional Administrative Secretary
RMO	Regional Medical Officer
SARS	Severe Acute Respiratory Syndrome
SOPs	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
VHF/UHF	Very High Frequency/Ultra High Frequency
WHO	World Health Organization

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)

Continuity of Operations Plan
This type of Emergency Response Plan addresses emergencies from an all-hazards approach, with the objective for organizations to identify their essential functions and ensure that these functions can be continued throughout, or resumed rapidly after, a disruption of normal activities. It is the roadmap for the implementation of a continuity program, and includes essential functions, orders of succession, delegations of authority, continuity facilities, continuity communications, vital records management, human capital, tests, training and exercises, devolution of control and direction, and reconstitution. (Federal Emergency Management Agency [FEMA], 2020)

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 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

This term is sometimes used interchangeably with the term disaster, as, for example, in the context of biological and technological hazards or health emergencies, which,

however, can also relate to hazardous events that do not result in the serious disruption of the functioning of a community or society. (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 socio-natural 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. (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)

Pandemic

An epidemic occurring worldwide, or over a very wide area, crossing international boundaries and usually affecting a large number of people. (World Health Organization [WHO], 2020)

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)

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)

1 Introduction

Continuity of Operations Plans are a form of "inward-facing" hazard-specific emergency response planning focusing on the ability to provide uninterrupted critical services, essential functions and support, while maintaining organizational viability before, during and after an event that disrupts normal operations. Continuity Plans provide guidance on how DarMAERT can sustain its operations in the event it is adversely impacted by hazards. Continuity of Operations Planning is a process led by the Safety Officer, with key inputs from the Logistics Section Commander and other Command and General Staff.

Continuity of Operations Plans differ from another type of hazard-specific plans to support emergency response operations, known as "Contingency Plans." By contrast, Contingency Plans are an "external-facing" form of emergency response planning aiming to prepare an organization to respond well to an emergency and its potential humanitarian impact. Contingency Planning involves making decisions in advance about the management of human and financial resources, as well as coordination and communications procedures, and being aware of a range of technical and logistical responses. Contingency Plans provide guidance on how DarMAERT can execute specific operations with relevant Emergency Response Functions that are essential to addressing the specific hazard. Contingency Planning (CP) is a process typically led by the Planning Section Commander and Operations Section Commander, and includes inventories of key personnel and equipment used to respond to specific emergency situations.

As context to the development of this Plan, on January 30, 2020, the World Health Organization declared the novel coronavirus—COVID-19—to be a global public health emergency, and on March 11, 2020, a global pandemic. A pandemic is defined as "an epidemic (i.e. a disease that affects a large number of people within a community, population or region) that is spread over *multiple countries or continents, and is global in nature*." Cases of COVID-19 were reported worldwide, including in Tanzania. In March 2020, the Tanzania Ministry of Health published its *Standard Operating Procedures for Case Management, Prevention, and Infection for COVID-19*. It is within this context that the Dar es Salaam Multi Agency Emergency Response Team (DarMAERT) identified the need for a *Pandemic Continuity of Operations Plan* for the DarMAERT Emergency Operations Center. Such a Plan would allow DarMAERT to document invaluable insights and protocols for sustaining operations if the EOC's day-to-day activities were disrupted by a pandemic.

This COOP applies to the DarMAERT Silver Command Leadership (including Incident Command System-based Command and General Staff positions), as well as DarMAERT's member agencies and organizations charged with the various emergency response functions and Municipal Disaster Management Coordinators. Activation of this Plan is triggered by a declaration of an emergency by the President of the Republic of Tanzania

as stated in the Disaster Management Act No. 7 of 2015 following the global declaration of a pandemic by the World Health Organization. The declaration follows the documentation of a confirmed case of the infectious disease in Tanzania. This Plan *does not* pertain to disease outbreaks and epidemics ~~which are typically of smaller geographical scale and may require differentiated response management especially in terms of scope, applicable policies and resources~~. It is noted, however, that an epidemic may escalate to a pandemic in some cases. Hence, DarMAERT is enjoined to remain vigilant and proactively aware of such developments that would trigger activation of this Plan.

This COOP provides guidance to DarMAERT members for maintaining DarMAERT's capability to continue to fulfill all its essential business processes during a pandemic, as well as provide for employees' safety and well-being. The specific goals of this Pandemic COOP for DarMAERT include the following:

- Ensure continuous performance of business processes within the DarMAERT Emergency Operations Center (EOC), including developing Situation Reports, Incident Action Plans, Staffing Plans, and responding to resource requests to fulfill specific response missions.

- Protect essential facilities, equipment, vital records, and other assets.

- Reduce or mitigate disruptions to operations.

- Ensure safety measures for and provide staff redundancy for DarMAERT members at the EOC, including Command and General Staff, agencies and organizations which perform Emergency Response Functions, and Municipal Disaster Management Coordinators.

- Achieve a timely and orderly recovery from an emergency and resume full service to the citizens of Dar es Salaam.

Recommended changes to this plan should be maintained by the DarMAERT Safety Officer.

2 Purpose and Assumptions

2.1 Purpose

This Plan provides guidance to **the Dar es Salaam Multi-Agency Emergency Response Team (DarMAERT)** for maintaining essential functions and services once a pandemic has been declared by the World Health Organization *and* when a confirmed case of the infectious disease has been confirmed within Tanzania by the Ministry of Health. It can be considered an important supplement to the DarMAERT 2020 Emergency Response Plan (ERP) Update. As a critical Emergency Management Directive in the 2020 ERP Update, it is affirmed that "The DarMAERT Safety Officer assesses and/or anticipates hazardous or unsafe situations. The Safety Officer is authorized to stop or prevent unsafe acts and has authority delegated from the Incident Commander to call a "stop" to an operation in the event of a severe safety event. The Safety Officer will lead the development of a business continuity process to facilitate a more coordinated effort within DarMAERT."[1]

Accordingly, this document provides a business continuity framework specifically for pandemic hazards. This guidance stresses that essential DarMAERT functions can be maintained during a pandemic outbreak through mitigation strategies, such as physical/social distancing, use of Personal Protective Equipment (PPE), increased hygiene, and vaccination of employees and their families provided that there is a vaccine. Pandemics may not, in themselves, require a traditional continuity response, such as partial or full relocation of DarMAERT's essential functions, although this response may be concurrently necessary due to other circumstances.

The purpose of this Pandemic Continuity of Operations Plan (COOP) for DarMAERT is:

- To establish guidance that will enable DarMAERT members to continue to effectively function in times of pandemic.
- To enable DarMAERT to maintain essential services and operations during times of pandemic.
- To enable DarMAERT to reestablish normal business functions and levels of service during and after a pandemic occurs which impacts Tanzania.

2.2 Applicability and Scope

The provisions of the Pandemic Continuity of Operations Plan (COOP) applies to DarMAERT Command and General Staff, the agencies which comprise DarMAERT's Emergency Response Functions, Municipal Disaster Management Coordinators, and

[1] *Dar es Salaam Multi-Agency Emergency Response Team (DarMAERT) Standard Operating Procedures Handbook 2020; Dar es Salaam Multi-Agency Emergency Response Team (DarMAERT) 2020 Update*, Chapter 4.

other DarMAERT personnel including planners, administrators and communication technicians.

The provisions of this document apply to the threat of pandemic hazards which could impact DarMAERT members and the DarMAERT EOC where mission-critical processes are conducted. [2]

2.3 Planning Assumptions

For the purposes of this COOP for DarMAERT, a pandemic hazard is utilized. Pandemic exists on the spectrum of infectious diseases [3] as such:

- *Endemic* refers to the constant presence or usual prevalence of an infectious disease in a population within a geographic area.[4]

- An *outbreak* is a greater-than-anticipated increase in the number of endemic cases. It can also be a single case in a new area. If not quickly controlled, an outbreak can become an epidemic.

- An *epidemic* is a disease that affects a large number of people within a community, population, or region.

- A *pandemic* is an epidemic that is spread over multiple countries or continents, and is global in nature.

A graphical depiction is provided in Figure 1.

[2] *Within the context of the COVID-19 global pandemic and as part of the Strengthening Emergency Preparedness and Response Capacity of the DarMAERT co-design process, DarMAERT provided critical inputs that a Pandemic Continuity of Operations Plan for the DarMAERT Emergency Operations Center would be an invaluable addition to DarMAERT's "Family of Emergency Response Plans." Such a plan would allow DarMAERT to document invaluable insights and protocols for sustaining operations if the EOC's day-to-day activities were disrupted by a pandemic.*

[3] *What's the difference between a pandemic, an epidemic, endemic, and an outbreak?* Intermountain Health Blog. April 2, 2020. https://intermountainhealthcare.org/blogs/topics/live-well/2020/04/whats-the-difference-between-a-pandemic-an-epidemic-endemic-and-an-outbreak/

[4] *Section 11: Epidemic Disease Occurrence*. Centers for Disease Control. May 18, 2012. https://www.cdc.gov/csels/dsepd/ss1978/lesson1/section11.html

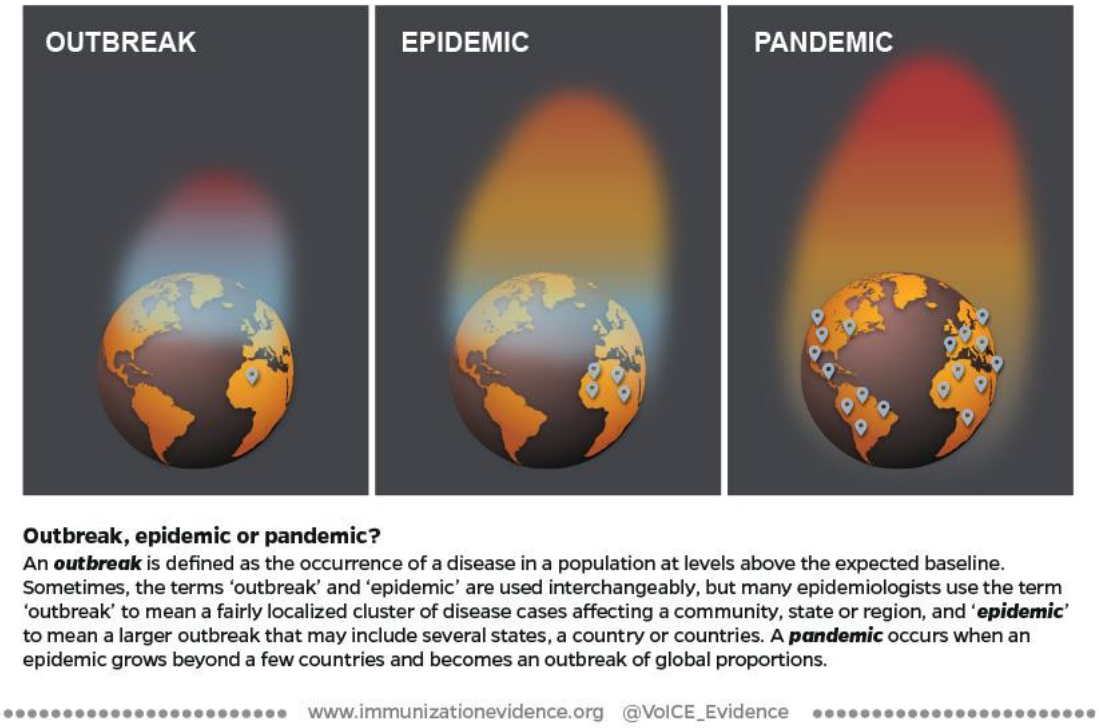

Figure 1. The Infectious Disease Spectrum

Because of the nature of a pandemic to have a fully disruptive impact on DarMAERT's day-to-day operations, pandemic is the "worst case scenario" to be utilized in this Continuity of Operations Plan. Activation of this plan will be triggered by a declaration by the World Health Organization, followed by documentation of a confirmed case of the infectious disease in Tanzania.

This COOP was formulated based on the potential impact of a pandemic to DarMAERT operations and may *not* pertain to disease outbreaks and epidemics which are typically of smaller geographical scale and may require differentiated response management especially in terms of scope, applicable policies and resources. It is noted, however, that an epidemic may escalate to a pandemic in some cases. Hence, DarMAERT is enjoined to remain vigilant and proactively aware of such developments that would trigger activation of this Plan.

Furthermore, it is important to stress that this Plan does <u>*not*</u> refer to the tactical medical response relating to the pandemic itself. Such a *contingency plan* is generally drafted by the national government of Tanzania, specifically the Ministry of Health, Community Development, Gender, Elderly and Children. An example of which is the National COVID-19 Response Plan, which has the stated mission "To provide effective and efficient mechanism that will enable COVID – 19 case detection, bolster contact tracing and risk

assessments, testing, case management, recording and reporting as well as ensuring continuity of essential health and community-based services."[5]

Instead, this Pandemic Continuity of Operations Plan provides DarMAERT with key guidance on how it can sustain critical business processes—such as developing Situation Reports, Incident Action Plans, Staffing Plans, and responding to resource requests—for its own operations during a declared pandemic. Suggested resources on pandemic outbreaks in a Sub-Saharan African, developing world context, as well as continuity planning, are presented in **Appendix A – Further Reading**.

The following are key organizational assumptions to support DarMAERT's pandemic continuity operations.

- DarMAERT will be provided with guidance and/or direction by the Regional Administrative Secretary (RAS) and National Government regarding current infectious disease status in its area.

- The DarMAERT EOC will be accessible with all infection prevention precautions and right of entry may be limited.

- During a declared pandemic, the national Public Health Emergency Operation Center (PHEOC) will be activated to support tactical response and coordination. Likewise, the DarMAERT EOC will be activated if Dar es Salaam is impacted, along with this Pandemic Continuity of Operations Plan.

- It is possible that some DarMAERT members may be assigned from the DarMAERT EOC to the PHEOC to support tactical response operations related to the pandemic.

- DarMAERT will have actionable plans and procedures to assist in the ability to remain operational during an infectious disease outbreak. Plans and procedures may include hand hygiene, physical/social distancing protocols, Personal Protection Equipment (PPE), and temporary suspension of some non- essential activities.

- DarMAERT is familiar with the Emergency Response Plan 2020 Update, and the references in the plan regarding the need for organizational continuity.

- The DarMAERT Safety Officer will assume responsibility for updating and maintaining the Pandemic Continuity of Operations Plan.

[5] *National Covid-19 Response Plan Version Two July 2020 –June 2021*. United Republic of Tanzania, Ministry of Health, Community Development, Gender, Elderly And Children. June 2020.

- DarMAERT will review its continuity communications programs to ensure they are fully capable of supporting the response to pandemic outbreaks and other related emergencies such as supply chain disruptions, food shortages, and strain on health and medical services, and give full consideration to supporting physical/social distancing operations, including telework and other virtual office options.

- During a pandemic event, DarMAERT will implement physical/social distancing protocols for Command and General Staff, Emergency Response Functions, and Municipal Disaster Management Coordinators within the DarMAERT EOC.

- Essential functions, operations, and support requirements will continue to be people dependent. However, human interactions may be remote or virtual, resulting in the employment of appropriate teleworking and other approved physical/social distancing protocols. This is especially advisable if safe transportation of DarMAERT members to the DarMAERT EOC is not possible. It is the responsibility of Emergency Response Function 4 – Transportation to coordinate with the DarMAERT Safety Officer on any potential transportation disruptions which may impact DarMAERT operations.

- Travel restrictions, such as limitations on mass transit, implemented at the national, regional and local levels may affect the ability of some staff to report to work.

3 Concept of Operations

3.1 Overview

This Continuity of Operations Plan is formulated to support the DarMAERT Silver Command Leadership (the designated Command and General Staff), DarMAERT agencies assigned with the various Emergency Response Functions, and the Municipal Disaster Management Coordinators, in the event of a global pandemic. DarMAERT will monitor the severity of the global pandemic as declared by the World Health Organization and establish continuity activation triggers to address the unique nature of the pandemic threat. When a case of the pandemic is confirmed within Tanzania, DarMAERT will proceed to implement a partial activation of the Emergency Operations Center.[6] This Pandemic Continuity of Operations Plan will be implemented as needed to support the continued performance of essential functions. This Plan is to be read in conjunction with

[6] *The identification of a confirmed case of the pandemic infectious disease within Tanzania to trigger a partial activation of the DarMAERT EOC was confirmed during Field Investigation-1 during November 2-6, 2020.*

the *DarMAERT Emergency Response Plan 2020 Update*, *Standard Operating Procedures Handbook* that details the procedures required to activate, staff and operate the Emergency Operations Center (EOC) of the DarMAERT during extreme hazard events and other emergency situations, to ensure that emergency operations are unhampered and efficiently implemented, and *Emergency Operations Center Handbook* that provides recommendations on the proposed physical layout and structure of the EOC, as well as protocols for its operation and management, as appropriate. It supplements these documents by addressing considerations and elements specific to pandemic hazards and is a direct response to the ERP 2020 Emergency Management Directive for the Safety Officer to establish a business continuity process.

Continuity of Operations relies heavily on the ability of DarMAERT leadership to give appropriate emphasis, and to commit the necessary resources to assure that its operations can perform essential services and sustaining day-to-day operations in a pandemic crisis. This can be a difficult undertaking as DarMAERT members, facilities and other assets are subject to the same dangers and interruptions as the public-at-large, and DarMAERT members may become victims of a pandemic emergency as well. It also presents DarMAERT with the risk of temporarily losing or encountering significant delays in the delivery of goods and services provided due to potential supply chain disruption.

DarMAERT members must be prepared to overcome the many potentially serious challenges that may suddenly face them so that any crisis situation can be stabilized at the earliest possible time, and the severity of adverse consequences and impacts can be minimized and eliminated.

All COOPs prepared by DarMAERT will be reviewed by the Regional Administrative Secretary.

All personnel are to be informed regarding protective actions and/or modifications related to this Plan. Messaging and risk communications during a pandemic will be conducted by the DarMAERT Coordinator and EOC Director, supported by the Public Information Officer and Safety Officer. Guidance and instructions on established infection control measures such as hand hygiene, physical/social distancing, personnel protective equipment and telework polices are provided by the DarMAERT Safety Officer to assist in limiting the spread of the pandemic at the primary and other worksite.

Within the workplace, physical/social distancing measures could take the form of: modifying the frequency and type of face-to-face employee encounters (e.g., placing moratoriums on hand-shaking, substituting teleconferences for face-to-face meetings, staggering breaks, posting infection control guidelines, providing acrylic-type dividers for counters); establishing flexible work hours or worksite, (e.g., telecommuting); promoting physical/social distancing between employees and customers to maintain

spatial separation (depending on pandemic-specific medical guidance from the World Health Organization and Government of Tanzania) between individuals and workstations; and implementing strategies that request and enable employees with fever or symptoms of infectious disease outbreaks to stay home at the first sign of symptoms. Please note that specific guidance is subject to change based on the characteristics of the pandemic disease.

All departments and agencies are encouraged to communicate with their employees, particularly any who are in harm's way. The messages should follow the DarMAERT Coordinator's guidance.

Frequent, daily communication is vital to keep employees informed about developments in DarMAERT's response, impacts on the workforce, and to reassure DarMAERT members that DarMAERT is continuing to function as usual.

It is essential that DarMAERT:

- Includes deliberate methods to measure, monitor, and adjust actions to changing conditions and to improve protection strategies.
- Implements a formal worker and workplace protection strategy with metrics for assessing worker conformance and workplace cleanliness.
- Monitors and periodically tests protection methods.
- Tracks and implements changes in approved or recommended protection measures.
- Pre-positions material – supplies and equipment onsite.
- Ensures essential personnel are at the primary worksite.
- Reaffirms that essential suppliers have their material and personnel on-hand and are able to respond and provide support as planned.
- Coordinates with the PHEOC as well as local public health and emergency response points of contact to ensure open lines of communication.

3.2 Options for Workforce Protection

3.2.1 Social Distancing

Social distancing involves focused measures to increase social distance or restrict activities. There are three general strategies for social distancing:

- Telework;
- Shift work; and
- Physically dispersing personnel throughout the workplace.

3.2.2 Telework

Telework is any arrangement in which an employee regularly performs officially assigned duties at home or other worksites geographically convenient to his/her residence.

Employees who use computers and other information technology while teleworking need effective support during work hours. Remote access presents some unique issues and response agencies should ensure tech support can meet these needs. These needs must also be considered in planning for using a distributed workforce during an emergency situation.

DarMAERT members designated to work from home during an emergency event should telework to ensure all systems are working smoothly, if such work arrangements are warranted by medical advice specifically related to the pandemic disease.

3.2.3 Shift Work

Shift work includes any system of work other than day work. Shift work may include:

- Weekends
- Afternoons, nights, and rotating shifts
- Extended shifts
- Extended working hours

3.2.4 Physically dispersing personnel throughout the workspace

If DarMAERT members are required to report the DarMAERT EOC, depending on the specific health-related guidance for the pandemic, social distancing can occur by physically dispersing personnel throughout the workspace.

This can include relocating seating areas and workstations to the appropriate radius recommended by public health guidance provided by the Ministry of Health and disseminated by the RAS. The DarMAERT Safety Officer shall be responsible for coordinating a physically-dispersed modified layout of seating areas and workstations, accompanied with appropriate PPE (i.e. masks, hand sanitizer, or plexiglass sneeze guards of appropriate for the pandemic type). Emergency Response Function 13 – Resource Management and Supply, as well as the Logistics Sector Commander can assist the Safety Officer in this process. The Safety Officer should also display signage within the DarMAERT EOC reminding DarMAERT members of the social distancing protocols.

3.2.5 Safety-oriented Communications Protocols

DarMAERT will establish hotlines, social media postings, and telephone trees to communicate infectious disease outbreak status, plans, and actions to employees in a consistent and timely fashion. DarMAERT will also frequently communicate with its members via its Very High Frequency/Ultra High Frequency (VHF/UHF) radio system during partial EOC activations for pandemic hazard. The Safety Officer and Logistics Section Commander should ensure that all DarMAERT members receive training on use the VHF/UHF radio system.

It will also share / provide materials that inform employees about:

- The nature of the infectious disease (e.g., symptoms, modes of transmission).
- Personal and family response strategies (e.g., hand hygiene, coughing/sneezing etiquette, etc.).
- Community and workplace mitigation strategies (e.g., physical/social distancing, provision of infection control supplies).

3.2.6 Hygiene and Safety Protocols for DarMAERT Members

Based on the nature of the infectious disease, the DarMAERT Coordinator and Safety Officer shall provide guidance to support DarMAERT member hygiene based on the unique nature of the pandemic, to include potential suggestions (based on the nature of the disease) to:

- Wash their hands frequently with soap and water or an alcohol-based hand cleaner if soap is not available.
- Cover their mouths and noses with a tissue when coughing or sneezing or into their upper sleeves if tissues are not available.
- Avoid touching their eyes, nose, or mouth.
- Stay home if they are sick.
- Ensure there are hand sanitizers in every front desk or that frontliners are provided with masks;
- Enforce individual use and daily sanitation of telephones and computers;
- Use a paper towel when touching door handles, telephones, and other surfaces with which they come in contact, rather than touching these surfaces directly. These high-touch surfaces will also be sanitized at regular intervals.

3.2.7 Protecting Responders

To support the goal of DarMAERT members being able to sustain day-to-day operations, DarMAERT will provide the following guidance to the responding agencies that perform its Emergency Response Functions:

- Responders should be provided with proper PPE to support the performance of their duties, such as hand sanitizer; masks, eye protection such as goggles, face shields, and gloves.
- If there are vaccines, vaccinating responders should be the priority and they shall be given medicines/vitamins support by the city government;
- Responders should be provided the necessary materials like alcohol, soap and cleaning/disinfectant;
- Responders should be trained in proper procedures for utilizing PPE, as well as decontamination procedures for cleaning vehicles and equipment, especially those used to handle infectious disease patients.
- The Safety Officer shall coordinate with multiple Emergency Response Functions regarding safety
    - ERF 6 – Health and Medical Services on hospital capacity within the Dar es Salaam medical system to maintain situational awareness as may affect the safety of DarMAERT members.
    - ERF 14 – Resource Management and Supply on the availability of PPE including masks and hand sanitizer for DarMAERT members
    - ERF 9 – Emergency Public Information on any broadcasts via DarMAERT's VHF/UHF radio system that must be made to responders to ensure safety protocols such as social distancing.

3.2.8 Identifying DarMAERT Mission-Critical Systems

DarMAERT's mission-critical systems (such as equipment, software, and hardware) necessary to perform mission-critical processes and activities —such as generating Situation Reports, Incident Action Plans, Staffing Plans, and responding to resource requests—shall be inventoried by the DarMAERT Safety Officer**.**

Mission-critical equipment includes office supplies and other general or specific equipment required to re-establish a mission-critical process. This can include, but is not limited, to DarMAERT's Very High Frequency/Ultra High Frequency (VHF/UHF) radio system, DarMAERT's Information and Communications Technology (ICT) system, including shared drives of key documentation and vital records, plans and Standard Operating Procedures, and repositories of EOC activation-related information, including Situation Reports and Incident Action Plans. Similarly, mission-critical computer software and hardware are those that are required to re-establish a mission-critical process at the emergency relocation site.

The DarMAERT Safety Officer shall also note the model number, manufacturer, and most importantly the vendor, contact name, and contact information that the mission-critical personnel can use to procure the required system as part of maintaining this ongoing inventory.

3.2.9 Identifying DarMAERT Vital Records and Databases

As used in Continuity of Operations Planning, the term "vital records" refers to documents and data bases that must be available to mission-critical personnel—including Command and General Staff, representatives from agencies charged with Emergency Response Functions, and Municipal Disaster Management Coordinators—to support DarMAERT's mission-critical processes. The DarMAERT Safety Officer will coordinate with the Command and General Staff, including the Planning Sector Commander, Logistics Sector Commander, and DarMAERT Coordinator to ensure that these vital records and databases are up-to-date in the event of a pandemic event. Descriptions of the two major categories of these vital records are provided below:

- **Emergency Operating Records** are essential to continued functioning of DarMAERT during the emergency and for reconstitution of DarMAERT after an emergency has ended. Emergency records include COOPs, emergency response plans and their directives[7], orders of succession, delegation of authority, staffing assignments, and related records of a directive or procedural nature. These documents provide personnel the guidance and information necessary for continuity during an emergency, and for resuming regular operations after an emergency.

- **Legal and Financial Records** are critical to DarMAERT's essential legal and financial processes and activities, and for protecting the legal and financial rights of individuals directly affected by its activities. Vital legal and financial records are so defined because their loss would significantly impair the agency's mission-critical processes to the detriment of the legal and financial rights or entitlements of affected organizations or individuals. These records include accounts receivable; contracting and acquisition files; official personnel files; and payroll, retirement, and insurance records.

3.3 Lens for Pandemic Continuity of Operations: EOC Planning P

Hence, to further operationalize and organize the DarMAERT Pandemic Continuity Plan, the following operational framework, which is anchored on the ICS "Planning P," is recommended. This framework is fully aligned to the DarMAERT Standard Operating Procedures Handbook and is reviewed below in Figure 2.

[7] *Per the 2020 DarMAERT Emergency Response Plan Update, Emergency Management Directives can be considered as direct responses to key Planning Assumptions identified in an Emergency Response Plan. Frequently these are written as if these are authored and approved by the EOC Director, with direct taskings to ICS Command and General Staff roles or Emergency Response Functions.*

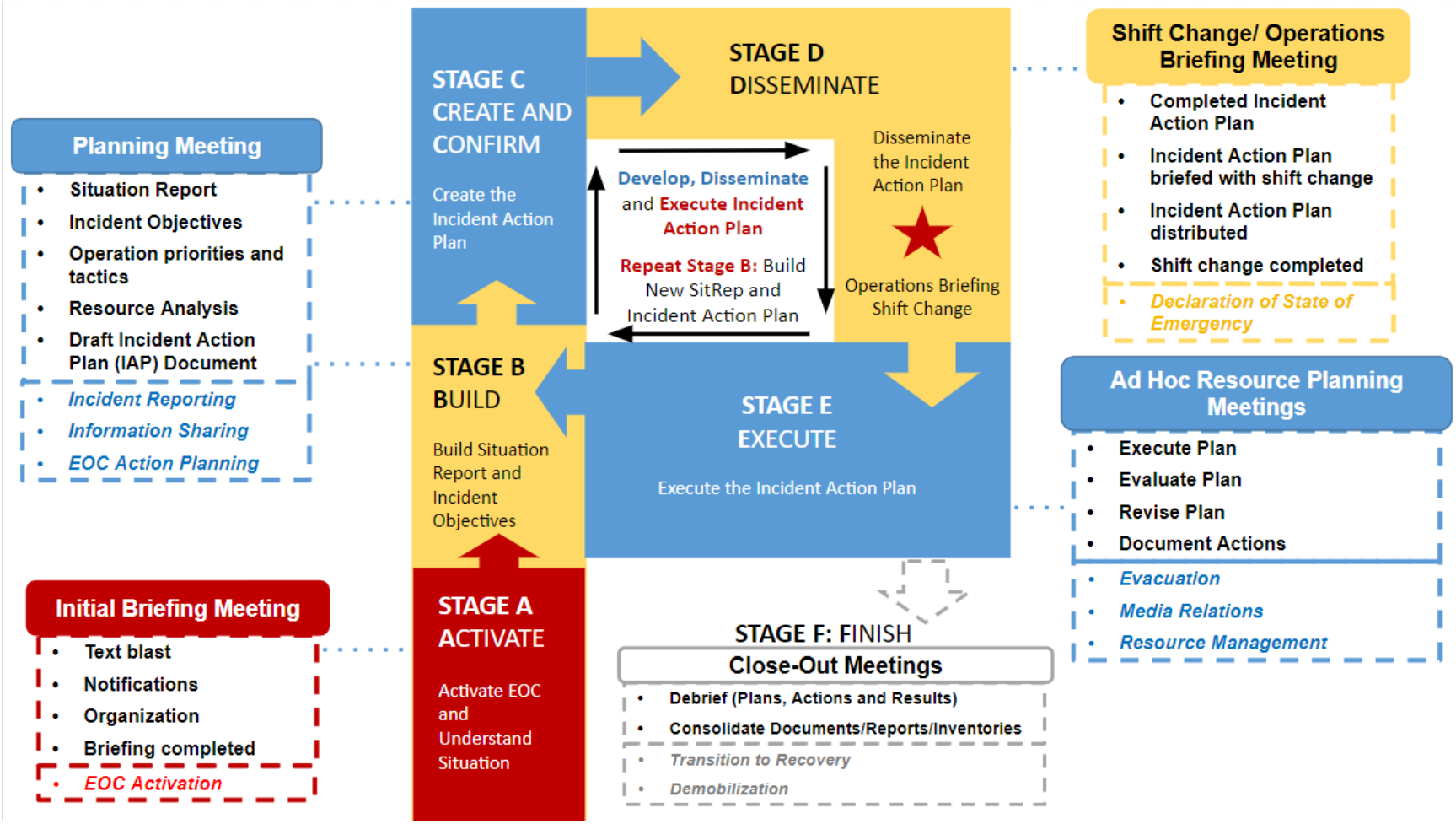

Figure 2. The Planning P Framework (EMI, 2019 from FEMA, 2018)

The initial Operational Period goes through the six stages, namely, **A**ctivate, **B**uild & **C**reate and **C**onfirm, **D**isseminate, **E**xecute and **F**eedback and **F**inish. The initial Operational Period begins with Stage A (which is only performed once) and is implemented until Stage E when the Operational Period ends. Succeeding Operational Periods will begin with Stage B and end with Stage E. The actions in subsequent Operational Periods are updated based on feedback from the preceding period. The entire Incident Action Plan process ends with Stage F (Finish), when operations are concluded and the EOC is deactivated.[8] Each of these stages are further discussed in the succeeding sub-sections.

The activities, access and staffing of the EOC shall be determined by the DarMAERT Coordinator. The EOC Command and General Staff/ DarMAERT Silver Command will be notified on anticipated activation, EOC access requirements, and advised of any security and resource support needed (this includes food and beverage requirements). **Note: All EOC participants are responsible for ensuring that safety and security practices are always observed and maintained during EOC activation.**

3.4 Planning P: Stage A – Activating the Pandemic Continuity Plan

In the event of a declared pandemic by the World Health Organization—which is then followed by a documented case of the pandemic infectious disease within Tanzania—at the request of the Regional Administrative Secretary, the DarMAERT Coordinator will activate the DarMAERT Pandemic Continuity of Operations Plan (Pandemic COOP). Activation of the Pandemic COOP initiates notification of all DarMAERT members through established procedures. It is likely that DarMAERT will commence a partial Emergency Operations Center activation concurrently with the initiation of Pandemic COOP protocols.

The DarMAERT Coordinator will be apprised of the pandemic threat environment through official government situation reports coordinated through the national PHEOC and the RAS.

Personnel accountability is of utmost concern, especially if the emergency occurs without warning during office hours. Accordingly, it is vital that DarMAERT members closely monitor communications protocols such as e-mail, phone notifications, and social media (such as WhatsApp).

3.4.1 Emergency Notification

The DarMAERT Coordinator and Safety Officer will be responsible for initiating emergency notification. DarMAERT's emergency notification list is presented in

[8] Source: Federal Emergency Management Agency (FEMA). Emergency Management Institute: ICS Review documents. 2008.

Appendix B. Emergency notification will begin with the DarMAERT Coordinator and cascade down the list.
Communication of information and guidance for DarMAERT members will usually proceed via telephone using current emergency notification procedures. Depending on the situation, current information may also be available through announcements released to local radio and television stations or be communicated via e-mail or social media (WhatsApp).

The DarMAERT Safety Officer will maintain a current mission-critical personnel roster (see **Appendix A)** for notifications at times other than regular business hours. Primary contact after business hours will be via telephone.

3.4.2 Execution/Warning Conditions

Execution of pandemic continuity operations for DarMAERT is as follows.

- **With Ample Warning**. Under some circumstances, a warning from the PHEOC and RAS will occur at least a few days before pandemic continuity operations are initiated. This expectedly would allow full execution of this Pandemic Continuity of Operations Plan with a complete and orderly alert, notification, and deployment of mission-critical personnel to the DarMAERT EOC.

- **With Little Warning**. It is possible that pandemic continuity operations will be initiated with little warning time in the event of a sudden onset nature of a pandemic declaration. An example could be if a pandemic originates in Sub-Saharan Africa and cases rapidly emerge in Tanzania.

- **During Non-business Hours**. If DarMAERT is requested to initiate its pandemic continuity plan during non-business hours, mission-critical personnel must monitor communications protocols and prepare to deploy to the DarMAERT EOC, if possible, during times such as nights and weekends.

- **During Business Hours**. If possible, this Pandemic Continuity of Operations Plan will be activated, and available mission-critical personnel will be deployed to the DarMAERT EOC during regular business hours.

3.4.3 Execution with Ample Warning

Upon receipt of a warning from the PHEOC and RAS, the DarMAERT Coordinator and Safety Officer will initiate notification of mission-critical personnel—primarily via

telephone, e-mail and/or social media (WhatsApp). Notification may also be through pager, radio and television broadcasts, or a combination thereof.

Upon receipt of alert notification:

- Mission-critical personnel assemble supporting elements required for re-establishing and performing current mission-critical processes, such as vital records, software and hardware, and other documents and equipment.

- Mission-critical personnel also assemble the remaining documents required for performance of all other mission-critical processes to be conducted at the DarMAERT EOC.

- Upon receiving the decision to initiate the pandemic continuity plan, mission-critical personnel immediately begin movement to the DarMAERT EOC. Other personnel remain at work and continue appropriate actions or travel home to await further instructions, depending on circumstances.

- All personnel are responsible for providing their own transportation to the DarMAERT EOC unless other arrangements are established by the DarMAERT Safety Officer.

3.4.4 Execution without Warning, Non-Business Hours

Upon the decision, during non-business hours, to initiate pandemic continuity operations, the DarMAERT Coordinator and Safety Officer will then initiate the telephone notification cascade for all mission-critical personnel. This will include a notification of, first, DarMAERT personnel asked to directly support the partial EOC activation, and, second, DarMAERT members who will not be directly supporting a partial EOC activation but will maintain situational awareness.

Upon receipt of notification, mission-critical personnel identified in Section 3.4.7 will immediately proceed to the DarMAERT EOC. These DarMAERT members will initiate crucial business processes at the DarMAERT EOC—such as synthesizing Situation Reports and Incident Action Plans and responding to resource requests—using the facilities, equipment, records, and supplies available at the site.

3.4.5 Execution without Warning, Business Hours

If the decision occurs during business hours to initiate pandemic continuity actions the DarMAERT Coordinator and Safety Officer likewise notifies the selected mission-critical personnel to report to the DarMAERT EOC and resume mission-critical processes, then

subsequently DarMAERT members who are not activated but will retain situational awareness on Situation Reports and Incident Action Plans. Mission-critical personnel back up automated equipment and databases; they prepare communications, other equipment, and important records for relocation.

3.4.6 Alternate Notification Process

If the DarMAERT EOC is non-operational, or must be evacuated before completion of the COOP activation notification process, the DarMAERT Coordinator or Safety Officer will establish an Emergency Relocation Site. A designated individual at the Emergency Relocation Site may be asked to assume responsibility for commencing the notification process. All mission-critical personnel contact information will be maintained by the DarMAERT Safety Officer to support communication with an alternate COOP point of contact establishing a notification process.

3.4.7 Identifying Mission Critical DarMAERT Personnel

It is assumed that the following DarMAERT members will deploy on site to the DarMAERT EOC during pandemic continuity operations:

- Command and General Staff
- Tanzania Red Cross Society
- Regional Medical Officers
- Tanzania Police Force
- Private Ambulance Services
- Tanzania Fire and Rescue Force
- Regional Administration, including support personnel from the RAS
- Local Government Authority, including the Municipal Disaster Management Coordinators

In developing an Incident Action Plan for a partial EOC activation, the Safety Officer shall confer with the Planning Section Commander to assign specific names of personnel to the agencies cited above. The Planning Section Commander will also delineate “essential” versus “non-essential” DarMAERT members on the overall staffing plan. Non-essential DarMAERT members will remotely monitor Situation Reports and Incident Action Plans as they are published.

To the extent possible, the Safety Officer should coordinate with the Planning Section Commander to assume that essential DarMAERT members are limited in the number of multiple roles they may play during the partial EOC activation to ensure that each function is adequately staffed.

3.5 Planning P – Stage B (Build), C (Create and Confirm), D (Disseminate), E (Execute), F (Finish) EOC Operations

Following the initiation of the Pandemic Continuity of Operations Plan, it is likely that DarMAERT will be functioning in a partial EOC activation mode to continue to monitor the hazard and its impact on day-to-day DarMAERT operations. The following are pandemic continuity-specific aspects of Stages B-F of DarMAERT EOC operations.

3.5.1 Basic EOC Functions During a Partial Activation for Pandemic Hazard

Once mission-critical personnel have convened at the DarMAERT EOC and have established adequate social distancing and other safety protocols, such as having adequate PPE (i.e. masks as appropriate) and hand sanitizer, the Planning Sector Commander should follow the EOC operations protocols for Planning P – Stages B-E as outlined in the *SOP Handbook*. These stages are (see next page):

Stage B – Build the Situation Report
Stage C – Create and Confirm the Incident Action Plan
Stage D – Disseminate the Incident Action Plan
Stage E – Execute the Incident Action Plan

The Planning Sector Commander will note the following adjustments for pandemic continuity operations to the standard protocols described in the SOP Handbook:

- National-level pandemic Situation Reports and Incident Action Plans are disseminated from the Minister of Health by the Chief Medical Officer (CMO) to Regional Medical Officer (RMO) to specific facilities. Additional reports are distributed from the Minister of Health to the CMO to the RMO to the RAS to the Disaster Management Department (DMD). If there is a national-level pandemic, the Minister of Health will communicate with the Prime Minister and his Permanent Secretaries as a horizontal communication at the ministry level. DarMAERT is on the distribution list for these reports, which will serve as a basis for generating DarMAERT's own Situation Report about the evolving incident as it affects DarMAERT day-to-day operations (Stage B).

- DarMAERT-specific Incident Action Plans are to be *compiled* twice per day (Stage C).

- DarMAERT-specific Incident Action Plans are to be disseminated one time per day to the RAS and to all DarMAERT members—Command and General Staff, agencies which perform the ERFs, and Municipal Disaster Management Coordinators (Stage D).

The DarMAERT Coordinator, Operations Sector Commander and Planning Sector Commander will also note that some agencies which comprise the ERFs will potentially be requested by the RAS to deploy to the national Public Health EOC managed by the Ministry of Health. Organizational redundancy should be established to ensure that deputies for each emergency response agency can deploy to the DarMAERT EOC to backfill any deployments to the national PHEOC.

3.5.2 Succession of Leadership

Authorized successors for DarMAERT leadership will be established by the DarMAERT Coordinator and identified in the Incident Action Plan. DarMAERT determines lines of succession based on established functions within DarMAERT rather than specific agencies charged with ERF. Formal Delegations of Authority will be maintained by the Planning Sector Commander and represented in the Incident Action Plan to ensure continuity of mission-critical processes. This redundancy is vital to establish continuous DarMAERT operations should senior leadership be disrupted, for example due to deployment to support another agency or by illness.

Authority to act as a successor should be exercised only with reasonable certainty that a superior is unable and unavailable to exercise authority, and when immediate action is required. An individual acting as successor should be relieved of his/her authority as soon as a superior on the list becomes available, is able, and assumes the role of the successor. An individual exercising the authority of a superior should keep a record of important actions taken and the period during which the authority is exercised.

The DarMAERT Safety Officer is responsible for activation of the Pandemic Continuity Plan and for disseminating guidance and direction during COOP activation. The Planning Sector Commander shall also ensure that there is a deputy identified for the Safety Officer to ensure continuity of this mission-critical role.

3.5.3 Devolution Assumptions

If the Pandemic Continuity Plan for DarMAERT cannot be implemented for any reason, government at the Municipal level or within the agencies that comprise the Emergency Response Functions in Dar es Salaam will be prepared to assume responsibility for carrying out the mission-critical processes. This may occur from a bottom-up process based on available capacity at the municipality, or from a top-down process as facilitated by the RAS. To facilitate restoration of DarMAERT pandemic continuity operations, the Planning Sector Commander will delegate to alternate staff the ability to quickly identify the comprehensive list of resources (personnel, equipment, software, hardware, records, and databases) that are required to re-establish DarMAERT's mission-critical processes

as well as a potential offsite location. An example of when devolution would be initiated would be if current DarMAERT members who occupy the EOC during an activation are infected, and alternative personnel and an alternative site must be identified.

3.5.4 Emergency Relocation Site(s)

If the DarMAERT EOC is adversely impacted by the pandemic, and is unable to function during pandemic continuity operations, the DarMAERT Safety Officer will be responsible for coordinating with senior leadership to establish an Emergency Relocation Site[9] for the DarMAERT EOC.

The DarMAERT Safety Officer and Logistics Sector Commander will coordinate the necessary logistics to establish an Emergency Relocation Site, such as safe and adequate facilities, communication (data and voice), and other utilities (water, electric, sanitation). The DarMAERT Safety Officer will determine what transportation options exist to facilitate the movement of the Mission-critical DarMAERT personnel staff to the Emergency Relocation Site. The DarMAERT Safety Officer shall communicate the logistics information back to the DarMAERT Coordinator or his/her designee. Information will then be cascaded to affected Command and General Staff, agencies which perform ERFs and Municipal Disaster Management Coordinators.

4 Planning P Stage F – Finishing Pandemic Continuity Operations and Reconstitution

DarMAERT will return to normal operations once the RAS determines that "Reconstitution" operations for resuming normal business operations can be initiated. This involves *finishing* the pandemic continuity operation, partial EOC Activation (corresponding to Stage F – Finish the EOC Activation as detailed in the SOP Handbook), and initiating any response-to-recovery transitions.

4.1 Reconstitution

The DarMAERT Coordinator will designate the DarMAERT Safety Officer to oversee all aspects of the reconstitution process. This includes developing a schedule of activities to ensure orderly transition of all processes, personnel, equipment, and records from the continuity operation to normal day-to-day operations. DarMAERT Safety Officer works with Command and General Staff to implement required reconstitution actions.

[9] *Potential considerations when selecting a Relocation site include, but are not limited to: sufficient power supply and power redundancy, internet connectivity, ample drinking water and bathrooms, ample size to support social distancing among DarMAERT members, adequate parking, and adequate safety considerations such as access for those with disabilities.*

Reconstitution procedures commence when the DarMAERT Coordinator ascertains that the pandemic emergency situation has ended. He or she then implements one of the following options:

- Continue to operate from an Emergency Relocation Site if the DarMAERT EOC is unusable or processes cannot be interrupted.

- Begin an orderly return to agency offices that minimizes disruption of normal activities.

- DarMAERT Command and General Staff, agencies which comprise the ERFs, and Municipal Disaster Management Coordinators designated as Mission Critical would relocate back to their agency offices.

The DarMAERT Coordinator and DarMAERT Planning Sector Commander will follow the protocols for Planning P – Stage F in the EOC Handbook, including conducting a hotwash[10] and after-action report for the pandemic continuity operation.

5 Plan Maintenance

This section discusses the activities associated with maintaining the Pandemic Continuity of Operations Plan. These activities are recommended to assure that the Pandemic Continuity of Operations Plan remains an updated and functional document. It is recommended to test this Plan through exercises that should be conducted on an annual basis and integrate exercise outputs into an updated version. This Plan should also be revised following any DarMAERT EOC activations for a pandemic, and, through the revision process, integrate any key findings as suggested by After Action Reporting.

The DarMAERT Safety Officer will establish procedures to ensure that information obtained from any real-world activations, as well as trainings, exercises and drills are incorporated into a corrective action process to update this Plan. This evaluation process will include an *annual review/update* of the Pandemic Continuity of Operations Plan and all support documents.

The DarMAERT Safety Officer will:

- Conduct a formal audit of the Pandemic Continuity of Operations Plan annually;
- Evaluate all areas of the COOP and develop corrective actions based on any key findings.

[10] *A hotwash is a recap session following an EOC activation, or exercise and drill that reviews items that went well, opportunities for improvement, as well as lessons learned.*

To ensure that the Pandemic Continuity of Operations Plan always reflects current organizational conditions, any changes in DarMAERT's organizational structure, functions or mission, and service to clients will be reflected in the Plan accordingly.

Major issues to be considered include:

- Identifying items or issues that affect how frequently changes to the Pandemic Continuity of Operations Plan will be required, such as the frequency of turn-over of DarMAERT members or the issuance of any national-level guidelines that may necessitate a Plan revision;

- Establishing a review cycle;

- Maintaining overall Plan currency and readiness—to include procedures, equipment, systems, personnel, and rosters;

- Advising the DarMAERT Coordinator on COOP-related matters;

- Coordinating among related Plans, including the ERP 2020 Update, SOP Handbook, and EOC Handbook, as well as any relevant Plans issued by the Ministry of Health;

- Conducting training, testing, and exercises to test DarMAERT pandemic continuity operations;

- Updating Plans annually to incorporate lessons learned from testing and exercises, as well as any actual events that occurred during the year. In addition to updating the Plan annually, more frequent Plan updates may be necessary under conditions that include:
  - Mission-critical employees that are identified in Section 3.4.7 begin or terminate service with their respective agencies.
  - Employee contact numbers that change.
  - New processes that are implemented.
  - If substantive changes to existing mission-critical processes occur.
  - Reorganization of DarMAERT's goals and objectives.
  - Employee duties change within the scope of the Plan.
  - Results of exercises or drills compel change in the Plan.
  - Relevant regulatory changes occur.

Whenever the Plan is updated, it shall be reissued with the update recorded on the Pandemic Continuity of Operations Plan Record of Changes.

Appendix A – Further Reading

Africa-related Pandemic Resources

"Nigeria is Now Free of Ebola Virus Transmission." The World Health Organization. October 14, 2014. https://www.who.int/mediacentre/news/ebola/20-october-2014/en/
Short Summary: Detailed account by the WHO about the "spectacular success story" of isolating and containing Ebola in Nigeria including swift intervention, medical surveillance, international coordination, activation of an Emergency Operations Center, and the effective dissemination of public information.

Coltart, Cordelia, et al. "The Ebola Outbreak 2013-2018: Old Lessons for New Epidemics." US National Library of Medicine/National Institute of Health. May 26, 2017. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5394636/
Short Summary: Peer-reviewed research that describes the detailed chronological and geographic evolution of the Ebola 2013-18 outbreak in West Africa, as well as best practices including community engagement, contact tracing, infection control measures, the establishment of treatment centres with adequate bed capacity, and quarantine. The top identified "best practices" of Ebola response include:

1. Early identification and recognition of outbreak.
2. Effective collaboration and coordination between national and international players, with sound governance.
3. Quick mobilization of professional and community resources.
4. Improved communication and awareness.
5. Improved community engagement.
6. Training of Health Care Workers in infection control.
7. Organization of contact tracing and isolation.
8. Good surveillance and case detection.
9. Safe burial practices.
10. Consideration of vaccination strategies based on the latest evidence.

Abramowitz, Sharon Alane, et al. "Community-Centred Responses to Ebola in Urban Liberia: The View from Below." US National Library of Medicine/National Institute of Health. April 9, 2015. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4391876/
Short Summary: Describes adaptations at the micro-social level in Liberia during the West African Ebola epidemic outbreak, to overcome gaps in healthcare, response, and infrastructure.

Moore, Jina. "What African Nations are Teaching the West About Fighting Coronavirus." *The New Yorker*. May 15, 2020. https://www.newyorker.com/news/news-desk/what-african-nations-are-teaching-the-west-about-fighting-the-coronavirus
Short Summary: Suggests that the deep recent history battling pandemics in sub-Saharan Africa is potentially supporting an effective response. An overall aggressive posture including early shut-downs, declaration of states of emergency, and public messaging at points-of-entry as well as tracing, isolating, and testing suggests that global best practices for responding to COVID-19 exist within sub-Saharan Africa.

"Covid-19 Risks In East Africa Heighten As Severe Floods Displace Nearly Half A Million People." Save the Children. May 15, 2020. https://www.savethechildren.net/news/covid-19-risks-east-africa-heighten-severe-floods-displace-nearly-half-million-people
Short Summary: Details recent torrential rainfall events throughout East Africa—in some cases the highest in 40 years. Subsequent displacement and disruption has made it extremely difficult to practice safe handwashing and social distancing. In Tanzania, 10,000 are internally displaced as of May 15, 2020.

"The East African Regional Public Health Emergency Operations Centre and Incident Management Training Workshop Kicks Off in Tanzania." World Health Organization – United Republic of Tanzania. August 1, 2017. https://www.afro.who.int/news/east-african-regional-public-health-emergency-operations-centre-incident-management-workshop-kicks-off-tanzania
Short Summary: WHO announcement for the East Africa regional workshop on Public Health EOC and Incident Management Training that occurred in 2017. The workshop covered, among other issues, "coordination and communication approaches to plan for and respond to an infectious disease outbreak."

Dedicating Emergency Operations Centers In West Africa. CDC Foundation. Sept 17, 2015. https://www.cdcfoundation.org/blog-entry/dedicating-emergency-operations-centers-west-africa.
Short Summary: Described how EOCs and incident management systems established for the Ebola response enabled better coordination of national activities, faster decision-making and data sharing among public health experts, and emergency response partners with support from the CDC.

"Standard Operating Procedures for Preparedness, Detection and Response to a Coronavirus (2019-Ncov) Outbreak in South Africa." Republic of South Africa Department of Health. January 30, 2020. (Downloaded)
Short Summary: SOP from South Africa for detection and reporting, hospital transfer, medical management and investigation, and coordinated, multidisciplinary response. Targeted for front line public health and health care workers.

International Pandemic Resources (developing world context)

"COVID-19: Experiences from Best Practices in Asia Show A Path Forward in the Fight Against the Coronavirus." Pacific Economic Cooperation Council. April 27, 2020. https://www.pecc.org/blog/entry/covid-19-experiences-from-best-practices-in-asia-show-a-path-forward-in-the-fight-against-the-coronavirus
Short Summary: Brief article from the PEEC discussing emerging best practices from throughout Asia. These include aggressive movement at the onset of the pandemic, engagement of civil society, and coupling with mental health services, contact tracing, data-driven medical surveillance, as well as robust testing.

"Korea's Response to COVID-19 and Future Direction." Central Disaster and Safety Countermeasure Headquarters. May 7, 2020.
Short Summary: Official document from South Korea reiterating COVID-19 best practices including transparency of information, citizen engagement (social distancing, identifying vulnerable facilities such as nursing homes), aggressive testing, screening, and tracing, and leveraging ICT. Also describes the need to increase hospital bed capacity and have adequate allocations of Personal Protective Equipment (PPE). The document also re-iterates the need for pan-governmental cooperation, as well as a robust Public Information function during the response, including correcting misinformation.

"Tackling COVID-19 Health, Quarantine and Economic Measures: Korean Experience." The Government of the Republic of Korea. March 31, 2020. (Downloaded).
Short Summary: South Korean government document reiterating COVID-19 success stories that also describe the local-to-national pandemic health response structure as well as alerting levels. The document also emphasizes the "testing-tracing-treating" three-tiered approach.

"How Korea Responded to a Pandemic Using ICT: Flattening the Curve On COVID-19." April 15, 2020.
Short Summary: Official document of South Korea that describes how ICT can support multiple aspects of effective response, including public information via Emergency Broadcast alerts, the facilitation of remote working and remote education, telemedicine, predictive modelling, advanced testing capabilities, as well as supporting tracing applications.

"COVID-19, Testing Time for Resilience." The Government of the Republic of Korea. May 3, 2020.

Short Summary: South Korean official publication that describes aspects of resilience tested by the shocks and stressors of the COVID-19 pandemic. This includes economic investments including to offset potential supply chain disruptions, supporting online education and remote working, conducting a national election with high voter turnout, leveraging ICT to support border control and response, and engaging the military support response operations, including to increase hospital capacity.

"Pandemic Readiness and Response Plan for Influenza and Other Acute Respiratory Diseases." Singapore Ministry of Health. April 2014.
Short Summary: Best practices summary document from the Singapore Ministry of Health based on the country's experience in managing Severe Acute Respiratory Syndrome (SARS). Describes quickly identifying potential outbreaks, pivoting to an aggressive response, slowing the disease spread through social distancing to minimize impacts on the healthcare system, as well as the structure and alert levels of the overall response operation. Emphasizes testing, contact tracing, quarantine, and social distancing measures up through the development and administration of a vaccine.

"Lessons from Taiwan's experience with COVID-19." Atlantic Council. April 7, 2020. https://atlanticcouncil.org/blogs/new-atlanticist/lessons-from-taiwans-experience-with-covid-19/
Short Summary: Article from the Atlantic Council detailing Taiwan's forward-leaning posture related to COVID-19, based on the lessons learned from the SARS epidemic. The lessons learned included: 1) robust public-private collaboration; 2) successfully engaging the mass media in Public Information dissemination; 3) familiarity with new social norms, including social distancing; 4) rapid clarification of mis/disinformation; 5) promulgating the scientifically-based elements of the response across political and social barriers within a society.

Tanzania-Specific References

Tanzania Emergency Preparedness and Response Plan (TEPRP). Tanzania Prime Minister's Office – Disaster Management Department. (Draft) January 2012.
Short Summary: Provides national context from which the rationale for Hazard-specific contingency plans could be anchored to, although a national-level hazard-specific contingency plan is not available.

National Operating Guidelines. Government of Tanzania. 2014.
Short Summary: Pages 65-80, Chapter 5, of the TNOG describes an overall framework for response management, including the adoption of the British style of
Incident Response/Incident Command System with Gold/Silver/Bronze designations. A Hazard-specific Continuity Plan would operate at the Bronze and Silver levels.

Training, Exercises, and Drills Phase 1 Deliverables, Tanzania Urban Resilience Program (TURP):

- DarMAERT Emergency Response Plan 2020 Update
- Emergency Operations Center Handbook
- Standard Operating Procedures Handbook

Standard Operating Procedures (SOPs) for Case Management and Infection, Prevention and Control. Ministry of Health. March 2020
Short Summary: Describes site/facility-level guidelines on various aspects of COVID-19 prevention/management.

Tanzania National Action Plan for Health Security 2017-2021. United Republic of Tanzania.
Short Summary: Describes capacities and limitations in health EOC operations as well as management structure for national health security, and roles and responsibilities of agencies.

COVID-19 WASH Response Plan. Ministry of Health. April 2020.
Short Summary: Provides the framework for WASH protocol implementation in Tanzania to support COVID-19 response and recovery.

"United Republic of Tanzania: Cholera Outbreak 2015; Situation Report #1" United Nations Tanzania. November 10, 2015. https://reliefweb.int/sites/reliefweb.int/files/resources/tanzania_unrco_sitrep_1_cholera_11nov2015.pdf
Short Summary: United Nations Tanzania comprehensive situation report describing the cholera outbreak of 2015. Describes the structure of the response across the UN Cluster system, including WASH protocol, as well as the national response structure including surveillance and logistics. Infers that the Emergency Operations Center was functioning during this time and implementing the National Cholera Response Plan, with the Ministry of Health and Social Welfare securing funding for renovation of the EOC.

International Templates and Methodologies

Disaster Response and Contingency Planning Guide. IFCRC. 2007.
Short Summary: Provides an international standard to anchor an approach to, very importantly to include discussion and depiction of disaster response plans, SOPs and their relation to hazard contingency planning. Will be an important document to reference in a background/introduction section.

Sample Contingency Plan
Short Summary: Contains the structure of a Hazard-specific contingency plan for Typhoon Hazard that can serve as a base template, authored in the Philippines.

Pandemic Influenza: Continuity of Operations Annex Template Instructions. FEMA. Short Summary: Detailed template Instructions for Pandemic Planning to align document structure to.

Tabletop Exercises for Pandemic Influenza Preparedness in Local Public Health Agencies. RAND Corporation. 2006.
Short Summary: Describes overall framework for very public health-specific Pandemic TTX that can potentially influence the simulation testing (if not too epidemiology-specific).

Continuity of Operations Plan Template for Federal Departments and Agencies. Federal Emergency Management Agency. April 2013.
Short Summary: Template for a government Continuity of Operations Plan, per the US Federal Emergency Management Agency.

Andrews, Matt, Pritchett, Lant, and Woolcot, Michael. *Escaping Capability Traps Through Problem Driven Iterative Adaptation (PDIA)*. *World Development*. *2013.*
Short Summary: Provides a framework stating that "interventions should (i) aim to solve particular problems in local contexts, (ii) through the creation of an authorizing environment that facilitates positive deviance and experimentation, (iii) involving active, ongoing, and experiential learning and the iterative feedback of lessons into new solutions, and (iv) engaging broad sets of agents to ensure that reforms are viable, legitimate, and relevant—i.e., politically supportable and practically implementable."

Appendix B – DarMAERT Membership Call List

	Agency	Name	Position	Email address	Contact number
1	DarMAERT	Mr. Salum Hamidu	DarMAERT Coordinator	salym407@gmail.com	0717351395
2		Mr. Rogasian Kimaryo	DarMAERT Secretary	rekimaryo@gmail.com	0754866376
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10		Mr. Juma Haule	Public Health Expert	dpjhaule@yahoo.com	0657588880
11	Fire & Rescue Force	Mr. Salum Mohamed	Senior Assistant Commissioner – Fire (SACF) / Regional Fire Officer - Kinondoni	kinondoni@frf.go.tz	0717065996

	Agency	Name	Position	Email address	Contact number
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19		Ms. Christina Lyabonga	Sargent (Sgt) Fire and Rescue Force/ EOC Officer	christinalyabonga@gmail.com	0655276247
20		Mr. Thomas Mrema	Fire Constable (FC)/ EOC ICT Officer	thomsonmrema@gmail.com	0718601138
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SUPPORTED BY: