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VOLUME 4

DISASTER MANAGEMENT PLAN

KULHUDHUFFUSHI CITY, MALDIVES

August 2025

Project:

Disaster Management, Hazard Mitigation and Climate Change Adaptation Plan

Client:

Kulhudhuffushi City Council

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Secretariat of Kulhudhuffushi City Council
Kulhudhuffushi, Maldives

II. CONTENTS

Secretariat of Kulhudhuffushi City Council
Kulhudhuffushi, Maldives

III. LIST OF ABBREVIATIONS

AAR	After Action Review
CBO	Community Based Organization
CCAP (2025)	Climate Change Adaptation Plan (prepared for Kulhudhuffushi City)
CDMC	City Disaster Management Committee
CEOC	City Emergency Operations Center
CEOP	City Emergency Operation Plan (prepared for Kulhudhuffushi City)
CSO	Civil Society Organization
DMC	Disaster Management Committee
DMSC	Disaster Management Steering Committee
DRR	Disaster Risk Reduction
EOC	Emergency Operations Centre
EPZ	Environmental Protection Zone
ESF	Emergency Support Function
EWS	Early Warning System
HVCA (2024)	Hazard, Vulnerability and Capacity Assessment (prepared for Kulhudhuffushi City)
ICP	Incident Command Post
ICS	Incident Command System
IFRC	International Federation of Red Cross and Red Crescent Societies
IMT	Incident Management Team
ISDR	International Strategy for Disaster Reduction
KCC	Kulhudhuffushi City Council
KP	Kulhudhuffushi Post
KPI	Key Performance Indicator
KRH	Kulhudhuffushi Regional Hospital
LDP	Local Development Plan
MACS	Multi-agency Coordination System
MCR2030	Making Cities Resilient 2030
MMS	Maldives Meteorological Service
MNDF	Maldives National Defence Force
MoU	Memorandum of Understanding
MPS	Maldives Police Service
MRC	Maldivian Red Crescent
MWSC	Male' Water and Sewerage Company
NAC – MNDF	North Area Command, Maldives Defence Force
NDMA	National Disaster Management Authority
NDMC	National Disaster Management Committee
NEOP	National Emergency Operations Plan
NGO	Non-Governmental Organization
PIO	Public Information Officer
PWD	Persons with Disabilities
SFDRR	Sendai Framework for Disaster Risk Reduction
SOE	State Owned Entity
SOP	Standards of Procedure

IV. DOCUMENT CONTROL

This document is one component of the Disaster Management, Hazard Mitigation, and Climate Change Adaptation Plan for Kulhudhuffushi City. The project, advertised under the reference number, (IUL)266-PR/266/2023/225, was awarded to the Charrette Studio, by Kulhudhuffushi City Council (KCC), on the 17th January 2023 under the agreement number referenced and registered, (AGR)266-PR/PRIV/2024/4.

This document follows the Hazards, Vulnerability and Capacity Assessment and precedes the City Emergency Operations Plan, Climate Change Adaptation Plan, and the Implementation Plan.

APPROVAL OF PLAN

In accordance with Disaster Management Act (Law no. 28/2015) this plan has been reviewed and adopted by the Kulhudhuffushi City Council on 14th May 2025 and adopted by (DIR)266-A/266/2025/41.

Kulhudhuffushi City Council:

Mohamed Athif
Mayor, Kulhudhuffushi City

Record of Changes

This is the first version of the Kulhudhuffushi City Emergency Operations Plan released in May 2025. Any changes to the plan including regular update in accordance with the guidelines endorsed by Kulhudhuffushi City Council will be recorded and a full summary of the version history annexed in subsequent plans.

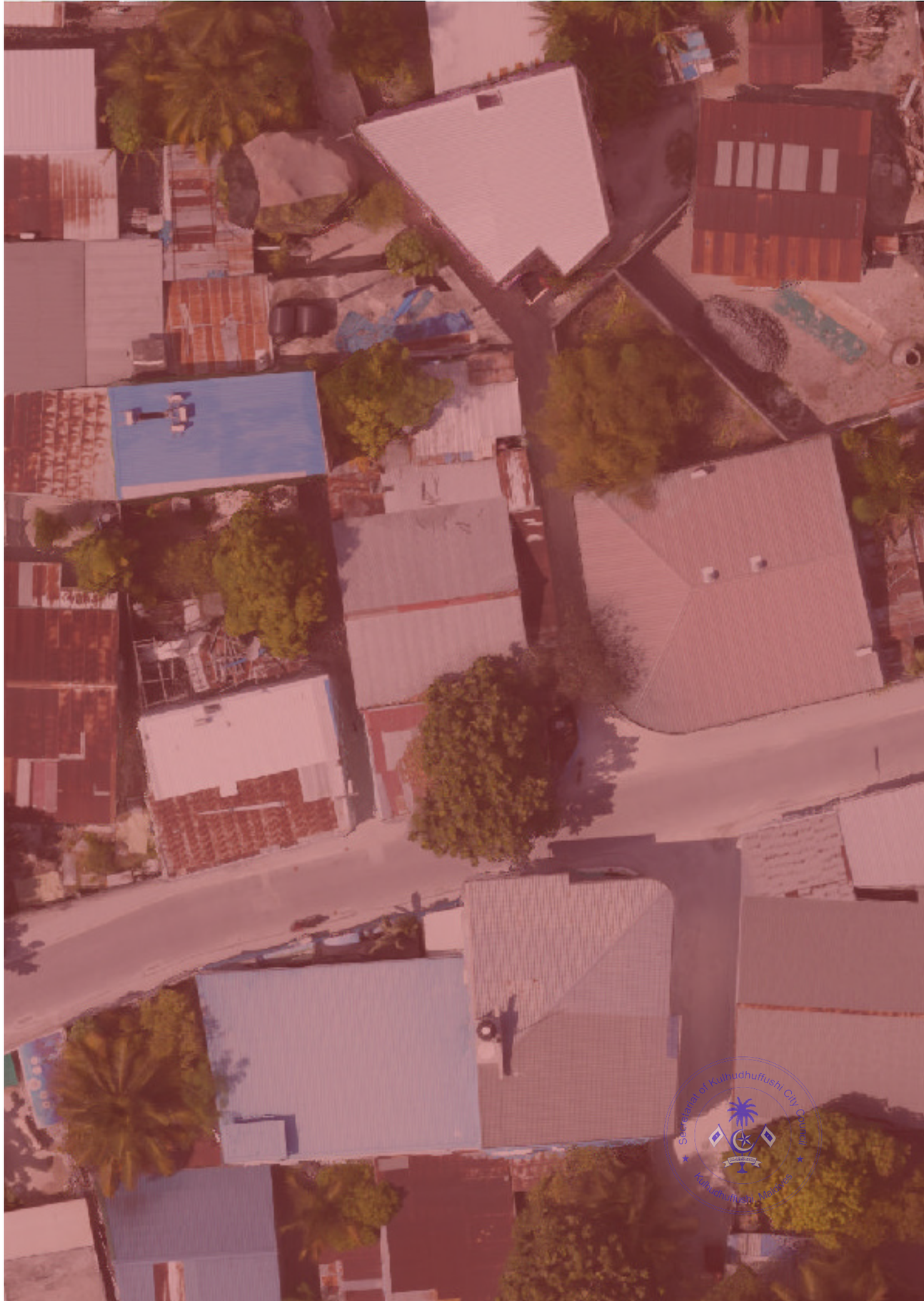
Version	Endorsed	Comment
1.0	(DIR)266-A/266/2025/41 Date: 14/05/2025	Approved

Record of Distribution

As per Act 28/2015 the plan is available for inspection, free of charge by members of the public on the Kulhudhuffushi City Council's website.

Review and Renewal of Plan

As specified in this plan, the Kulhudhuffushi City Council is mandated to review and renew the plan every four years.



01
INTRODUCTION

The Kulhudhuffushi City Council plays a key role in preparing and implementing disaster management plans, as well as conducting disaster risk reduction (DRR) activities. This is a milestone in the overall DRR activities in Maldives, as this is the first of its kind formulated by a City Council. These efforts are not only mandated by the Disaster Management Act (Law no. 28/2015), but also align with international standards and regulatory frameworks that emphasize localized disaster planning and community engagement.

Under the Act (28/2015), particularly Chapter 6, local councils are tasked with preparing disaster management plans that address the specific vulnerabilities and risks within their jurisdictions. This is critical for a city like Kulhudhuffushi, which faces threats such as flooding, and extreme weather events. The Act (28/2015) ensures that councils have the authority and responsibility to develop localized strategies, which include prevention, mitigation, preparedness, and recovery measures. These plans must be continuously updated as risks evolve, in line with Section 4 & 5 of the Act (28/2015), ensuring that the city is resilient and responsive to changing environmental conditions.

The work carried out by the Kulhudhuffushi City Council also aligns with international disaster risk management frameworks, most notably the Sendai Framework for Disaster Risk Reduction (SFDRR) (2015-2030). SFDRR emphasizes the importance of local-level disaster risk management and stresses the need for cities to incorporate community-based disaster preparedness and resilience-building into their plans. The four priorities of the SFDRR—understanding disaster risk, strengthening disaster risk governance, investing in DRR for resilience, and enhancing disaster preparedness—are reflected in the work Kulhudhuffushi City must undertake, particularly in risk assessment, public awareness, and preparedness efforts.

Moreover, the Paris Agreement and its focus on climate change adaptation underline the need for cities like Kulhudhuffushi to integrate climate risks into their disaster management plans. This ensures that local plans account for long-term changes in weather patterns, sea-level rise, and other climate-related risks, which are critical issues for low-lying island nations such as the Maldives.

The International Strategy for Disaster Reduction (ISDR), coordinated by the UN Office for Disaster Risk Reduction (UNDRR), provides further guidance for local authorities on integrating global best practices into disaster planning. It emphasizes capacity building, resource mobilization, and effective governance at the local level—principles that the Kulhudhuffushi City Council must follow.

In addition to the Act, the inclusion of international standards, such as those set by the SFDRR (2015-2030), ensures that the disaster management efforts align with global best practices. It emphasizes the importance of local action, risk reduction, and resilience-building, all of which are key components of the work carried out by the Disaster Management Committee at the city level.

In summary, the Kulhudhuffushi City Council is legally bound by national legislation and guided by international standards to prepare and execute a robust disaster management plan. With support from local, national, and international stakeholders, the council's disaster management efforts ensure that the city is well-prepared to face future risks and challenges, aligning with both national mandates and global best practices.

Secretariat of Kulhudhuffushi City Council
Kulhudhuffushi, Maldives

Purpose, Scope and Situation Overview

The purpose of this document is to enhance the resilience and disaster preparedness and recovery capacity for the residents of Kulhudhuffushi City. The following are the four key priorities for DRR according to the Sendai Framework for Disaster Risk Reduction (SFDRR) 2015-2030, which this document follows.

1. Understanding disaster risk.
2. Strengthening disaster risk governance to manage risk.
3. Investing in disaster risk reduction for resilience.
4. Enhancing disaster preparedness for effective response and to "Build Back Better" in recovery, rehabilitation, and reconstruction.

This document is created on the foundations of the Disaster Risk Reduction Strategy – Maldives 2024- 2030, which are grounded in the SFDRR framework and prioritizes specific needs and vulnerabilities identified through their comprehensive discussions. It follows the 7 national priorities followed in the DRR Strategy- Maldives 2024 - 2030 as major guidelines.

Additionally, this plan has been prepared in accordance with the Disaster Management Act (Law: 28/2015), and is consistent with and aligns to provisions specified in the following legislations and regulations that deal with matters related to disaster management in the Maldives:

- The Disaster Management Act (Law: 28/2015)
- The Decentralization Act (Law: 7/2010)
- Public Health Protection Act (Law: 7/2012)
- The Climate Emergency Act (Law: 9/2021)
- The Disability Act (Law: 8/2010)
- The Construction Act (Law: 4/2017)
- Armed Forces Act Maldives (Law: 1/2008)
- Maldives Police Service Act (Law: 34/2020)
- The Maldivian Red Crescent Act (Law: 7/2009)
- Disaster Risk Reduction Strategy – Maldives 2024-2030
- Disaster Relief Regulation 2024/R-43
- National Emergency Operations Plan - Part 1
- National Emergency Operations Plan - Part 2

DRR Strategy- Maldives 2024-2030

1. **Strengthen Governance and Legal Frameworks**: Establish clear roles and responsibilities for DRR efforts, ensuring effective coordination and empowering stakeholders.
2. **Enhanced Multi-Hazard Risk Assessment**: Conduct comprehensive risk assessments that consider climate change projections and cascading effects of multiple hazards.
3. **Building Resilience Through Infrastructure and Nature**: Integrate DRR principles into infrastructure development and maintenance practices, promote disaster-resilient construction techniques, and utilize ecosystem based approaches.
4. **Empowering Communities for Effective Response**: Build the capacity of communities to prepare for and respond to disasters through training, public awareness campaigns, and participation in DRR planning.
5. **Strengthening Early Warning Systems and Preparedness**: Upgrade and expand early warning systems, ensure effective communication, and support community preparedness plans.
6. **Promoting Comprehensive Recovery and Livelihood Resilience**: Ensure a swift and comprehensive recovery process, focusing on repairs, livelihood restoration, and establishing a social support system for vulnerable populations.
7. **Cultivating a Culture of Safety and Climate Resilience**: Integrate DRR and climate change education into the national curriculum, foster disaster preparedness, and promote public awareness and knowledge sharing.

Using the above specified priorities, and the main features of a resilient community, the main objective of the plan is to compile the disaster management, hazard mitigation plan with the authorities of Kulhudhuffushi City which ensures the following features of a resilient community.

Overview of the Methodology

The process commenced with the development of a strategic framework encompassing the four key phases of disaster management: prevention/mitigation, preparedness, response, and recovery. The strategies were informed by both local realities and international best practices informed in the hazard identification and analysis exercise conducted in collaboration with the local council, community stakeholders, and government experts specializing in DRR, response, and recovery.

Following this, a comparative strategy analysis was undertaken to assess both current and projected future risks associated with each hazard and how each strategy was to make the city more resilient. This step was critical in contextualizing the potential impacts at the local level. Subsequently, the team developed concrete actions for each phase of disaster management, along with detailed activities specific to the prevention/mitigation, and preparedness phases.

The formulation process was structured around three stages of consultation. The initial consultation, conducted with the CDMC, local stakeholders, and the council, focused on contextualizing the strategies, actions, and activities to align with local conditions. This was followed by a second round of consultations involving government experts in DRR, response, and recovery, aimed at ensuring coherence between local strategies and national disaster management frameworks. The final stage involved a validation process, where the strategies, actions, activities, implementation timeline, and designated responsible parties were reviewed and endorsed by the council, local stakeholders, and government experts.

The present DMP is the outcome of this rigorous, consultative, and evidence-based process

Supporting documents

This project has a set of supporting documents. The following are some of these documents.

- Hazard, Vulnerability and Capacity Assessment (HVCA (2024))
- Climate Change Adaptation Plan (CCAP (2025))
- City Emergency Operations Plan (CEOP (2025))

Secretariat of Kulhudhuffushi City Council
Kulhudhuffushi, Maldives

02

DISASTER MANAGEMENT FRAMEWORK

A snapshot of the legal framework and institutional arrangements.

Maldives' disaster management framework emphasizes the integration of local, national, and international resources to build a resilient nation. This section provides an overview of the NDMA and other key institutions, including their roles in guiding and supporting local councils like Kulhudhuffushi. The chapter details the legal and operational structures that bind national disaster management efforts and outlines how Kulhudhuffushi's City Council leverages these frameworks to coordinate its own disaster risk reduction and response plans.

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Kulhudhuffushi, Maldives

National Disaster Management Governance Structure

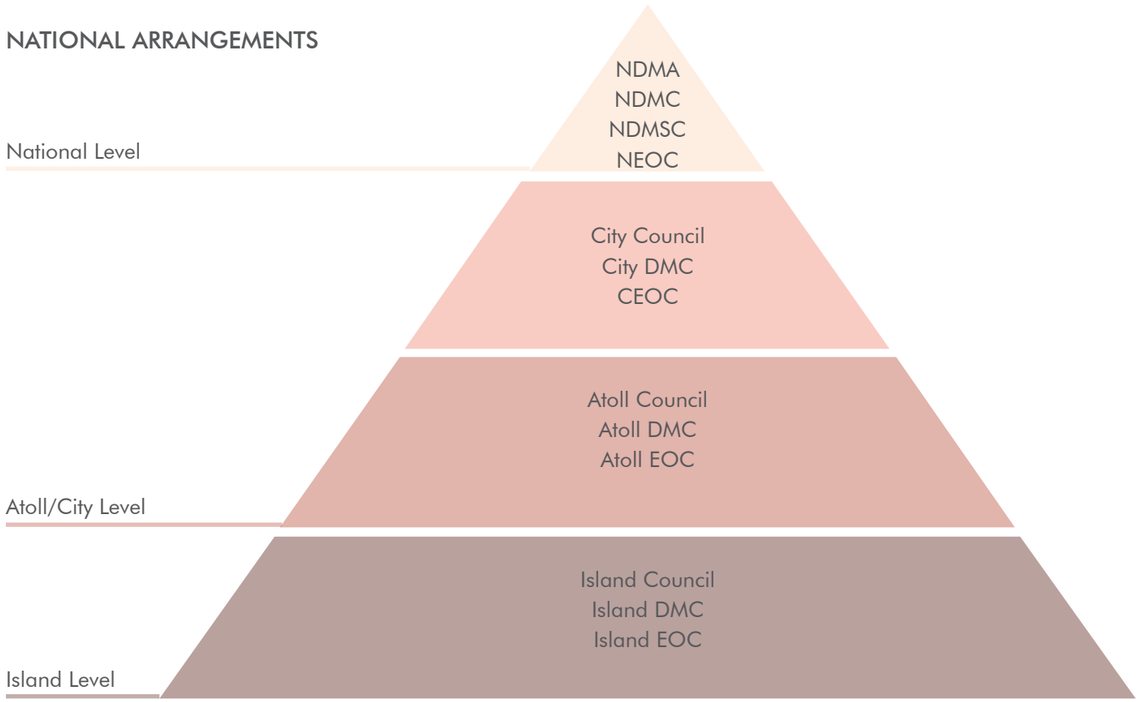

Figure 1. Disaster Management Arrangement

The Disaster Management Act (28/2015) stipulates the disaster management structure at different levels across the country. Figure 1 illustrates the Disaster Management Arrangement.

As per the Act, the National Disaster Management Council is the apex decision-making body with regards to disaster risk reduction and preparedness, and disaster response and recovery. The Council is chaired by the President of the Maldives and comprises cabinet ministers and the Chief Executive of the National Disaster Management Authority (NDMA). NDMA is the authority mandated to promote an integrated coordinated system of disaster management with special focus on reducing disaster risks and mitigation by National, Atoll, State institutions, civil society organizations, public, private organizations and other relevant stakeholders in disaster management. The council is also mandated to establish the Disaster Management Steering Committee (DMSC) the administration of which is tasked to the NDMA.

The Disaster Management Steering Committee coordinates all activities related to disaster risk reduction, preparedness, disaster response and recovery as per the policies formulated by the National Disaster Management Council. The committee is chaired by the Chief Executive of NDMA with members across various national institutions such as Ministries, Local Government Authority, Maldives Police Service, Maldives National Defense Force, Maldivian Red Crescent and other relevant stakeholders.

At City, Atoll and Island Level, the respective council is mandated to formulate the Disaster Management Committee (DMC) and the Emergency Operations Center (EOC). Figure 2 shows the Disaster Management Policy Framework which highlights the legislations, policies and plans that are relevant to Disaster Management in the Maldives.

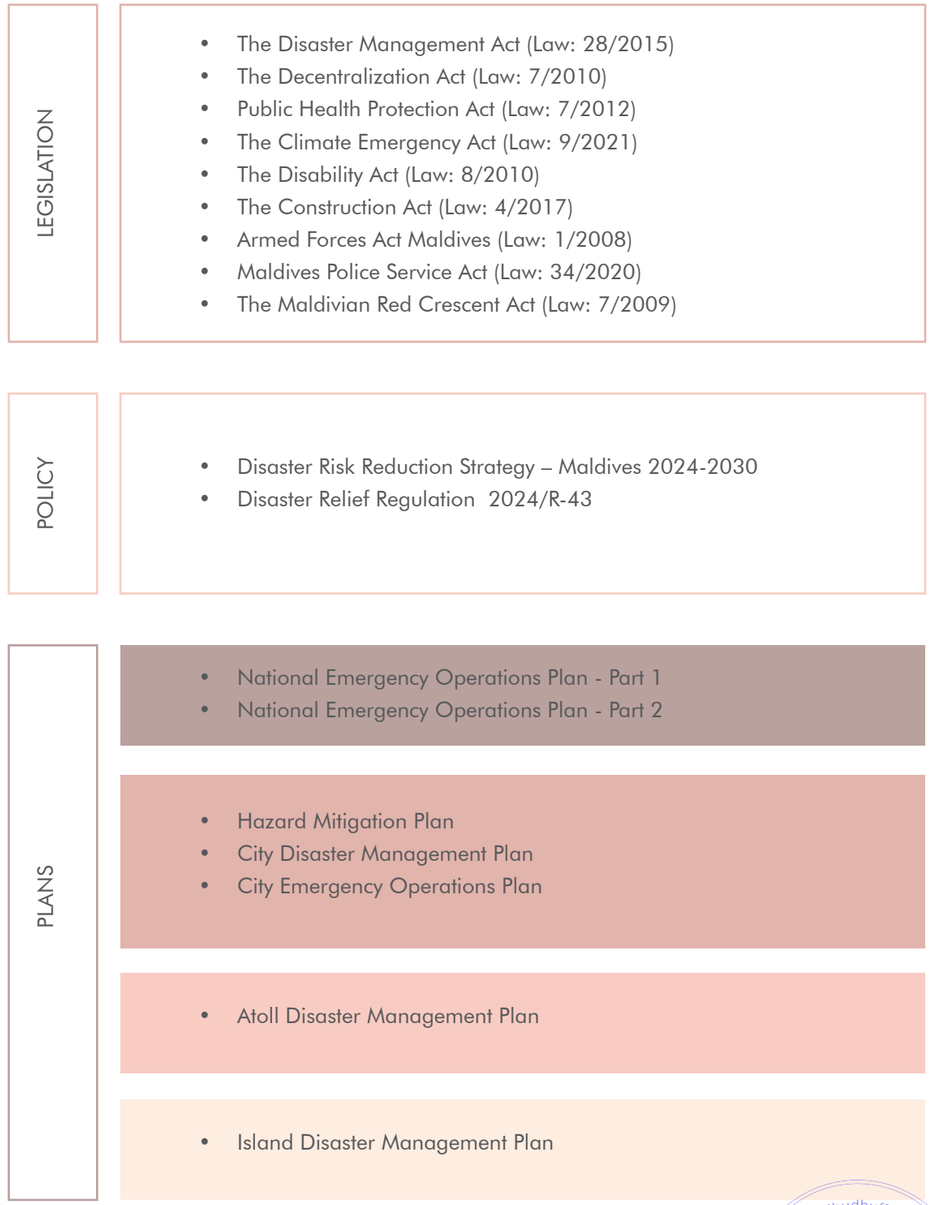

Figure 2. Disaster Management Policy Framework

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Kulhudhuffushi, Maldives

City Disaster Management Governance Structure

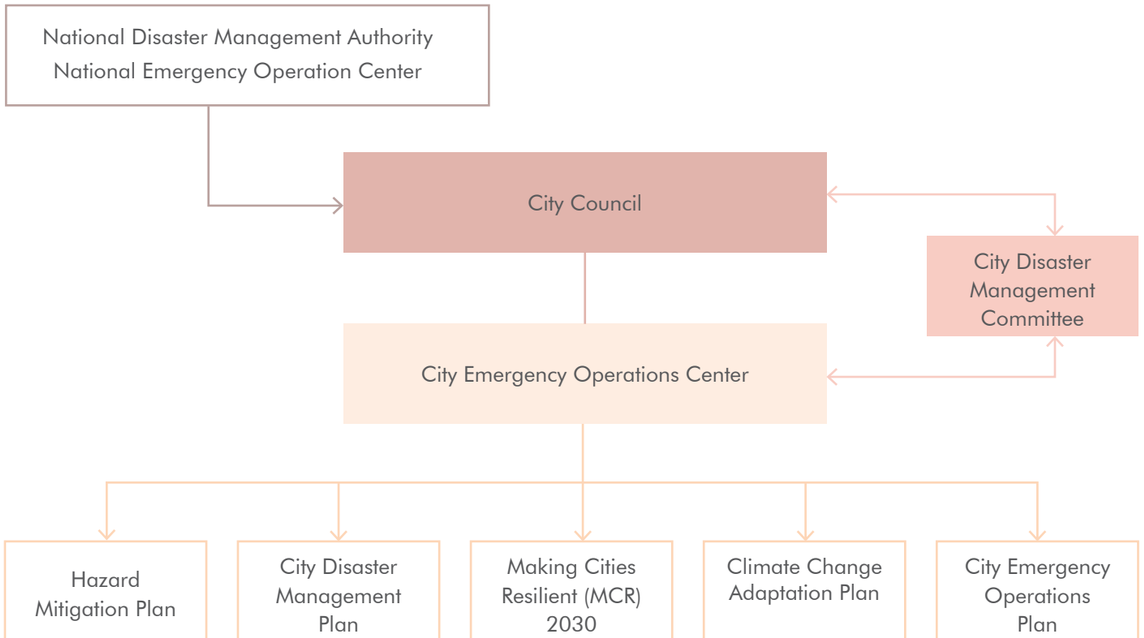

Figure 3. City Disaster Management Governance Structure

Roles and Responsibilities of the Kulhudhuffushi City Council

- Formulate and implement plan on preparedness, disaster response and disaster risk reduction in accordance with the National Disaster Plan.
- Integrate the disaster risk reduction elements into development projects of local councils.
- Enhance capacity of Kulhudhuffushi City Council for disaster risk reduction and preparedness.
- Include funds for DRR activities within the budget.
- Put out advisories, disseminate and exchange information as per multi-hazard early warning procedures before and during disaster response.
- Provide assistance in a just manner in accordance with relief standards to people affected by disasters.
- Establish the Kulhudhuffushi City Disaster Management Committee with responsible persons and their responsibilities, procedures to be followed in responding to disasters.
- Ensure that Kulhudhuffushi City DRR, disaster response and disaster preparedness plans are in conformance with national frameworks on community based disaster risk management.
- Perform all activities in disaster response and recovery with the assistance of relevant stakeholders.
- Manage disasters in the region with the advice of NDMA.
- Undertake disaster damage assessments as per the recommendation from NDMA.
- Ensure and protect the people's rights, victims of the disaster, and people living in temporary shelters in a transparent and just manner, in accordance with the standards set by NDMA.

Roles and Responsibilities of Government Departments, State-Owned Entities, and Ministries

Section 34 of the Disaster Management Act states the responsibilities of ministries and SOE's as follows:

- Adopt DRR measures and strengthen capacity building as per the Disaster Management Plan.
- Integrate DRR into city development plans and project implementations including disaster risk assessments during the planning stages and adopting DRR measures.
- Effectively respond to disasters, assist in recovery efforts and integrate DRR strategies from the city disaster management plan into agency/hazard specific plans.
- Place emphasis on vulnerable groups during disaster planning, risk reduction, response and recovery efforts.
- Allocate funds for DRR and provide assistance to Kulhudhuffushi City Council in formulating plans, conducting rescue operations and assessing damages.
- Collaborate with Kulhudhuffushi City Council to make resources available for disaster response, including emergency communications, relief supply, transport, shelter, medical services, and waste disposal.
- Sector-specific responsibilities:
  - **Public Works Department, Ministry of Construction, Housing & Infrastructure**: assist City Council to implement building code incorporating disaster risk reduction.
  - **Schools and Educational Facilities**: assist Kulhudhuffushi City Council in conducting disaster related awareness programs and ensure schools are disaster safe.
  - **Tourism operators**: Ensure tourism establishment have disaster plans, conduct staff training, and ensure the safety of facilities.
  - **Kulhudhuffushi Regional Hospital**: ensure hospital and related facilities are disaster-ready, prepare for epidemics, and provide emergency health services.
  - **Customs, Port, and Regional Airports (Kulhudhuffushi Branch)**: Facilitate and aid in importation of relief items during disasters.
  - **Kulhudhuffushi Airport**: Provide information for early warning system and disseminate disaster alerts through the weather station.
  - **News/Media outlets in Kulhudhuffushi City**: ensure reliable and accurate information sharing during disasters.

Roles and Responsibilities of Club Associations, Private Companies and Businesses

Clubs, Associations and Private Companies or Businesses at Kulhudhuffushi City shall do the following:

- Integrate DRR into activities.
- Provide resources of clubs, associations and business to the Kulhudhuffushi City Council when required to save lives and safeguard properties of citizens during the disaster response and recovery.
- Provide assistance to Kulhudhuffushi City Council as volunteers in responding to disasters and recovery.
- Participate in DRR activities carried out by Kulhudhuffushi City Council.
- Facilitate communications from the moment information has been received that a disaster threatens to occur in Kulhudhuffushi City to ensure that the information is conveyed in a way to help the people.

Roles and Responsibilities of International Institutions and Branches of International Institutions

International organizations and offices of International organizations in Kulhudhuffushi City Council are encouraged to do the following:

- Provide support, assistance and participate in the DRR, response, recovery and rehabilitation works.
- Work in line with the religion, culture and social norms, with the authorization of the Kulhudhuffushi City Council on.
- Implement disaster risk management projects in accordance with the Kulhudhuffushi City Disaster Management Plan and City Emergency Operations Plan.

City Disaster Management Committee (CDMC)

The CDMC at the city level in the Maldives is established under Chapter 3, Section 39 of the Disaster Management Act.

Composition of CDMC

As per the Act, the CDMC is comprised of the following members:

- The City Mayor as the Chairperson
- A member representing Maldivian Red Crescent
- If there is a police or military station in the City, a member from each station
- A member representing Club Associations or more than one if approved by the committee
- Members representing other agencies and institutes approved by the committee

At the city level, the committee plays a key role in coordinating efforts between local authorities, the National Disaster Management Authority (NDMA), and other stakeholders. The involvement of community leaders and stakeholders ensure that local knowledge and residents' concerns are incorporated into disaster management strategies, making the plans more effective and context-specific. Figure 4 illustrates the composition of Kulhudhuffushi CDMC.

Roles and Responsibilities

The specific responsibilities of Kulhudhuffushi CDMC as stated in Section 40 of the Act are as follows:

- Act as the coordinating and monitoring body for disaster management in Kulhudhuffushi City.
- Prepare Disaster Management Plan and Emergency Operations Plan in consultation with relevant stakeholders and in conformity with the National Disaster Management Plan and National Emergency Operations Plan.
- Implement the Disaster Management Plan and Emergency Operations Plan with the approval of NDMA.
- Coordinate rescue, relief and recovery activities during emergencies and disasters in Kulhudhuffushi City taking into account national standards and National Emergency Operations Plan.
- Conduct DRR activities and create awareness on the role of citizens in order to increase their participation.
- Resolve disaster related complaints and grievances.
- Participate and assist in national programs conducted for the following:
  - Formulation of disaster management plans for national sectors, atolls and island levels
  - Disaster prevention and disaster management
  - Reducing disaster risks
  - Disaster preparedness
  - **Proactive actions for disasters**
  - Disaster response and recovery related works
  - Disaster research

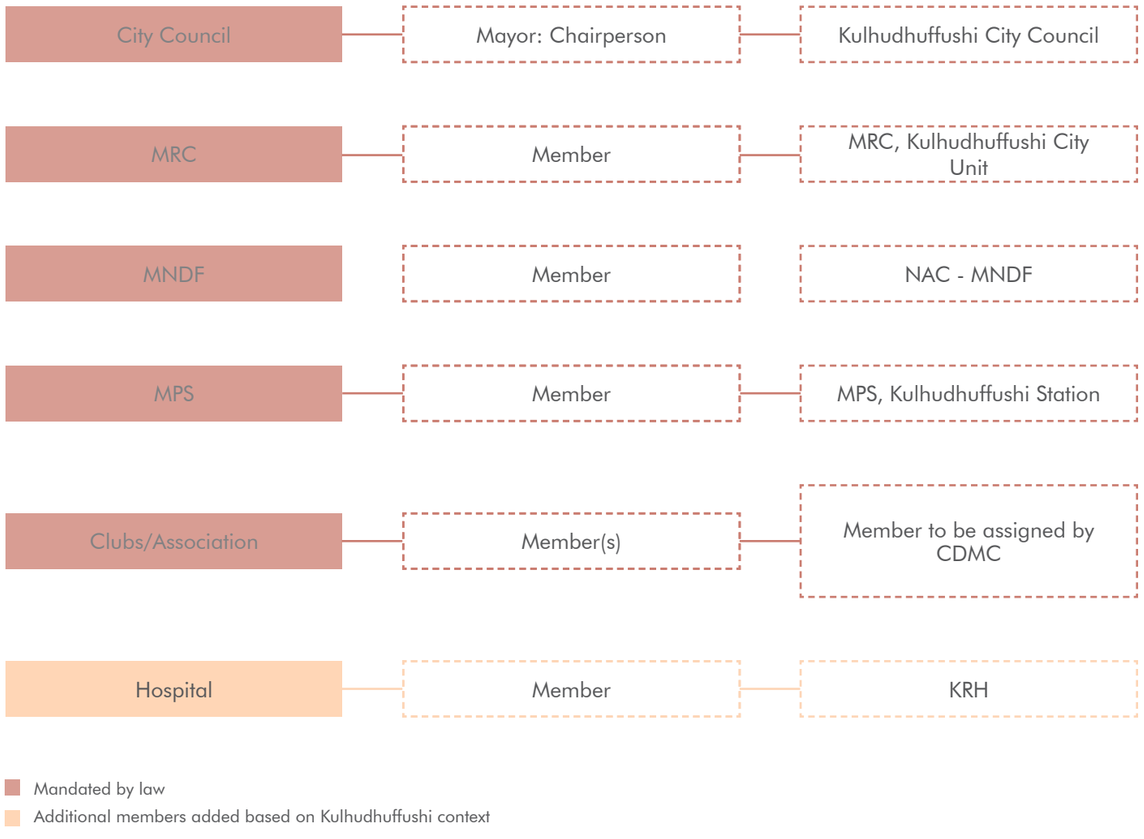

Figure 4. Kulhudhuffushi City Disaster Management Committee

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Kulhudhuffushi, Maldives

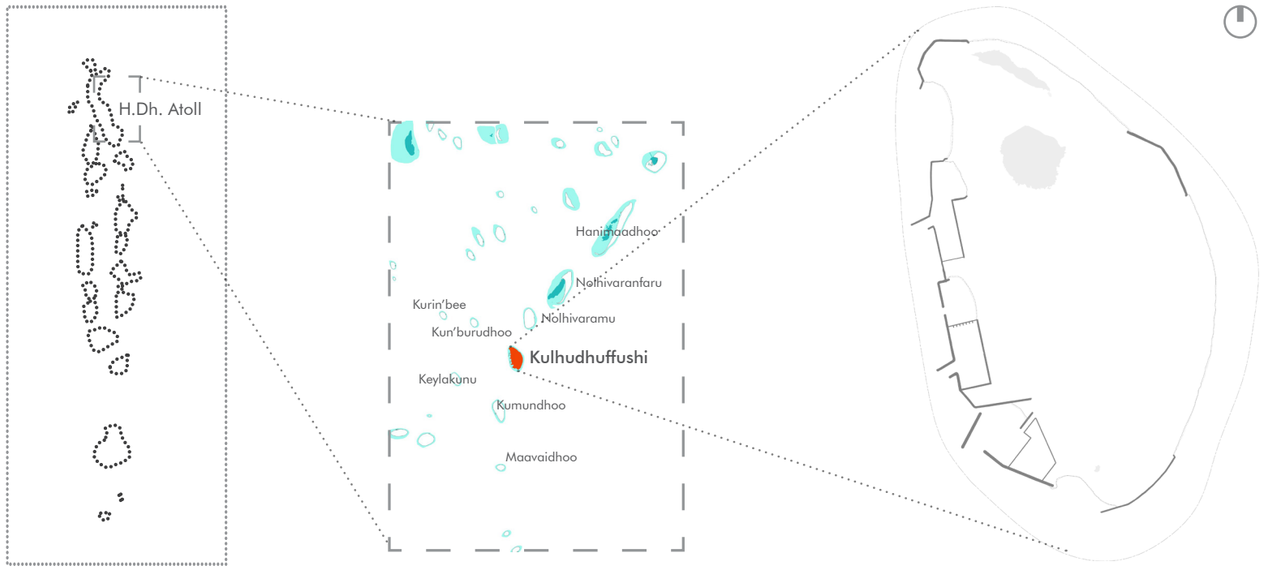
03

KULHUDHUFFUSHI CITY & RISK PROFILE

A brief summary of the city context and HVCA (2024) findings.

Kulhudhuffushi's risk profile is shaped by its geographical location, climate, and socio-economic factors. This chapter details the city's specific vulnerabilities to natural hazards, such as coastal flooding, storms, and tsunamis. It also explores the socio-economic conditions that influence the city's capacity to respond to disasters, including infrastructure challenges and community preparedness levels. By mapping these risks, the city can better prioritize its resources and develop targeted strategies for disaster risk reduction and response.

CITY PROFILE



Kulhudhuffushi City, the northernmost city in the Maldives, serves as the administrative capital of South Thiladhunmathi (H.Dh) Atoll. With both an airport and a seaport, the city is the Northern hub for regional connectivity. Its economy primarily revolves around wholesale/retail commercial activities. The public sector plays a dominant role in employment, as the largest contributor of job opportunities.

Island Morphology

Kulhudhuffushi City's landscape has undergone dramatic changes over the decades. Historical imagery from the 1970s shows a verdant island rich in vegetation, with extensive wetlands that supported the island's biodiversity and ecological balance. However, by the 2010s, extensive land reclamation had reduced the size of these wetlands, and urban sprawl had spread across the island. One of the most significant changes was the development of the airport, which not only improved accessibility but also reshaped land use patterns. These developments illustrate the ongoing interaction between human activities and environmental preservation, documenting the island's transformation over time.

Climate and Environment

Kulhudhuffushi experiences two distinct seasons: a wet season and a dry season. The city's mean temperature ranges from 28.1°C to 28.7°C, with maximum temperatures between 30.9°C and 31.8°C, and minimums ranging from 24.5°C to 25.3°C. While year-to-year fluctuations exist, no consistent trend of rising or falling temperatures has been observed in the past 20 years. The city experiences high humidity year-round, which further intensifies the heat felt by residents.

The island's average elevation is 1.41 meters above mean sea level (MSL), with lower areas to the north and south, and the highest points located in the mid-island region. Rainfall patterns indicate substantial water accumulation during heavy rainfall. A high-resolution Digital Elevation Model of the island shows flood-prone areas, particularly in low-elevation zones historically occupied by wetlands and mangroves. Development, including reclaimed land on the western side of the island, has increased the risk of water pooling in depressions, making these areas more susceptible to flooding.

Air quality in Kulhudhuffushi is impacted by the Northeast monsoon season, during which particulate matter is carried from the main continent, resulting in haze. This poses health risks to the local population, who are exposed to elevated levels of air pollution during this period.

Demographic Characteristics

Kulhudhuffushi City's population has grown to 10,131, with a 1.6% increase from 2014 to 2022 as per the 2022 Census. This includes a growing presence of foreign workers, of whom 90% are men.

The demographic landscape of Kulhudhuffushi City highlights several vulnerable groups that are prominent. These groups often face barriers to decision-making, as well as challenges related to accessibility, employment, and social inclusion.

According to the data collected from a household survey (Charrette Studio, unpublished), individuals with disabilities constitute 16% of the population, with 235 persons registered as such in the disability register, while drug users represent 3%. Migrant workers account for 10% of the population, the elderly comprise 19% and displaced individuals make up 5% of the population. The elderly, in particular, face challenges related to health and mobility, while children, women and migrant workers are more vulnerable to exploitation and violence during crises.

Moreover, poverty affects a significant portion of the population with 33% living below the poverty line. Low-income families and those with limited education have fewer resources and understanding to prepare for and recover from disasters. Housing conditions further exacerbate these vulnerabilities, as poorly constructed homes are more susceptible to damage from floods, storms, and other hazards. Other vulnerable groups constituting 3% of the population face specific challenges that require targeted interventions to address their multifaceted vulnerabilities.

The city has limited access to mental health care and other psychosocial support services, compounding the vulnerability of those already at risk. Addressing these vulnerabilities calls for inclusive, equitable strategies that prioritize resilience and social justice.

Economic Impact of Disasters

Kulhudhuffushi's economy has shifted considerably from a predominantly primary economic sector to several sections falling under the wholesale, retail and transport sectors. These changes were made possible largely by the regional airport and the establishment of the sea transportation network which significantly caused the rise in retail and wholesale over recent years. Additionally, the economy heavily relies on a steady supply of goods to the nearby atolls and islands, particularly within the Haa Alif and Haa Dhaalu atolls.

The heavy dependence on wholesale and retail trade makes the economy highly vulnerable to natural hazards such as tsunamis and storm surges. For instance during bad weather, the sea transportation is halted which directly impacts the economic activities in the city.

Financial institutions and state-owned enterprises provide additional economic stability. However, economic resilience remains dependent on the city's ability to protect these enterprises from disaster impacts, particularly in flood-prone areas. Currently, key infrastructure, including the local airport, regional port, and water treatment plants, are located along the coast, making them particularly vulnerable to flooding and storm damage.

In the event of a disaster, economic losses are expected to be substantial, impacting both infrastructure and business operations.

Commitment to Resilience

Kulhudhuffushi City is the first Maldivian city to join the United Nations Office for Disaster Risk Reduction's (UNDRR) Making Cities Resilient (MCR) initiative. This demonstrates the city's proactive approach to building resilience, addressing environmental challenges, and preparing for the impacts of climate change and urbanization.

Additionally, the community is supported by MRC, NGO's and social groups that help with awareness, information dissemination on different issues that impact the community.

Secretariat Kulhudhuffushi City Council
Kulhudhuffushi, Maldives

Kulhudhuffushi City 2021
Image source: Charrette Studio

RISK PROFILE

Hazards and Exposure

Kulhudhuffushi City faces various natural and man-made hazards due to its geographical location, climate and socioeconomic factors.

Chemical Hazards

Identified chemical hazards include Gas Leakage, Paint Storage Exposure, and Oil Leakage. These hazards are of high concern due to their potential severity and exposure levels.

Gas leakage poses an immediate threat to public safety and environmental health, due to the lack of stringent regulatory measures. This issue is expected to be resolved upon the finalization and implementation of the land use plan which restricts industrial activities including storage of chemicals, in close proximity to residential and institutional land.

Hydrometeorological Hazards

Heatwaves, floods, and storm surges pose significant risks. Anthropological changes brought about by rapid urbanization have decreased the natural resilience of the island and increased the island city's exposure to such hazards.

Heatwaves, although inevitable in the equatorial zones, when paired with the seasonal changes of monsoon and global climate change can have a devastating effect on the resident population. Further, the anthropological changes brought about by the residents to make the island habitable can further alleviate the effects of heat. The added reflective surfaces and the constant green removal can be major contributors to the island heat effect.

Kulhudhuffushi City is situated in the eastern rim of the atoll which offers less protection from storm surges. Additionally, Kulhudhuffushi is situated in the highest-level Hazard Zone where storm surges of 1.32 meters have been estimated (Developing a Disaster Risk Profile for Maldives, 2006).

In addition to storm surges, Kulhudhuffushi is also vulnerable to surface water flooding. The island's topography plays a key role in its vulnerability to flooding. The elevation data shows that the island slopes towards the west, particularly in the reclaimed sections, with the harbor quay wall acting as a boundary. Numerous depressions across the island are lower than the surrounding terrain, posing risks for water accumulation during heavy rainfall. These areas, previously wetlands, now face challenges due to the sprawl of infrastructure into naturally flood-prone zones. Historically the island had the potential to drain the flood waters to the available surface catchment area of the island. However, due to the effects of urbanization, the runoff containment capacity is decreased. Additionally, the recorded rainfall patterns indicate a decrease in the total rainfall hours but an increase in the rainfall volume. This results in periodic floods.

Geo-hazards

Geo-hazards relevant in the Maldivian context are limited to seismogenic hazards such as earthquakes and tsunamis and are notable risks due to their potential severity. The Maldives is situated in the impact zone of tsunamis originating from both the Carlsberg Ridge, Makran Coast Zone, and the Java Trench. Given that Kulhudhuffushi is exposed to the Java Trench, there exists a high possibility of significant impact from a tsunami.

Environmental Hazards

Environmental hazards are considered a moderate concern. The island footprint has seen a significant expansion over the years. The western side has seen major reclamation retained by a quay wall, while the northern mangrove shoreline was reclaimed for the airport project. Shore protection structures are present on the northeastern and southeastern sides to manage coastal erosion. Extreme recession is noted on the artificial beach on the southwestern and eastern sides, with the eastern side experiencing high berms and potential erosion threatening the island's natural woodland and built infrastructure. The eastern shoreline's erosion, caused by differential sediment composition, shows steeper berms with smaller grain sizes in the northern half and larger grains in the southern half.

Mangroves, crucial for environmental stability, are often lost to infrastructure projects, posing significant risks. Rainwater shifts sediment to remaining mangroves, potentially altering them through natural succession from wetlands to woodlands. The Environmental Protection Zone (EPZ) is thin due to the active erosion and the destruction of vegetation belt for a ring road. Additionally, unidentified pests reported in the Eastern ridge could spread to nearby households.

Biological Hazards

Contagious diseases are of moderate concern. In Kulhudhuffushi City, waterborne diseases are very unlikely, although some houses still use groundwater, which is exposed to surface trash. Contagious diseases are extremely likely, especially as medical tourism is a major industry on the island increasing exposure to locals. Additionally, the island's airport makes it extremely likely for diseases to be transmitted into the city. Waterborne and food-borne diseases require proactive surveillance and hygiene measures.

Technological Hazards

Waste Management, Industrial Failures, and Infrastructure Breakdowns present moderate risks that need careful attention to prevent service disruptions and environmental contamination. Stringent waste management practices, regulatory compliance, and proactive infrastructure maintenance are key to mitigating these hazards.

Societal Hazards

Crime and Economic Inequalities, though lower in risk exposure and severity, are significant concerns. Addressing social disparities, enhancing law enforcement, and creating economic opportunities are critical strategies to improve community safety and resilience.

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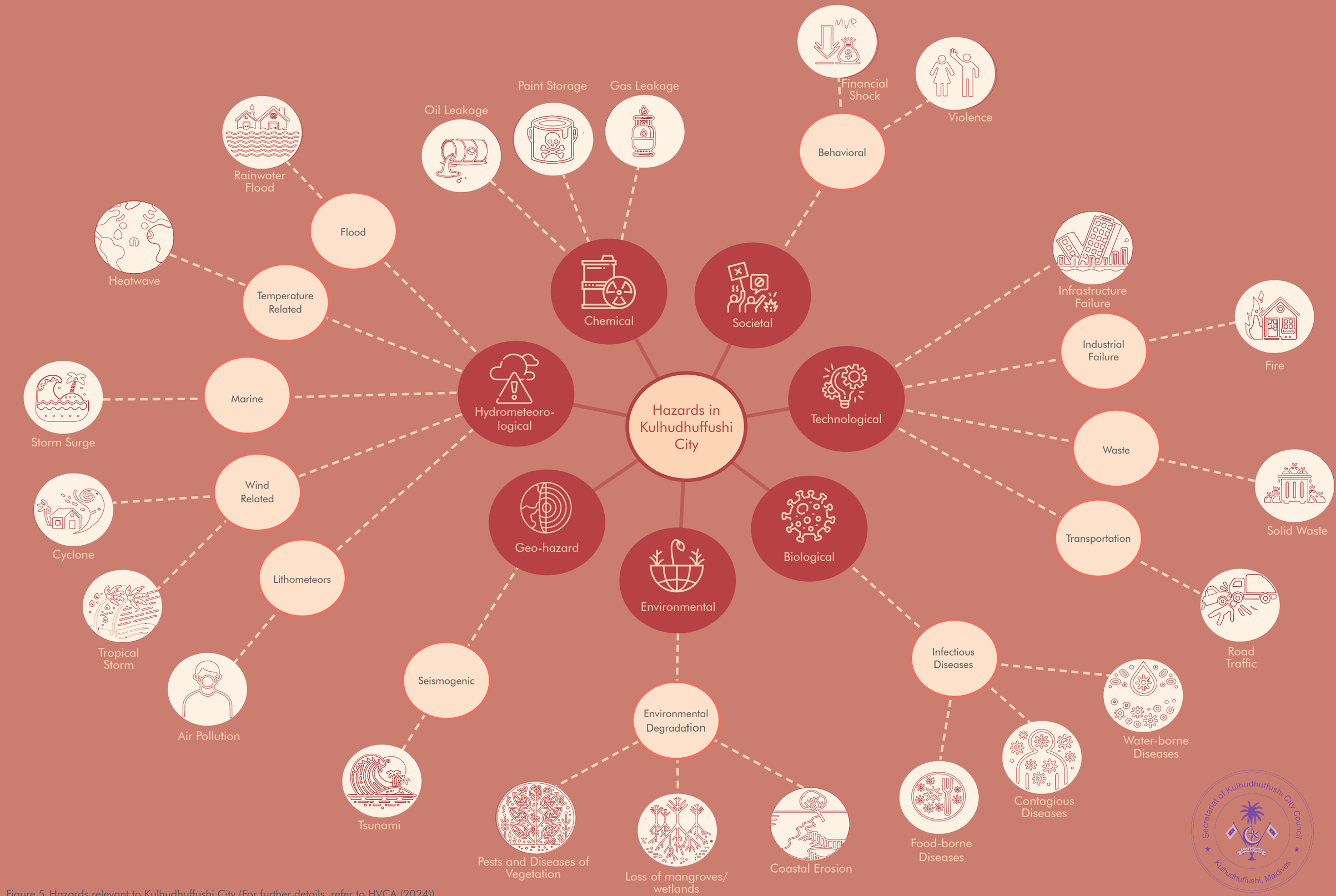


Figure 5. Hazards relevant to Kulhudhuffushi City (For further details, refer to HVCA (2024))

Kulhudhuffushi City
Image Source: MRC North Regional Office

Risk

Risk Assessment Process

The four main steps in the risk assessment process are:

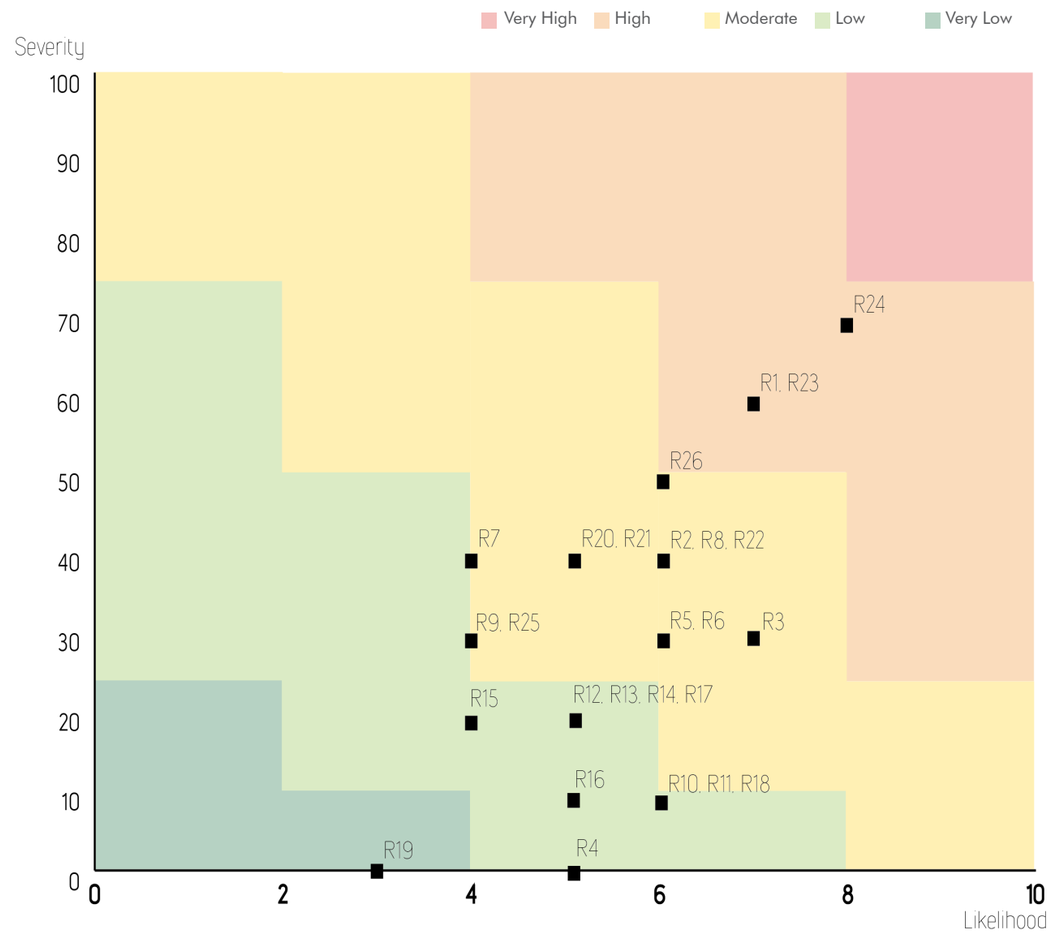
1. **Understanding the context**: understanding the natural climate, geography and topography, demographics, economy, and community infrastructure.
2. **Analyzing hazards**: identifying the relevant hazards through analysis of historical data and public consultations.
3. **Assessing risk**: using disaster risk assessment tools to assess the likelihood and severity of the hazards and identify the biggest risks.
4. **Risk-based planning**: identifying mitigation, prevention, and preparedness activities to minimize the impact of the risk.

Risk Assessment of Kulhudhuffushi City

Figure 6 depicts the risk profile of Kulhudhuffushi City. Severity reflects the potential impact of a hazard, while likelihood evaluates the probability of its occurrence. Together, these factors offer a comprehensive assessment of risk. Hazards with both high severity and likelihood present elevated risks, demanding prompt attention and robust risk management strategies. Conversely, even hazards with low severity and likelihood warrant consideration, as their cumulative or combined effects may heighten the city's overall risk profile.

Gas and chemical storage and heat wave are the most high risks identified.

With an understanding of the risks that Kulhudhuffushi faces, it is essential to now examine the proactive strategies the city is adopting to mitigate these threats, as outlined in the following chapter on DRR.



R01	Heatwave
R02	Surface-water Flooding
R03	Tsunami
R04	Air Pollution
R05	Traffic Accidents
R06	Assault
R07	Solid Waste
R08	Sexual Offence
R09	Infrastructure Failure
R10	Economic Inequalities
R11	Contagious Diseases
R12	Drugs
R13	Theft
R14	Domestic Violence
R15	Fire
R16	Storm Surge
R17	Waterborne Diseases
R18	Coastal Erosion
R19	Food-borne Diseases
R20	Cyclone
R21	Tropical Storm
R22	Oil Leakage
R23	Paint Storage Exposure
R24	Gas Leakage
R25	Loss of Mangrove
R26	Pests & Disease of Vegetation

Figure 6. Severity vs Likelihood Risk Graph

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Kulhudhuffushi City 2021
Image Source: Charrette Studio

Kulhudhuffushi City
Image Source: MRC North Regional Office

04
RISK MANAGEMENT CYCLE

Disaster Risk Reduction, Response and Recovery

This chapter outlines the phases of disaster risk management cycle starting from Disaster Risk Reduction to Response and Recovery.

DISASTER CYCLE

Risk Management Cycle

The disaster management process is centered around a continuous risk management cycle, which includes the phases of Disaster Risk Reduction (DRR), Response, and Recovery.

DRR aims to reduce vulnerabilities and manage risks before disasters happen through a systematic process of risk identification, mitigation, prevention, and preparedness. It emphasizes strengthening community resilience through improved infrastructure, regulatory enforcement, and awareness programs.

When a disaster occurs, the Response phase involves immediate actions to safeguard lives, such as conducting rescue operations, delivering medical aid, and ensuring the availability of essential services. The Recovery phase follows, focusing on rebuilding infrastructure, reviving local economies, and rehabilitating communities impacted by the disaster.

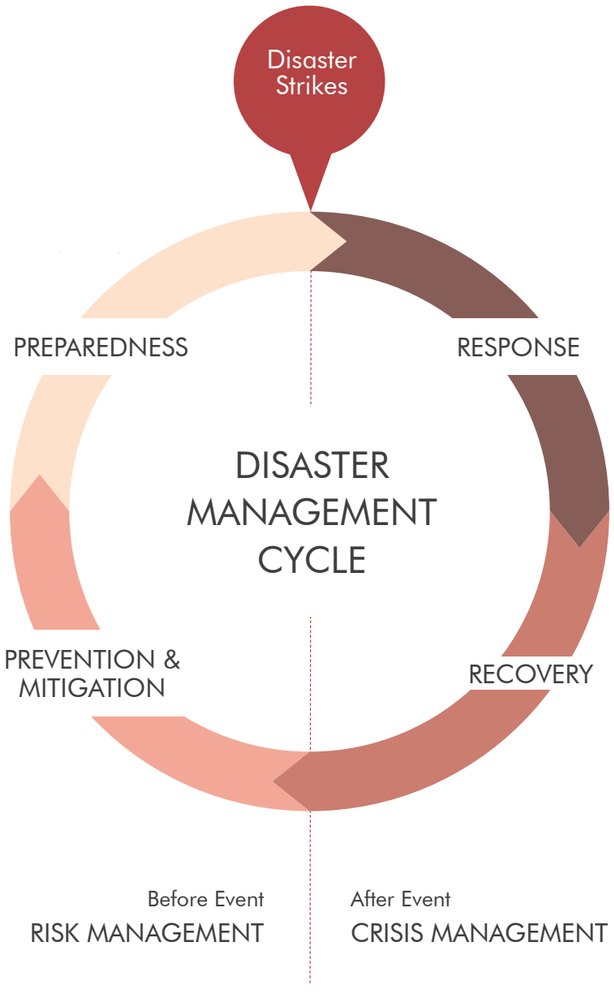
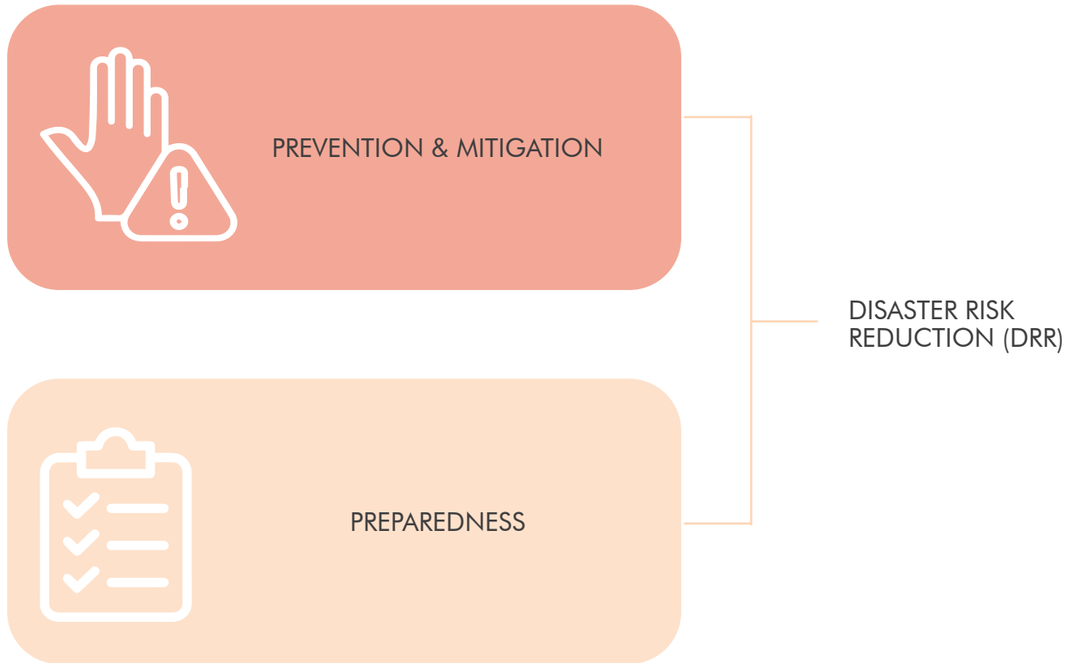


Figure 7. Disaster Management Cycle



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DISASTER RISK REDUCTION

Disaster Risk Reduction (DRR) focuses on minimizing vulnerabilities and risks before disasters occur through measures like risk identification, mitigation, prevention and preparedness. It emphasizes building resilience in communities by improving infrastructure, enforcing regulations, and fostering awareness.

Disaster Prevention & Mitigation

According to the United Nations Office for Disaster Risk Reduction (UNDRR, 2017), disaster prevention is defined as activities and measures to avoid existing and new disaster risks while mitigation is the lessening or minimizing of the adverse impacts of a hazardous event.

To achieve city wide resilience, using the findings from the HVCA process, and through the participatory planning process, this project has identified strategies for disaster prevention and mitigation. The prevention and mitigation actions outline specific, achievable measures that the lead agency is responsible for implementing or ensuring their implementation by the designated authority. The ultimate goal of disaster prevention is to reduce exposure and vulnerabilities.

Disaster Preparedness

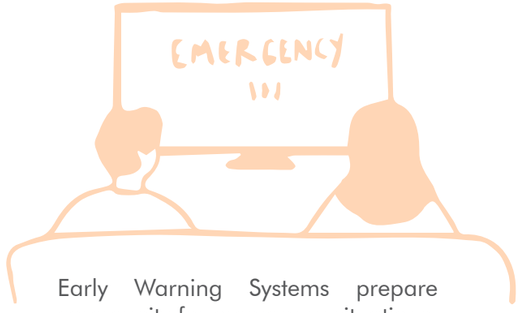
Disaster Preparedness refers to the knowledge, skills, and capacities developed by governments, organizations, communities, and individuals to effectively anticipate, respond to, and recover from potential disasters. It involves proactive planning, resource allocation, training, and coordination to ensure a timely and efficient response when a disaster occurs. Key components of disaster preparedness include early warning systems, emergency response plans, capacity-building initiatives, public awareness campaigns, and the establishment of critical infrastructure and services to minimize the impact of disasters. (Adapted from UNDRR, 2017)

With robust DRR strategies in place, it is equally important to be prepared for effective response efforts. The next section details how the city responds when disaster strikes and ensures that the immediate needs of its citizens are met.

Shore-protection can mitigate the impact of seaswells and surges

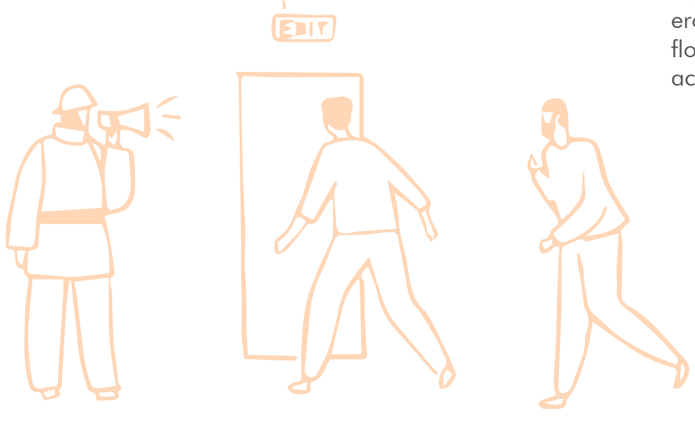
Community engagement and awareness can prevent and prepare for disasters

Building development controls can prevent disasters by ensuring structures are resilient to hazards like floods, storms and infrastructure failure.



Early Warning Systems prepare community for emergency situations

Replanting initiatives can prevent erosion by stabilizing soil, reduce flood risks through water absorption, act as windbreaks against storms.



Emergency drills prepare the community for emergency situations.

DISASTER RESPONSE

Local Councils in the Maldives have the primary responsibility to carry out the disaster management and emergency response activities within their own jurisdictions. As per the Disaster Management Act, City Councils are to develop and maintain the CEOP as part of their obligation and commitment to save lives, protect property and mitigate damages and impacts to individuals, the community, and the environment. To this end, Kulhudhuffushi City disaster response mechanism is based on the all-hazards concept and is flexible so the CEOP may be activated based on the specific incident, emergency or disaster by the decision of the City Council leadership and Kulhudhuffushi CDMC.

Disaster Response involves taking appropriate measures to respond to an event, which includes actions taken and measures planned before, during and after an event, to ensure its effects are minimized and persons affected by the event are given immediate emergency relief and support. The system of control is designed to facilitate coordination, cooperation and integration across disaster management agencies and services encompassing disaster management arrangements, levels of activation, lead agency response functions along with support agency responsibilities, organization,roles and functions of City Emergency Operations Center (CEOC).

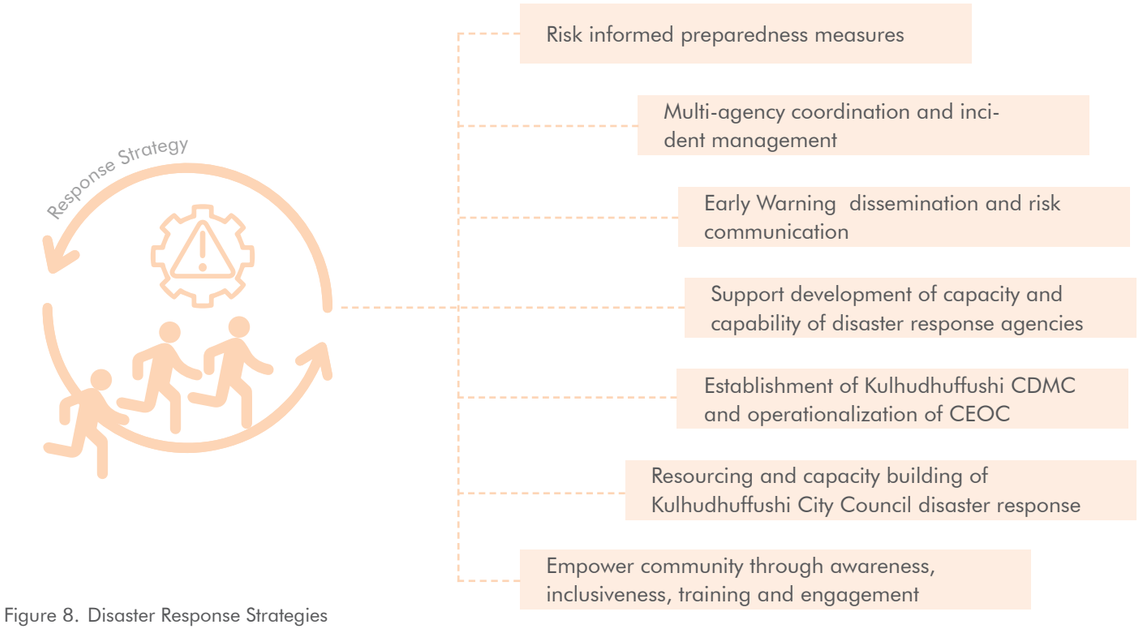


Figure 8. Disaster Response Strategies

Early Warning Alert Levels

The Maldives Meteorological Services (MMS) equips and maintains multi-hazard early warning center and has the mandate to provide early warning for hydrometeorological, geological and tsunami hazards. The following table shows the four alert levels used by the MMS to inform the public of an impending hazard. These alert levels and color codes are common to all throughout the Maldives.

Table 1. Early Warning Alert Levels

Phases	Alert Level & Color Code	Activities
Preparedness	Response Preparedness	• Business as usual • Normal arrangements and day to day operations • Carry out disaster preparedness activities
Response	LEVEL 1 - LOW ALERT WHITE Information/Enhanced Monitoring	• Keep key personnel and agencies informed • Enhance and continue monitoring • Maintain situational awareness
	LEVEL 2 - SERIOUS ALERT YELLOW Advisory	• Notify KCC leadership and Kulhudhuffushi CDMC members • Initiate public information and warning • Prepare to respond • Standby responders/teams • Activate CEOC with minimal staff • Monitor situation and report • Respond when required
	LEVEL 3 - SIGNIFICANT ALERT ORANGE Warning	• Kulhudhuffushi CDMC meeting to set priorities and make key decisions • CEOC activated and operational • Staffing of key functions at CEOC • Coordinate with other agencies to mobilize responders to resources • Execute hazard specific response plans and implement SOPs • Provide situation report to NEOC • Conduct loss and damage assessment
	LEVEL 4 - CATASTROPHIC ALERT RED Action	• CDMC assumes control, directs and guides Incident Management Team (IMT) at CEOC • CEOC is fully activated and operational • Mobilize responder teams and resources • Report and update NEOC and NDMA • Request assistance and coordinate government support
Recovery	Recovery or Stand-down	• Return to normal business as usual and/or make the transition to recovery • Brief and update Recovery Team • Initiate early recovery, rehabilitation and reconstruction operations • Conduct debriefing and AAR if needed • Complete reporting and documentation

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Disaster Warning, Notification and Dissemination

The city council shall establish and maintain a system to receive early warning messages from the respective government authorities. The assigned staff on duty as the emergency focal point will obtain information on the nature of the incident/disaster and assessment of the situation and will make the determination of next steps and assume the role of, or delegate the role of incident commander if the situation warrants.

Timely warnings of disaster conditions are essential to safeguard the community and critical to an effective response and recovery. Upon learning of an emergency and assessing the need for local agency support such as the police, fire and rescue services or MRC, the city council DRR focal point will call and inform the respective agency hot-lines. At the same time, shall inform the city mayor or the deputy mayor for guidance. The CEOP shall have the procedure outlined for the notification to key personnel for emergency response. Emergency notifications, warnings and alerts will typically be disseminated using landline, mobile phones, social media applications or other most appropriate modes.

Public information during the response phase of a disaster management operation provides the island community with awareness of hazards, information about events and recommended actions, such as local evacuation, temporary shelter arrangements and specific measures available for vulnerable groups. Information and warnings are disseminated using multiple media channels including social media, local warning systems and websites. The primary source for local disaster information is the social media platforms and chat applications such as Facebook, Viber and WhatsApp channels.

Disaster Declaration

Declaring the state of disaster in the Maldives is vested on the chairperson or any other person designated by the National Disaster Management Council with the advice and recommendation from the NDMA. However, at the city level, a local disaster and alert level may be activated based on the emergency situation if required. The Kulhudhuffushi City Mayor is the responsible authority for directing emergency measures and initiating disaster response for the city, and is provided the authority for activation of local and city wide disaster and the current alert level in consultation with the NDMA and CDMC.

However, before the activation and declaring the disaster situation, the KC Mayor must take reasonable steps to consult with the NDMA, Ministry of Cities, Local Government and Public Works and Kulhudhuffushi CDMC. In declaring the disaster situation, the Kulhudhuffushi CDMC is to be satisfied that a disaster has happened, is happening or is likely to happen in Kulhudhuffushi City, and it is necessary, or reasonably likely to be necessary, for the city mayor to prevent or minimize any of the following:

1. Loss of human life;
2. Illness or injury to humans;
3. Property loss or damage;
4. Damage to the environment.

Disaster Response Mechanism in Maldives

The Kulhudhuffushi City Council shall work in coordination with the National Disaster Management Authority (NDMA), as stipulated in Section 35 of the Disaster Management Act (28/2015). The NDMA shall provide technical guidance and resources, ensuring that the city's plans are aligned with national disaster management strategies. In line with Section 37, the council also collaborates with a variety of stakeholders, including local emergency services, infrastructure management teams, and community-based organizations (CBOs), as well as non-governmental organizations (NGOs). These partnerships enhance the council's ability to carry out its disaster management mandate by ensuring that efforts are comprehensive and grounded in local realities.

Additionally, the international community—including agencies like the UNDRR and International Federation of Red Cross and Red Crescent Societies (IFRC)—provides valuable support through training, funding, and capacity-building initiatives. The involvement of international partners helps the city align its disaster risk management efforts with global standards, ensuring that best practices are integrated into local planning and response strategies.

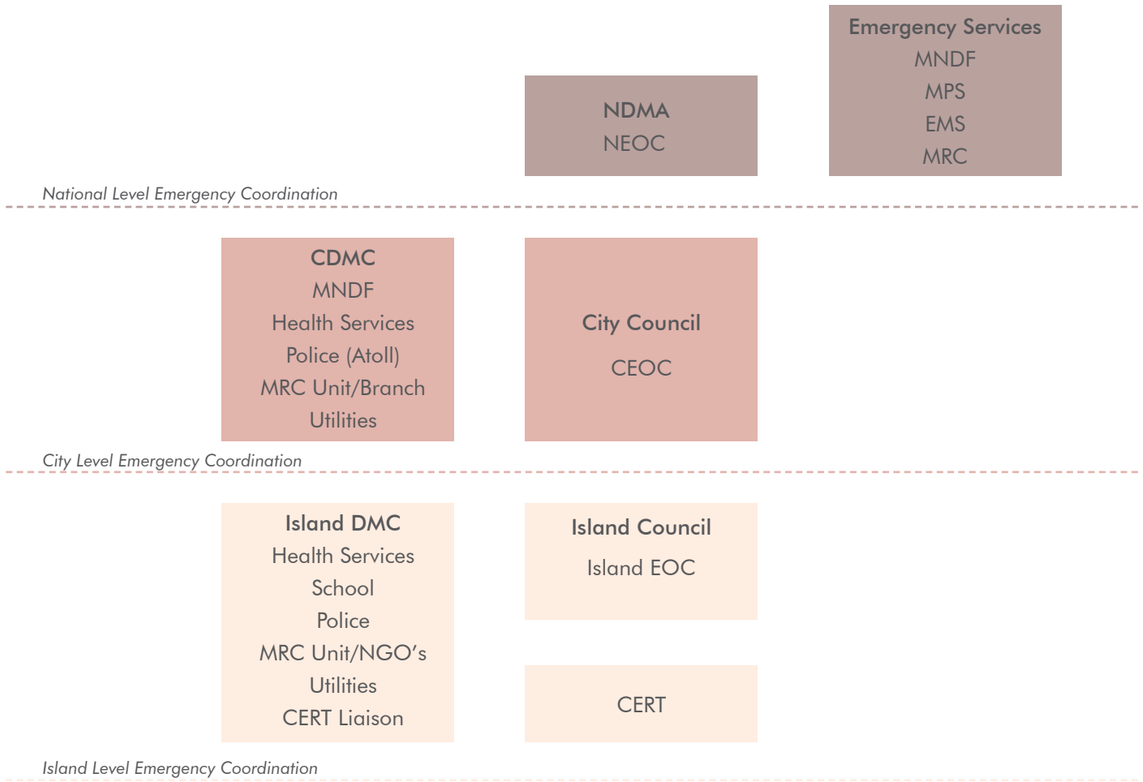

Figure 9. Disaster Response Coordination Mechanism in Maldives

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Kulhudhuffushi, Maldives

City Emergency Operations Centre (CEOC)

The CEOC operationalizes the response strategy of the Kulhudhuffushi CDMC and will be activated to coordinate the management of resources as part of the city councils approach in the Kulhudhuffushi City in the event of a disaster event threatening or impacting upon the area. The Kulhudhuffushi CEOC will use Standard Operating Procedures (SOP's) in organizing and managing its functions. The overall management of the city disaster response is the responsibility of the DMC through the CEOC incident management team.

Activation of CEOC

The CEOC is the central point of the City's disaster coordination and is led by the CEOC Director appointed by the Mayor or Kulhudhuffushi CDMC. The CEOC is staffed by City Council staff, who are trained in disaster management arrangements and their emergency functions are supported by agency liaison officers from government and non-government organizations (NGOs) as appropriate to Kulhudhuffushi City. The CEOC is established to implement policy direction and priorities set by the CDMC, through the coordination of response and recovery activities. The CEOC utilizes and operates the Incident Command System (ICS) and Multi-agency Coordination System (MACS) under a hybrid and modified structure and provides the following functions: command, planning, operations, logistics, facilities, public information and warnings and recovery.

Levels of Activation

Timely activation of the CEOC is critical for an effective response to a disaster event. The decision to activate depends on several factors including the perceived level of threat to the Kulhudhuffushi island community. The CEOC activation of response activities will occur in accordance with a four-level model, directly aligned with NDMA's activation level model. The activation levels drive response activity, public information and warnings and guide the scale of

Table 2. CEOC Activation Levels

Activation Level	Alert Phase by CEOC & Color Code		Definition
1	Information and Monitoring		• Hazard Identified--Monitoring and Watching • For information only-- no impact expected
2	Standby / Enhanced Monitoring		• Hazard Impending—Warning, Monitoring, and Watching • Preparedness Phase: Response agencies and authorities alerted for possible mobilization. • People living in the area to be on alert and observe readiness
3	Partial Activation		• Hazard Threat Imminent • Preparedness Phase: Public Warning for Readiness—Responders agencies and Authorities mobilize resources • CEOC full activation—Multi Agency Coordinating System (MACS) and Emergency Service Function (ESF) on alert
4	Full Activation		• Response and Action Phase • CEOC in full action—Response Operation launched and resources mobilized

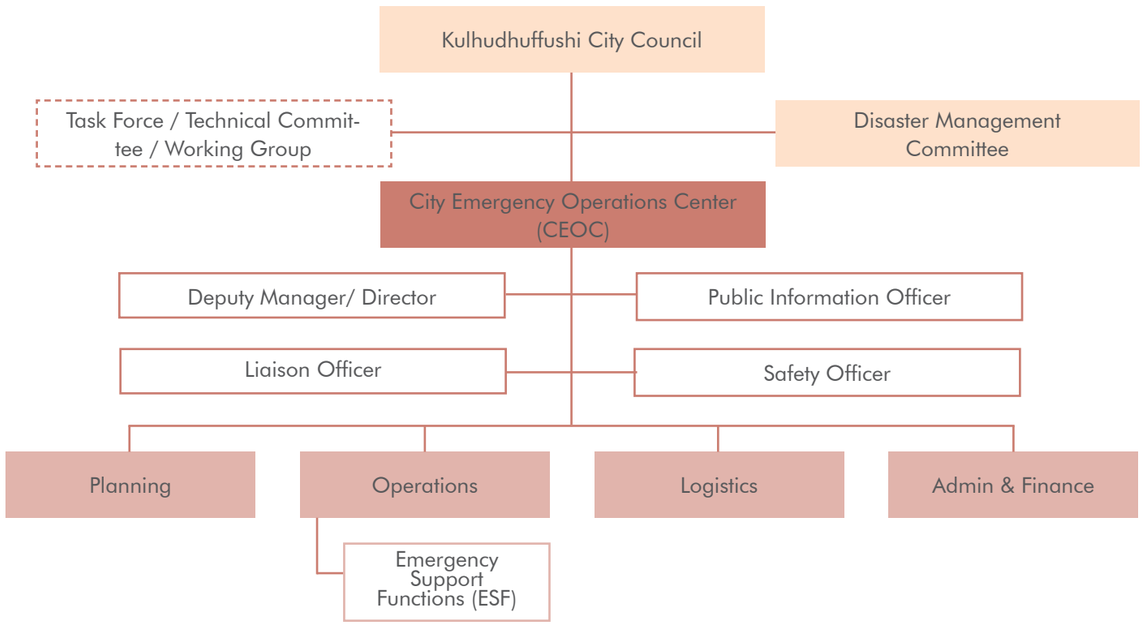


Figure 10. Organization and Functions of CEOC

Incident Command System

In a major emergency or disaster, the houses, community buildings and critical infrastructure facilities may be damaged or need to be evacuated, people may be injured, and/or other incident management activities may need to be initiated. These activities will be organized and coordinated to ensure efficient incident management. The Incident Command System (ICS) will be used to manage all incidents and major city level events. The ICS approach as guided by the NDMA in its NEOP will be used in all phases of disaster management, including pre-incident activities, during the emergency and post disaster event.

Disaster Needs, Loss and Damage Assessment

Initial damage assessments will be coordinated through the CEOC and will involve a number of agencies and partners including the Fire and Rescue, Police, Kulhudhuffushi City Council and may include representatives from MRC and any other agency or organization as required. The information collected from the assessments will be used in relief provision, forward planning by the CDMC, as well as in disaster recovery operations.

Request For Assistance

The local council possesses limited resources and response capacity. Therefore, it often depends on the government to support them to recover from disasters. However, the city council tries all reasonable endeavors to identify the required resources or services from within the island itself first. Mainly, resources within the KC are owned and managed by the various government departments, SOEs, corporate entities, or private business operators. If resources or services are not available within their jurisdiction, or even if available, have been or are likely to be expended, city council through the CEOC may request assistance from the NEOC and NDMA at the national level to provide such resources.

Emergency Support Functions (ESF)

Emergency Support Functions (ESF) are the grouping of governmental and certain non-governmental and private sector capabilities into an organizational structure to provide support, resources, program implementation, and services that are most likely needed to save lives, protect property and the environment, restore essential services and critical infrastructure, and help victims and communities return to normal following hazardous incidents.

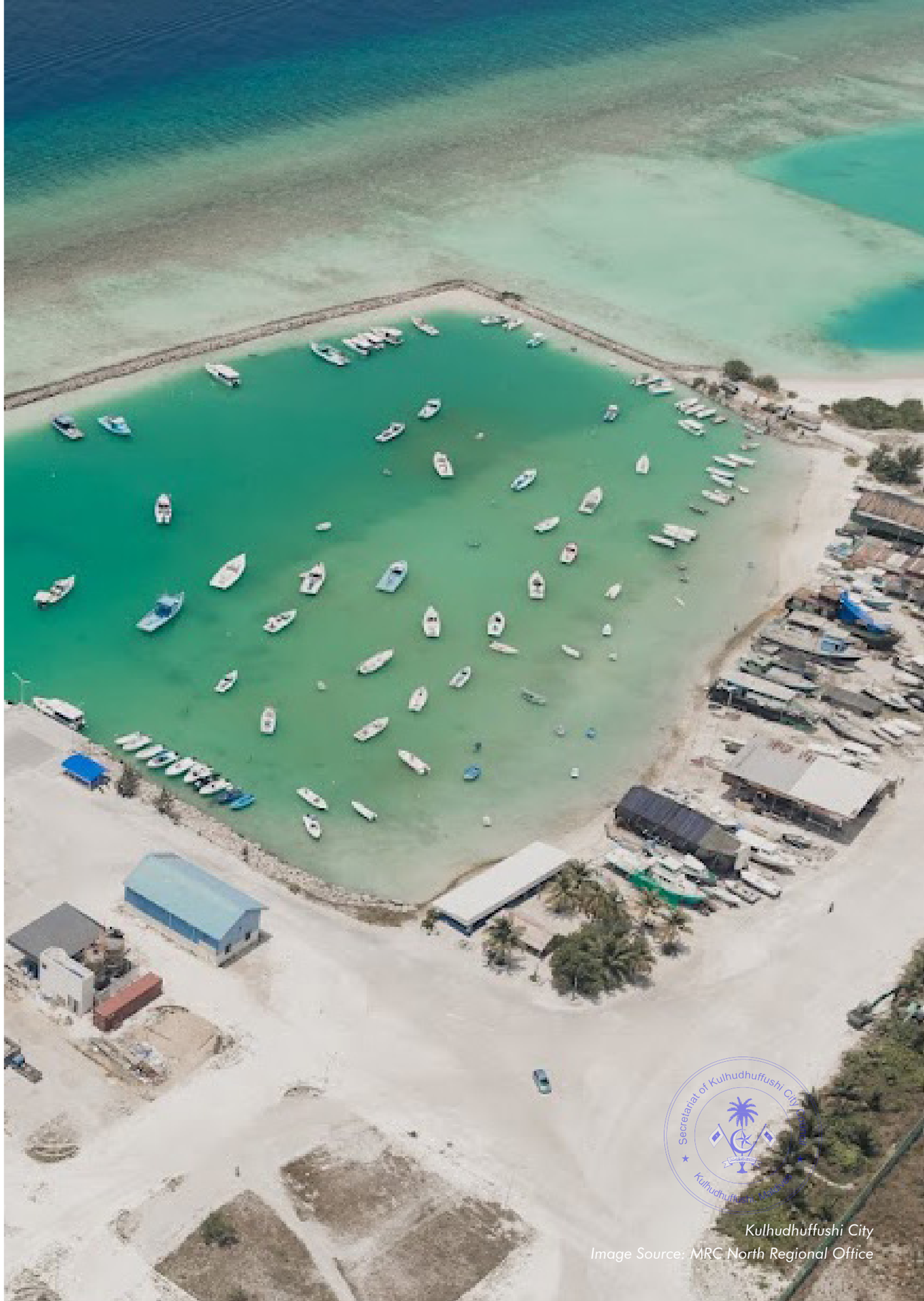
Agencies and partners involved in emergency response operations are assigned as lead agencies and or support agencies for Emergency Support Functions (ESF). ESF include the functions required for an effective disaster response and emergency management in the city. These ESF are meant to prove a framework for coordination of the activities of all the stakeholders. Each support function will be headed by a lead agency or a cluster of agencies.

Lead agencies are assigned responsibility to coordinate, lead, prepare for, and provide the allocated ESF, and may be required to provide support to other functions while leading the responsible function. These functional Lead Agencies will need the assistance of supporting agencies to effectively perform their function. ESF in Kulhudhuffushi City are performed by agencies including MNDF, MPS, MRC, KRH, KCC, utilities and services provider organizations such as MWSC, FENAKA and other key stakeholder entities. The supporting agencies will have a significant role during the disaster response operations and recovery phase. Lead agencies are responsible for overall coordination and implementation of respective ESF while support agencies are responsible for the implementation of assigned tasks within the ESF.

The below table shows the ESF and Lead Agencies

Table 3. ESF and Lead Agencies

ESF	Lead Agency
Emergency Management	KCC
Fire Fighting, Search and Rescue	FRS and CG of KP - NAC/MNDF
Law Enforcement and Public Safety	MPS
Medical Care and Public Health	KRH
Mass Care and Temporary Evacuation/ Shelter Management	KCC and MRC
Early Warning, Public Information and Communication	KCC
Tsunami Evacuation Management	KCC
Volunteer Management	MRC
Relief Distribution and Donation Management	KCC & MRC
Debris Removal and Waste Management	WAMCO
Logistics and Operational Support	KCC
Loss and Damage Assessment	KCC
Management of Deceased and Missing Persons	KCC and MPS
Public Works and Engineering	Public Works Department of KCC
Transportation	KCC



Kulhudhuffushi City
Image Source: MRC North Regional Office

DISASTER RECOVERY

Disaster recovery is the coordinated process of supporting affected communities in the reconstruction of the built environment and the restoration of emotional, social, economic, and natural environment wellbeing. Recovery planning should commence from the early stages of an event to ensure arrangements are in place and can be implemented quickly when needed, and to ensure a smooth transition from response to recovery. For wide scale, and/or prolonged events there may be simultaneous response and recovery activities conducted. Disaster recovery requires a collaborative, coordinated, adaptable and scalable approach in which responsibility for delivery is shared between all sectors of the community including individuals, families, community groups, businesses and all levels of government. Recovery efforts at the Kulhudhuffushi City are governed by the direction and guidelines set out by the NDMA, and instructions from the NEOC when implementing the national recovery plan.

Recovery Planning

The primary aim of recovery is to assist the city to regain appropriate and acceptable levels of functioning both initially and in the long term. It is important that any assistance provided empowers the community to assist with their own recovery and does not take away individual autonomy. Recovery planning and activities provide the impacted community with the opportunity to develop and build back better capability and mitigation measures for future events.

The recovery phase commences alongside the response phase, and due to the complex nature of rebuilding communities, the recovery phase may continue well after the response to a disaster event has concluded. In some cases, this may be several years.

Community recovery services aim to assist communities to recover from the effects of disasters. The City council works closely with a range of agencies and organizations to help coordinate the assistance to affected individuals, families, or communities. It will be a whole of government and a whole of society approach. The City council seeks the national level support and assistance from the NDMA and other line ministries of the government in carrying out the recovery efforts at the city while coordinating the local level relief, rehabilitation and rebuilding activities with the stakeholders.

Recovery Operation

Recovery is a complex and often long process. It goes beyond immediate welfare support and includes physical repair and reconstruction, personal rehabilitation, the restoration of social well-being, community development, economic renewal and growth, and regeneration of the natural environment. Effective recovery requires a range of services and is successful if the services are provided in a coordinated and streamlined way. To achieve this end, the structured and effective integration of government agencies, non-government organizations, government-owned corporations, industry groups, the private sector and the whole community is required. Disaster recovery starts in the response phase and is delivered in three broad stages:

1. Immediate/short-term recovery aims to meet the immediate needs of individuals, businesses and the community affected by the disaster. Short-term recovery operations take place in the days to weeks following a disaster and focus on stabilizing activities. This stage involves providing for basic human needs (e.g., food, medical, clothing, and shelter), restoring vital community services such as bringing necessary lifeline systems (e.g., power, communication, water and sewage, disposal and clearing, or removal of debris). Once stability is achieved, the city can focus on intermediate and long-term recovery efforts, which focus on restoring the community to its previous or improved state. Short-term recovery activities may include maintaining temporary shelters, and continuing relief and recovery support programs

2. Medium-term recovery occurs for weeks to months after an event in the form of reconstruction of physical infrastructure, restoration of the economy and the environment, and support for the emotional, social, and physical wellbeing of those affected. This phase of recovery involves repairing damaged infrastructure and buildings; providing financial, social, and psychological support to community members; and mitigating future risks.

3. Long-term recovery continues the effort of medium-term recovery and plans for the return to the new normal through addressing the longer term needs of individuals, communities and the city. Long-term recovery operations take place in the months to years following an incident and focus on revitalizing activities. This phase of recovery addresses complete redevelopment and reconstruction of the city infrastructure; more focus is on building self sufficiency, sustainability, and resilience.

Recovery Priorities, community lifelines and essential services

Damage to the built environment often results in disruption, inhibiting the capacity of essential services and the community's ability to continue with work, education, etc. Infrastructure recovery involves assessing and restoring essential infrastructure, non-essential government and community infrastructure, and privately owned infrastructure. During a disaster event the KCC will give priority to reinstating the city's essential services and infrastructure, including:

a) Provision of drinking water, food, clothing, shelter and emergency medical care

b) Water, sanitation and sewerage services

c) Electricity provision and communication networks restoration

d) Community buildings, critical infrastructures and other community lifeline services restoration.

e) Roads, jetties, harbors and ferry terminals

Recovery Arrangements

It is at the discretion of the Mayor and the city DMC to establish a separate Recovery Task Force or a Working Group to ensure the recovery planning and operations are coordinated and implemented effectively. The DMC may provide strategic guidance and support to the recovery team in carrying out the city level recovery activities. Emergency relief and recovery assistance are provided as per the Disaster Relief Regulation and Guideline of the NDMA

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Kulhudhuffushi, Maldives

05
STRATEGIES & ACTIONS

for Disaster Prevention & Mitigation, Preparedness, Response, & Recovery.

This chapter outlines key strategies and actions to minimize the impacts of disasters. It references the Local Development Plan of Kulhudhuffushi City and the Climate Change Adaptation Plan formulated under the same project.

1. DISASTER PREVENTION & MITIGATION

1.1 Develop and Implement Community Engagement Initiatives for Disaster Prevention & Mitigation

1.1.1 Carryout local stakeholder engagement, information sessions, and educational programs, to inform the community of the prevention, preparedness, response and recovery measures in place. *[CCAP (2025): Action 9.1]*

1.1.2 Gather ideas within the community for new developments to enhance Disaster Risk Reduction.

1.1.3 Conduct widespread public awareness campaigns on disaster preparedness and safety measures, including how to secure homes and property in specific disaster events. *[CCAP (2025): Action 9.1, 9.4]*

1.1.4 Conduct drills, training sessions, and workshops to equip community members with the knowledge of their roles and responsibilities in the event of a disaster. Ensure participation of vulnerable groups and first-responders. *[CCAP (2025): Action 9.1, 9.4]*

1.1.5 Carry out awareness to teach, inform and engage the public to comply with weather alerts and advisories.

1.1.6 Establish guidance programs to support residents in accessing insurance schemes. *CCAP (2025): Action 8.1, 8.2]*

1.1.7 Foster community engagement and dialogue to address grievances, build trust between communities and authorities, and support conflict resolution through collaborative problem-solving. *[CCAP (2025): Action 9.1]*

1.1.8 Use the community engagement opportunity to network and establish connections within the community to enhance Disaster Risk Reduction.

1.2 Integrate Environmental Protection and Sustainability Practices into Planning and Development

1.2.1 Ensure the management and maintenance of natural water resources, along with the establishment and upkeep of backup water supplies. *[CCAP (2025): Action 4.3, 5.5]*

1.2.2 Implement environment laws and regulations as specified by the government. *[CCAP (2025): Action 1.1, 1.2, 1.4]*

1.2.3 Ensure replanting projects enhance food security and promote community belonging through inclusive and sustainable models. *CCAP (2025): Action 6.1, 9.1]*

1.2.4 Ensure replanting projects and mangrove rejuvenation projects are linked to financial initiatives that support long-term sustainability and autonomous management. *[CCAP (2025): Action 2.1]*

1.2.5 Establish standards to ensure all construction sites and camps contain sand, dust, and fine particles through measures such as tire wash stations at camp entrances.

1.3 Strengthen Early Warning SystemsforDisasterPreparedness

1.3.1 Connect to established Early Warning Systems for real-time disaster tracking and alerts. *[CCAP (2025): Action 3.3]*

1.3.2 Ensure Early Warning systems are designed to reach the majority of the population using multiple methods, such as loudspeakers and Short Message Service (SMS).

1.3.3 Ensure that the developed system is inclusive and accessible to all members of the community including vulnerable groups. *[LDP: Strategy 53.1, 53,2]*

1.3.4 Establish and maintain effective disease surveillance and reporting systems, including syndromic surveillance and data analysis, to detect and respond to outbreaks promptly.

1.4 Enhance Infrastructure Resilience and Promote Sustainable Development

1.4.1 Promote non-residential use of ground floors, with pumping stations if necessary, and parking or elevation to mitigate and buffer the impact of floods and tsunamis. *[CCAP (2025): Action 1.1]*

1.4.2 Plan to ensure all new infrastructure, including harbors and buildings, is engineered to withstand sudden physical shocks. *[CCAP (2025): Strategy 5]*

1.4.3 Retrofit and climate-proof existing and new structures including harbors, jetty, buildings, to withstand high winds and flooding. *[CCAP (2025): Strategy 5]*

1.4.4 IEnsure city-level guidelines/regulations are in place to protect key infrastructure, such as water plant systems, electricity generators and other essential services from other hazards and incidents. *[LDP: Strategy 1.4][CCAP (2025): Action 1.1]*

1.4.5 Ensure uninterrupted water, electricity, sewage, and waste management services to households through regular maintenance of service infrastructure. *[LDP: Strategy 1.4,2,2,3.1][CCAP (2025): Action 6.3]*

1.5 Strengthen Regulation Enforcement and Improve Public Health Systems

1.5.1 Enforce laws and regulations to minimize risks to human health and the environment. *[CCAP (2025): Action 4.3, 5.5]*

1.5.2 Ensure adherence to the zoning plan. *[CCAP (2025): Action 1.1]*

1.5.3 Ensure that hospital carries out public vaccination programs to prevent the spread of infectious diseases ad that 75% of the scheduled vaccination appointments are executed by the mandated party with follow-up on the no-shows.

1.5.4 Ensure that the hospital maintains a stockpile of at least 75% of essential medical supplies, including medications, oxygen, personal protective equipment (PPE), and testing kits, to ensure readiness for epidemic response. Additionally, ensure the availability of adaptive equipment and tailored medications for all vulnerable groups.

1.6 Promote Economic Diversification and Strengthen Food Security Measures

1.6.1 Ensure adequate storage capacity, such as silos or other facilities, to store food supplies for extended periods, particularly during the monsoon season when cargo shipments may be disrupted. *[CCAP (2025): Action 6.1]*

1.6.2 Explore and establish unconventional economic solutions to diversify the economic options in the island that can be carried out using the natural resources available on the island. These can include tours, tourism activities, controlled fishing, and bird-watching tours. *[LDP: Strategy 44][CCAP (2025): Action 7.1, 7.2]*

1.7 Implement Effective Waste Management Systems

1.7.1 Establish a system to manage hazardous waste and dispose/store it safely within the island until the establishment and transport of the waste to the regional waste management island. Further, carryout engagement and training programs for the locals informing them of the latest waste segregation program and collection protocols. *[LDP: Strategy 3.1][CCAP (2025): Action 2.3, 4.4]*

1.7.2 Develop containment systems, such as bund walls and spill containment pallets, to prevent the release of hazardous materials into the environment through land, wetland, and/or sea.

1.8 Enhance Security Measures

1.8.1 Monitor and take measures to mitigate the root cause of the major criminal activities. *[LDP: Strategy 18.1]*

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1.8.2 Increase security presence in high-risk areas to deter violence and ensure public safety, while emphasizing non-confrontational and community-oriented policing strategies. *[LDP: Strategy 16.3]*

1.8.3 Establish communication channels to provide real-time information and updates to the public during periods of unrest. *[CCAP (2025): Action 3.3]*

1.8.4 Enhancing intelligence to detect violent activities within the communities and address potential social unrest before it escalates.

1.9 Expand the Use of Renewable Energy

1.9.1 Develop and implement plans on rainwater harvesting, greywater recycling to diversify water resources. *[LDP: Strategy 1.4][CCAP (2025): Action 4.3, 5.5]*

1.9.2 Develop and implement plans for renewable energy sources on the island. *[LDP: Strategy 2.3, 41.2][CCAP (2025): Action 6.2, 8.1]*

1.10 Develop Coastal Protection

1.10.1 Promote replanting in wetland and eastern beach areas using trees that can provide wind shelter and geological retention to prevent surface water erosion, enhance water absorption and sediment retention. *[LDP: Strategy 39.3, 41.1][CCAP (2025): Action 1.4, 4.2]*

1.10.2 Implement natural barriers like mangroves, dunes, and reconstruct, manage and maintain seawalls to reduce storm surge impact. *[CCAP (2025): Action 5.4, 5.6]*

Kulhudhuffushi City
Image Source: MRC North Regional Office

2. DISASTER PREPAREDNESS

2.1 Develop and Implement Community Engagement Initiatives for Disaster Preparedness *[CCAP (2025): Action] LDP: Strategy*

2.1.1 Conduct public awareness campaigns, trainings, workshops and drills on disaster preparedness and safety measures. These initiatives should cover topics such as securing homes and property during specific disaster events, as well as adherence to weather and hazard alerts. The sessions must be inclusive, engaging all community members, including vulnerable groups.

2.1.2 Conduct regular capacity development training for government-employed staff to prepare them as emergency first responders. *[CCAP (2025): Action 9.4]*

2.1.3 Train emergency responders for a range of specific hazards, including safety protocols, decontamination procedures, and the proper use of personal protective equipment (PPE). *[CCAP (2025): Action 9.4]*

2.2 Plan for Evacuation and Establish Early Warning Systems

2.2.1 Develop and implement evacuation plans for localized disaster events. The plan must include detailed evacuation routes, with transportation logistics with special considerations for the vulnerable population. *[CCAP (2025): Action 7.3]*

2.2.2 Develop and implement an island-wide evacuation plan for disasters such as tsunamis. Identify suitable buildings and boats for evacuation and assign responsibilities for managing temporary shelters. *[CCAP (2025): Action 7.3]*

2.2.3 Designate and clearly mark evacuation routes to elevated structures and assembly points, ensuring they are accessible and well-maintained.

2.2.4 Ensure inclusive mechanisms for disseminating early warnings, ensuring clear and accessible communication for all residents. *[CCAP (2025): Action 3.3]*

2.3 Establish Resource Management and Stockpiling Systems

2.3.1 Strengthen the capacity of multiple individual units within the city to act as emergency first responders, managing incidents until medical personnel or professional responders arrive. *[LDP: Strategy 42.1]*

2.3.2 Establish a Memorandum of Understanding (MoU) or agreements to establish temporary shelters for displaced people in the event of a disaster. These shelters should provide a minimum of 3.5SQM per person and must ensure protection from hazards, and accommodate the specific needs of all genders, age groups, and persons with disabilities (PWDs). *[LDP: Strategy 42.1]*

2.3.3 Plan for potential water shortages. Maintain the required backup volume of water for the city. *[CCAP (2025): Action 6.3]*

2.3.4 Equip for potential water shortage by maintaining bowser/mobile water storage systems and continuously asses their condition. *[CCAP (2025): Action 6.3]*

2.4 Disaster Risk Assessment and Safety Measures

2.4.1 Establish, manage and monitor beach safety measures, lifesaving boards, stations, and devices on the eastern and western beach.

2.4.2 Develop comprehensive emergency response plans for specific hazards such as geo-hazards, chemical, social, hydrometeorological, technological, and chemical hazards. Clearly define roles, responsibilities and communication strategies for all stakeholders.

2.4.3 Develop, monitor, and periodically review disaster risk reduction and local emergency plans, including but not limited to flood management, beach disaster management, dust management, and spill management. Ensure policy development, risk assessment, and regulatory enforcement measures address the specific needs of vulnerable groups. *[CCAP (2025): Action 1.3]*

2.4.4 Plan to strengthen healthcare infrastructure including hospitals, clinics, and laboratories to handle outbreaks effectively with the surge capacity and contingency plans. *[CCAP (2025): Action 5.7]*

2.4.5 Train the responders to manage community unrest with sensitivity, prioritizing public safety above all other considerations. *[CCAP (2025): Action 9.4]*

2.4.6 Allocate safe zones with the necessary safeguards such as access control, surveillance, psycho-social support, etc. These zones should address the needs of vulnerable groups. *[CCAP (2025): Action 10.1, 10.2]*

2.4.7 Ensure preparation of a business continuity plan for all utilities.

2.4.8 Develop spill containment systems such as bund walls and spill containment pallets to prevent the release of hazardous material into the environment through land, wetland and/or sea in case of a disaster.

2.4.9 Conduct drill scenarios and develop situational response practices. *[CCAP (2025): Action 9.1, 9.4]*

Kulhudhuffushi City
Image Source: MRC North Regional Office

3. DISASTER RESPONSE

3.1 Early Warning Dissemination and Risk Communication

3.1.1 Establish a system to receive ad disseminate Early Warning.

- Establish a focal point and alternative focal points to receive Early Warning from competent authorities, local agencies and stakeholders.
- Establish hotline.
- Maintain focal points 24/7 operational.
- Inform and notify Kulhudhuffushi City Council leadership.
- Send notifications as per the established protocols.

3.1.2 Report about incidents and emergencies when and where required.

3.2 Activate CEOP and Hazard-Specific Functional Plans

3.2.1 Establish CEOP

- Activate CEOP
- Activate Hazard-Specific Functional Plans
- Activate business continuity plans

3.3 Activate CDMC and its Functions

3.3.1 Convene CDMC before the conduct of operation

- Notify required members for an emergency meeting of CDMC
- Conduct emergency meeting
- Intiiate response; plan for the emergency response operations in place.
- Establish a task force/working group if required.

3.3.2 Activate CEOC.

- Activate and man/staff CEOC
- Activate Incident Command System and Multi-Agency Coordination System.
- Activate CERT and volunteers.
- Carry out anticipatory actions.

3.4 Multi-Agency Coordination and Incident Management

3.4.1 Conduct Response operations

- Carry out evacuations
- Keey evacuation centers and safe areas operational and open
- Conduct protection, search and rescue operations
- Triage and first-aid
- Treat injured, sick and wounded
- Provide basic needs
- Manage dead bodies
- Send situation reports to NDMA and government ministries
- Debris cleaning

3.4.2 Establish active and functional system for disaster relief and humanitarian assistance

- Activate disaster relief distribution and provision of humanitarian assistance
- Coordinate support and assistance within the city
- Manage temporary shelters
- Manage, care, and reconnect tourist, vistors and expatriates with their families
- Provide psychosocial support

3.5 Activate Rapid Disaster Needs Assesmment

3.5.1 Conduct Rapid Disaster Needs Assessment (RDNA)

- Conduct on-site inspections within the affected areas
- Realistic and accurate recording of damages, losses and needs
- Preparation of loss and damage report as early as possible and submit it to the proper authorities for the provision of assistance.

3.6 Transition to Recovery

3.6.1 transfer to recovery operations

- Plan for recovery
- Activate recovery activities for specific hazard events
- Support other organizations and stakeholders to return to new normal
- Adopt Build Back Better principles

Kulhudhuffushi City
Image Source: MRC North Regional Office

4. DISASTER RECOVERY

4.1 Transition from Response to Relief

4.1.1 Maintain ongoing relief and rehabilitation program

4.1.2 Stop activities based on the recovery and facilitate community to return to new normal

4.1.3 Coordinate recovery and reconstruction with the government support

4.2 Create Task Force for Recovery Operation

4.2.1 Convene recovery Task Force if required

4.2.2 Set recovery objectives and priorities

4.3 Repair and restore community lifelines and critical infrastructure

4.3.1 Restore basic services such as power, water and sanitation

4.3.2 Provide communication and transport services

4.3.3 Begin schools and education

4.3.4 Repair and rehabilitate harbors, ferry terminals, schools and other infrastructure buildings

4.3.5 Repair and construction of damaged buildings, roads, and other facilities referred to proper and responsible agencies.

4.4 Continue Providing Victims Support

4.4.1 Provide assistance and other support for recovery extended to the victims

4.4.2 Provide victims sustainable livelihoods to start their own business

4.5 Integrate Build Back Better Principles in the Reconstruction and Development Projects

4.5.1 Consider disaster risk reduction and sustainability in the recovery, reconstruction and city development projects

4.5.2 Build resilience

4.5.3 Make Kulhudhuffushi City a disaster resilient city

4.5.4 Incorporate the learnings from the disaster into long-term recovery plans as well as preparedness and prevention of future incidences.

Kulhudhuffushi City
Image Source: MRC North Regional Office

Kulhudhuffushi City 2021
Image Source: Charrette Studio

06

IMPLEMENTATION PLAN & MONITORING

Ensuring Disaster Management Plan in Kulhudhuffushi City is being followed.

A comprehensive implementation plan and monitoring program is essential to ensure the effectiveness and continual improvement of DRR, Disaster response and recovery strategies.

IMPLEMENTATION PLAN

The implementation plan serves as a road map for how the proposed actions and sub-actions can be effectively put into practice in a timely manner. To ensure clarify and organization, the activities have been categorized into three main time frames: short-term (within 2 years), medium-term (within 5 years) and long-term (more than five years).

However, response activities will be initiated immediately upon a disaster event and recovery actions will be initiated once the imminent danger of the disaster dies down. Hence the time frame for the response and recovery activities will be based on the context of the disaster.

Kulhudhuffushi City
Image Source: MRC North Regional Office

1.1 Develop and Implement Community Engagement Initiatives for Disaster Prevention & Mitigation

Activity	Time frame	Responsible Party		Outcome *(By the end of execution, [illegible] should ensure the*
1.1.1 Carryout local stakeholder engagement, information sessions, and educational programs, to inform the community of the prevention, preparedness, response and recovery measures in place.		Council	MRC Police MNDF Schools MNU	• Before a disaster, the local stakeholders and public are engaged and made aware of the prevention strategies, mitigation actions planned into the infrastructure, and arranged by the authorities. • The community should also know the 'reactionary steps' or the 'next steps' that is expected from them in case of a disaster.
1.1.2 Gather ideas within the community for new developments to enhance Disaster Risk Reduction.		Council	MRC Police MNDF Schools MNU	
1.1.3 Conduct widespread public awareness campaigns on disaster preparedness and safety measures, including how to secure homes and property in specific disaster events.		Council	MRC Police MNDF Schools MNU	
1.1.4 Conduct drills, training sessions, and workshops to equip community members with the knowledge of their roles and responsibilities in the event of a disaster. Ensure participation of vulnerable groups and first-responders.		Council	MRC Police MNDF Schools MNU	
1.1.5 Carry out awareness to teach, inform and engage the public to comply with weather alerts and advisories.		Council	MRC Police MNDF Schools MNU	
1.1.6 Establish guidance programs to support residents in accessing insurance schemes.		Council	MRC	• The majority of the local population have subscribed to an acceptable personal and property insurance scheme.
1.1.7 Foster community engagement and dialogue to address grievances, build trust between communities and authorities, and support conflict resolution through collaborative problem-solving.		Council	KRH Police	• All of the grievances brought up in the session are noted, • Most of the grievances are provided a way forward. • Some of the rationale behind response, and methodology is explained to the locals.
1.1.8 Use the community engagement opportunity to network and establish connections within the community to enhance DRR.				

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1.2 Integrate Environmental Protection and Sustainability Practices into Planning and Development

Activity	Responsible Party		Outcome (By the end of execution, [illegible] should ensure the
1.2.1 Ensure the management and maintenance of natural water resources, along with the establishment and upkeep of backup water supplies.	Council	MWSC Fenaka	• The service providers have well maintained and well managed backup water, available in time of need.
1.2.2 Implement environment laws and regulations as specified by the government.	Council		• Implementation of environment laws and regulations.
1.2.3 Ensure replanting projects enhance food security and promote community belonging through inclusive and sustainable models.	Council		• The plants planted in the city's built infrastructure can years down the line, feed the community; throughout the year, enhancing the capacity for the city to recover in case of potential economic crisis. • Ensure that 80 % of the replanting projects are managed by the community.
1.2.4 Ensure replanting projects and mangrove rejuvenation projects are linked to financial initiatives that support long-term sustainability and autonomous management.	Council		• All wetlands have a way of financial sustainability that can generate revenue for maintenance and management, etc.
1.2.5 Establish standards requiring all construction projects to use fencing to reduce airborne dist concentration.	Council		• Construction dust is managed.
1.2.6 Establish standards to ensure all construction sites and camps contain sand, dust, and fine particles through measures such as tire wash stations at camp entrances.	Council		

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1.3 Strengthen Early Warning Systems for Disaster Preparedness

Activity	Responsible Party		Outcome *(By the end of execution, Council should ensure the following)*
1.3.1 Connect to established Early Warning Systems for real-time disaster tracking and alerts.	Council	MRC MNU Police MNDF	• The city is connected to early warning of potential disasters.
1.3.2 Ensure Early Warning systems are designed to reach the majority of the population using multiple methods, such as loudspeakers and Short Message Service (SMS).	Council	MRC	• All residents can be reached on timely manner.
1.3.3 Ensure that the developed system is inclusive and accessible to all members of the community including vulnerable groups.	Council	MRC MNU Police Hospital	• The most vulnerable populations within the community are warned
1.3.4 Establish and maintain effective disease surveillance and reporting systems, including syndromic surveillance and data analysis, to detect and respond to outbreaks promptly.	Hospital	Council	• A city wise, robust disease surveillance and reporting system exists

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1.4 Enhance Infrastructure Resilience and Promote Sustainable Development

Activity	Responsible Party		Outcome (By the end of execution, [illegible] should ensure the
1.4.1 Promote non-residential use of ground floors, with pumping stations if necessary, and parking or elevation to mitigate and buffer the impact of floods and tsunamis.	Council	NGO's	• All the new developments can act as 'safe' locations preventing potential hazards damage that are probable.
1.4.2 Plan to ensure all new infrastructure, including harbors and buildings, is engineered to withstand sudden physical shocks.	Council	MNDF Government	• The city council, as the main stakeholder puts an emphasis on the structural integrity and resilience of the newly developed public infrastructure.
1.4.3 Retrofit and climate-proof existing and new structures including harbors, jetty, buildings, to withstand high winds and flooding.	Council	Fenaka MWSC WAMCO Dhiraagu Ooredoo MTCC RDC	• The the existing infrastructure is retrofitted to withstand hydrometeorological hazards.
1.4.4 Ensure city-level guidelines/regulations are in place to protect key infrastructure, such as water plant systems, electricity generators and other essential services from other hazards and incidents.	Council	MWSC Fenaka	• The service providers ensure, that the city does not go into a complete service halt due to a hazard impact on the services.
1.4.5 Ensure uninterrupted water, electricity, sewage, and waste management services to households through regular maintenance of service infrastructure.	Council	Fenaka MWSC MNDF WAMCO Hospital	• The service providers ensure, that the infrastructure is maintained in a way that will not fail due to lack of management.

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1.5 Strengthen Regulation Enforcement and Improve Public Health Systems

Activity	Responsible Party		Outcome *(By the end of execution, it should ensure the following)*
1.5.1 Enforce laws and regulations to minimize risks to human health and the environment.	Council	Police MNDF WAMCO Hospital	• Within the council jurisdiction, 100% of all the DRR actions mandated by the regulation are implemented
1.5.2 Ensure adherence to the zoning plan.	Council		• A structured urban plan is formulated and incorporated into the development plan.
1.5.3 Ensure that hospital carries out public vaccination programs to prevent the spread of infectious diseases ad that 75% of the scheduled vaccination appointments are executed by the mandated party with follow-up on the no-shows.	Council	Hospital	• 75% of the scheduled vaccination appointments are executed by the mandated party and follow-up on the 'no show'.
1.5.4 Ensure that the hospital maintains a stockpile of at least 75% of essential medical supplies, including medications, oxygen, personal protective equipment (PPE), and testing kits, to ensure readiness for epidemic response. Additionally, ensure the availability of adaptive equipment and tailored medications for all vulnerable groups.	Council		

1.6 Promote Economic Diversification and Strengthen Food Security Measures

Activity	Responsible Party		Outcome *(By the end of execution, it should ensure the following)*
1.6.1 Ensure adequate storage capacity, such as silos or other facilities, to store food supplies for extended periods, particularly during the monsoon season when cargo shipments may be disrupted.	Council	STO	• The capacity can provide basic sustenance when disaster strikes to 75% of the population.
1.6.2 Explore and establish unconventional economic solutions to diversify the economic options in the island that can be carried out using the natural resources available on the island. These can include tours, tourism activities, controlled fishing, and bird-watching tours.	Council		• The city has the capacity to carry out various economic activities within the island.

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1.7 Implement Effective Waste Management Systems

Activity				Responsible Party		Outcome *(By the end of execution, lead should ensure the following)*
1.7.1 Establish a system to manage hazardous waste and dispose/store it safely within the island until the establishment and transport of the waste to the regional waste management island. Further, carryout engagement and training programs for the locals informing them of the latest waste segregation program and collection protocols.				Council	WAMCO MNDF Hospital	• The service providers ensure to lead waste management, form the grass root level.
1.7.2 Ensure development of containment systems, such as bund walls and spill containment pallets, to prevent the release of hazardous materials into the environment through land, wetland, and/or sea.				Council	WAMCO MNDF	• The service providers ensure establishment of proper waste segregation and associated material extraction from waste, within the island. • The service providers ensure storage of chemicals within the service providers facilities and industrial areas are as per the relevant regulations/guidelines.

1.8 Enhance Security Measures

Activity				Responsible Party		Outcome *(By the end of execution, lead should ensure the following)*
1.8.1 Monitor and take measures to mitigate the root cause of the major criminal activities.				Police	Council Magistrate Court	• The mandated parties ensure mitigation of social unrest through various modes of social intervention, inclusive planning and management activities.
1.8.2 Increase security presence in high-risk areas to deter violence and ensure public safety, while emphasizing non-confrontational and community-oriented policing strategies				Police		
1.8.3 Establish communication channels to provide real-time information and updates to the public during periods of unrest.				Council	Police	
1.8.4 Enhancing intelligence to detect violent activities within the communities and address potential social unrest before it escalates.				Police		

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1.9 Expand the Use of Renewable Energy

Activity				Responsible Party		Outcome *(By the end of execution, [illegible] should ensure the*
1.9.1 Develop and implement plans on rainwater harvesting, greywater recycling to diversify water resources.				Council	MWSC	• The service providers provide a set of alternative water collection methodologies.
1.9.2 Develop and implement plans for renewable energy sources on the island.				Council	MWSC Fenaka	• The service providers ensure an alternative to fossil fuel dependency, and available alternative energy resources.

1.10 Develop Coastal Protection

Activity				Responsible Party		Outcome *(By the end of execution, [illegible] should ensure the*
1.10.1 Promote replanting in wetland and eastern beach areas using trees that can provide wind shelter and geological retention to prevent surface water erosion, enhance water absorption and sediment retention.				Council	MRC	• Nature based mitigation solutions that act as buffer for various Hydrometeorological hazards are promoted.
1.10.2 Implement natural barriers like mangroves, dunes, and reconstruct, manage and maintain seawalls to reduce storm surge impact.				Council	MTCC RDC MNDF	

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2.1 Develop and Implement Community Engagement Initiatives for Disaster Preparedness

Activity				Responsible Party		Outcome *(By the end of execution, city should ensure the following)*
2.1.1 Conduct public awareness campaigns, trainings, workshops and drills on disaster preparedness and safety measures.				Council	MRC Police MNDF Schools MNU	• The community is an actively engaged and aware society in which for the majority of the residents, the response is second nature.
2.1.2 Conduct regular capacity development training for government-employed staff to prepare them as emergency first responders.				Council	MRC MNDF NDMA	• An increased number of emergency first responders who are up to date on the requirements exist within the city
2.1.3 Train emergency responders for a range of specific hazards, including safety protocols, decontamination procedures, and the proper use of personal protective equipment (PPE).				Council	MNDF Relevant Ministry (Environment, Health)	• The city has embedder many first responders who can also handle dangerous chemical waste in the prescribed manner.

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2.2 Plan for Evacuation and Establish Early Warning Systems

Activity	Responsible Party		Outcome *(By the end of execution, [illegible] should ensure the*
2.2.1 Develop and implement detailed evacuation routes, with transportation logistics with special considerations for the vulnerable population.	Council	MNDF Police MRC MTCC/RTL KRH	• The developed detailed evacuation routes are practical and detailed that is interconnecting and can accommodate an influx of people.
2.2.2 Develop and implement an island-wide evacuation plan for disasters such as tsunamis. Identify suitable buildings and boats for evacuation and assign responsibilities for managing temporary shelters.	Council	MNDF MRC Police	• A practical Tsunami evacuation plan implemented and established
2.2.3 Designate and clearly mark evacuation routes to elevated structures and assembly points, ensuring they are accessible and well-maintained.	Council	MNDF MRC Police	• Designated and clearly marked evacuation routes are present within the island.
2.2.4 Ensure inclusive mechanisms for disseminating early warnings, ensuring clear and accessible communication for all residents.	Council	MRC MNU Police Dhiraagu Ooredoo Schools	• The implemented Early Warning disseminations system within the island is inclusive.

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2.3 Establish Resource Management

Activity	Responsible Party		Outcome *(By the end of execution, [illegible] should ensure the*
2.3.1 Strengthen the capacity of multiple individual units within the city to act as emergency first responders, managing incidents until medical personnel or professional responders arrive.	Council	All Institutions	• Ensure that these isolated teams act as units that can provide an initial relief when it comes to attending to these disasters.
2.3.2 Establish a Memorandum of Understanding (MoU) or agreements to establish temporary shelters for displaced people in the event of a disaster. These shelters should provide a minimum of 3.5SQM per person and must ensure protection from hazards, and accommodate the specific needs of all genders, age groups, and persons with disabilities (PWDs).	Council	MRC	• A set of reliable, safe, and agreed upon shelter options are available within the city that can temporarily hold the displaced population.
2.3.3 Plan for potential water shortages. Maintain the required backup volume of water for the city.	Council	MWSC	• The city is prepared for potential water shortages
2.3.4 Equip for potential water shortage by maintaining bowser/mobile water storage systems and continuously asses their condition.	Council	MWSC Relevant Ministry (Infrastructure)	

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2.4 Disaster Risk Assessment and Safety Measures

Activity	Responsible Party		Outcome *(By the end of execution, [illegible] should ensure the*
2.4.1 Establish, manage and monitor beach safety measures, lifesaving boards, stations, and devices on the eastern and western beach.	Council	Police Relevant Ministry (Tourism)	• Ensure that the beach is monitored at informed times of the day. • The Eastern beach can be closed off for swimming due to hazards. • All the beaches have watch towers, lifesaving devices. • All tourism establishments must ensure that the safety protocols and beach hazard are informed to the guests. • All beach activities should be carried out by trained and approved vendors.
2.4.2 Develop comprehensive emergency response plans for specific hazards such as geo-hazards, chemical, social, hydrometeorological, technological, and chemical hazards. Clearly define roles, responsibilities and communication strategies for all stakeholders.	Council	MNDF	• There are a set of emergency response plans compiled and tested out in collaboration with the first responders localized for the city.
2.4.3 Develop, monitor, and periodically review disaster risk reduction and local emergency plans, including but not limited to flood management, beach disaster management, dust management, and spill management. Ensure policy development, risk assessment, and regulatory enforcement measures address the specific needs of vulnerable groups.	Council	MRC	• There is an updated disaster management plan.
2.4.4 Plan to strengthen healthcare infrastructure including hospitals, clinics, and laboratories to handle outbreaks effectively with the surge capacity and contingency plans.	Council	Hospitals Relevant Ministry (Health)	• The healthcare infrastructure can handle outbreaks effectively.
2.4.5 Train the responders to manage community unrest with sensitivity.	Council	Police MRC	• The first responders are trained to handle crises with emotional intelligence.

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2.4 Disaster Risk Assessment and Safety Measures

Activity	Responsible Party		Outcome *(By the end of execution, [illegible] should ensure the*
2.4.6 Allocate safe zones with the necessary safeguards such as access control, surveillance, psycho-social support, etc. These zones should address the needs of vulnerable groups.	Council	MNDF Police MRC	• Safe zones are allocated in case of social unrest
2.4.7 Ensure preparation of a business continuity plan for all utilities.	Council	BCC	• Utilities linked to the city have a buffer to minimize the damage of any disaster that can impact the business plan.
2.4.8 Spill Containment Systems: develop spill containment systems, such as bund walls and spill containment pallets, to prevent the release of hazardous materials into the environment; land, wetland and sea in case of a disaster..	Council MNDF	Fenaka MWSC Relevant Ministry (Infrastructure, Environment, Defense)	• The city has an established containment system as a 'last resort' to ensure the chemicals do not leach into the built environment.
2.4.9 Conduct drill scenarios and develop situational response practices.	Council	Police MRC	• Training and exposure to the resident first responders are provided to cater autonomously for situational response.

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3.1 Implement Early Warning Dissemination and Risk Communication

Activity	Responsible Party
3.1.1 Establish a system to receive and disseminate Early Warning • Establish a focal point and alternative focal points to receive Early Warning from authorities and local agencies and stakeholders • Establish a hot-line • Maintain focal points 24/7 operational • Inform and notify Kulhudhuffushi City Council leadership • Send notifications as per established protocols	Council
3.1.2 Report and provide Early Warning • Report incidents and emergencies when and where required	Other agencies and the Public

3.2 Activate CEOP and Hazard-Specific Plans

Activity	Responsible Party
3.2.1 Establish CEOP • Activate CEOP • Activate Hazard-specific plans • Activate Business Continuity Plans	Kulhudhuffushi City Disaster Management Committee; Emergency Service Functions
3.1.2 Report and provide Early Warning • Report incidents and emergencies when and where required	Other agencies and the Public

3.3 Activation of City Disaster Management Committee and its Functions

Activity	Responsible Party
3.3.1 Convene CDMC before the conduct of operation • Notify required members for an emergency meeting of CDMC • Conduct emergency meeting • Initiate response; plan for the emergency response operation in place • Establish a task force/working group if required • Report to NDMA or respective government Ministry/entity	DMC Chair; Mayor/ Deputy Mayor/ Secretariat
3.3.2 Establish CEOC • Activate and man/staff CEOC • Activate Incident Command System and Multi Agency Coordination System • Activate CERT and Volunteers • Carry out anticipatory actions	Kulhudhuffushi CDMC

3.4 Multi Agency Coordination and Incident Management

Activity	Responsible Party
3.4.1 Conduct Response Operations • Carry out evacuations • Keep evacuation centers and safe areas operational and open • Conduct protection, search and rescue operations • Triage and first-aid • Treat injured, sick and wounded • Provide basic needs • Manage dead bodies • Send situation reports to NDMA and government Ministry/entities • Debris cleaning	Council and responding agencies
3.4.2 Establish active and functional system for disaster relief and humanitarian assistance • Activate disaster relief distribution and provision of humanitarian assistance • Coordinate support and assistance within the city • Manage temporary shelters • Manage, care and reconnect tourist, visitors and expatriates with their families • Provide psychosocial support	Other agencies and the Public

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3.5 Activate Rapid Disaster Needs Assistance (RDNA)

Activity	Responsible Party
3.5.1 Conduct Rapid Disaster Needs Assessment (RDNA) • Conduct on-site inspections within the affected areas • Record damages, losses and needs realistically and accurately • Prepare loss and damage report as early as possible and submit to the relevant authorities for provision of assistance	Council

3.6 Transition to Recovery

Activity	Responsible Party
3.6.1 Transfer to Recovery Operations • Plan for recovery • Activate recovery activities for specific hazard events • Support other organizations and stakeholders to return to new normal • Adopt Build Back Better principles	Council

4.1 Continue Response and Relief Operations

Activity	Responsible Party
4.1.1 Maintain ongoing relief and rehabilitation program	Lead: Council Support: MRC, NDMA, Relevant Ministries (Defense, Finance)
4.1.2 Stop activities based on the recovery and facilitate community to return to new normal	Lead: Council Support: All institutions/ agencies

4.2 Create Task Force for Recovery Operations

Activity	Responsible Party
4.2.1 Convene recovery task force if required	Lead: Council Support: All institutions/ agencies
4.2.2 Set recovery objectives and priorities	Lead: Council Support: All institutions/ agencies

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4.3 Repair and Restore Community Lifelines and Critical Infrastructure

Activity	Responsible Party
4.3.1 Restore basic services such as power, water and sanitation	Lead: Council Support: MWSC, Fenaka and Relevant Ministry (Infrastructure)
4.3.2 Provide communication and transport services	Lead: Council Support: Dhiraagu, Ooredoo, MTCC
4.3.3 Begin schools and education	Lead: Relevant Ministry (Education) Support: Council, Schools
4.3.4 Repair and rehabilitate harbors, ferry terminals, schools, and other infrastructure buildings	Lead: Council, Relevant Ministry (Infrastructure, Planning, Finance)
4.3.5 Repair and construction of damaged buildings, roads, and other facilities	Lead: Council, Relevant Ministry (Infrastructure, Planning, Finance), Relevant Institutions

4.4 Continued Victims Support

Activity	Responsible Party
4.4.1 Provide assistance and other support for recovery extended to the victim.	Lead: Council Support: MRC, NDMA
4.4.2 Provide victims sustainable livelihood to start their own business.	Lead: Council Support: Relevant Ministries

4.5 Integrate Build Back Better Principles in the Reconstruction and Development Projects

Activity	Responsible Party
4.5.1 Consider disaster risk reduction and sustainability in the recovery, reconstruction and city development projects	Lead: Council Support: All Institutions/ Agencies
4.5.2 Build resilience	Lead: Council Support: All Institutions/ Agencies
4.5.3 Make Kulhudhuffushi City a disaster resilient city	Lead: Council Support: All Institutions/ Agencies
4.5.4 Incorporate the learnings from the disaster into long-term recovery plans as well as preparedness and prevention of future incidences.	Lead: Council Support: All Institutions/ Agencies

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MONITORING

Objective of the Monitoring Program

To systematically track, assess, and improve the implementation of disaster preparedness, response, and recovery efforts in Kulhudhuffushi City, ensuring alignment with national standards, reducing vulnerabilities, and enhancing resilience against future disasters.

Monitoring Areas

The monitoring program will focus on the following areas:

- EWS
- Emergency Preparedness and Response Activities
- DRR Strategies
- Disaster Recovery Operations
- Stakeholder Engagement and Community Participation
- Resource Allocation and Mobilization
- Public Awareness and Training Programs

Data Collection and Reporting

The data for monitoring will be collected through:

- Surveys and assessments:
  - Post-disaster reviews,
  - Vulnerability assessments, and
  - Impact analyses.
- Regular drills and exercises:
  - Documenting results of emergency simulations and
  - Community-based disaster drills.
- Stakeholder feedback:
  - Engaging with community groups,
  - NGOs, and
  - Local businesses to gather their input on the efficiency of disaster management efforts.
- Data logs and EWS records:
  - Keeping records of early warnings,
  - Response times, and
  - Recovery activities.

Data collection will be carried out by designated teams from the City Council and relevant agencies, and results will be reported to the City CDMC and NDMA on a quarterly basis.

Evaluation and Continuous Improvement

The effectiveness of disaster management programs will be evaluated based on the performance of the indicators and feedback from stakeholders. A bi-annual review of the monitoring program will be conducted, followed by an annual report detailing successes, gaps, and recommendations for improvement. This report will be submitted to the NDMA for national-level evaluation and alignment with broader disaster risk management strategies.

Corrective Action Plans

In cases where performance falls below expected levels, corrective actions will be outlined, which may include:

- Strengthening training programs for responders
- Improving community outreach for better preparedness
- Allocating additional resources for critical infrastructure upgrades
- Updating and refining early warning dissemination protocols
- Enhancing coordination mechanisms between local, national, and international partners

Role of Stakeholders

Key stakeholders, including the City Council, NDMA, emergency services, NGOs, and community-based organizations, will have an active role in monitoring disaster management efforts. These stakeholders will contribute to:

- Providing timely and accurate data for assessments
- Participating in regular drills and exercises
- Engaging in the review and planning processes

Public Transparency and Accountability

To maintain public trust and accountability, monitoring results will be shared with the public through:

- Annual public reports
- Community meetings and workshops
- Dissemination through local media channels and social media

This transparent approach ensures that the community remains informed and engaged in disaster management processes.

Key Indicators

Table 6. Monitoring Key Indicators

Monitoring Area	Indicator	Frequency	Responsible by
Early Warning System	Timeliness and accuracy of warning, percentage of population reached	Quarterly	KCC
Preparedness and Response	Response time to disaster events, number of trained personnel available, effectiveness of evacuation drills	Bi-annually	CEOC, Local Police, Fire & Rescue
DRR	Implementation of mitigation projects, level of community engagement, improvement in vulnerability assessment results	Annually	KCC, MRC
Recovery Operations	Timely restoration of critical infrastructure, percentage of population receiving aid, duration of recovery efforts	After each event	Disaster Recovery Task-force, NDMA
Stakeholder Engagement	Number of collaborative meetings held, involvement of local NGOs, international partnerships	Quarterly	KCC, NDMA, NGO's
Resource Allocation	Availability of emergency resources, funding utilized vs. planned, adequacy of stockpiled supplies	Quarterly	KCC, Ministry of Finance, CEOC
Public Awareness & Training	Number of community awareness campaigns, percentage of population trained in DRR, level of disaster preparedness	Bi-annually	Schools, Media, NDMA, MRC

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Kulhudhuffushi City
Image Source: Kulhudhuffushi Online

07

BUILDING A RESILIENT KULHUDHUFFUSHI CITY

Building Resilience in the Face of Disaster

Building a disaster-resilient city is a continuous process, and this chapter concludes the plan by outlining the essential features of a resilient Kulhudhuffushi. It emphasizes the importance of community involvement, infrastructure resilience, and sustainable practices that protect both the environment and the economy. Through integrated disaster risk reduction efforts, strengthened partnerships, and the adoption of the "Build Back Better" approach, Kulhudhuffushi is committed to becoming a model of resilience in the face of adversity.

RESILIENT KULHUDHUFFUSHI CITY

A resilient community is vital for withstanding and recovering from crises. When communities are socially connected, they are better equipped to support one another, share resources, and access crucial information, reducing their overall vulnerability. Strong social bonds enable effective collaboration in managing disaster risks, responding swiftly, and rebuilding together. Inclusivity ensures that no vulnerable group is left behind, while proactive risk management helps anticipate and reduce the impact of both natural and human-made disasters. Critical elements such as food security, sustainable natural resource management, resilient infrastructure, and safe housing are essential for a community's recovery. A dependable supply of clean water, proper sanitation, and a robust healthcare system helps prevent disease outbreaks, safeguarding public health. Moreover, a diverse economy enhances the community's ability to absorb economic shocks, making resilience an indispensable aspect of long-term stability and well-being.

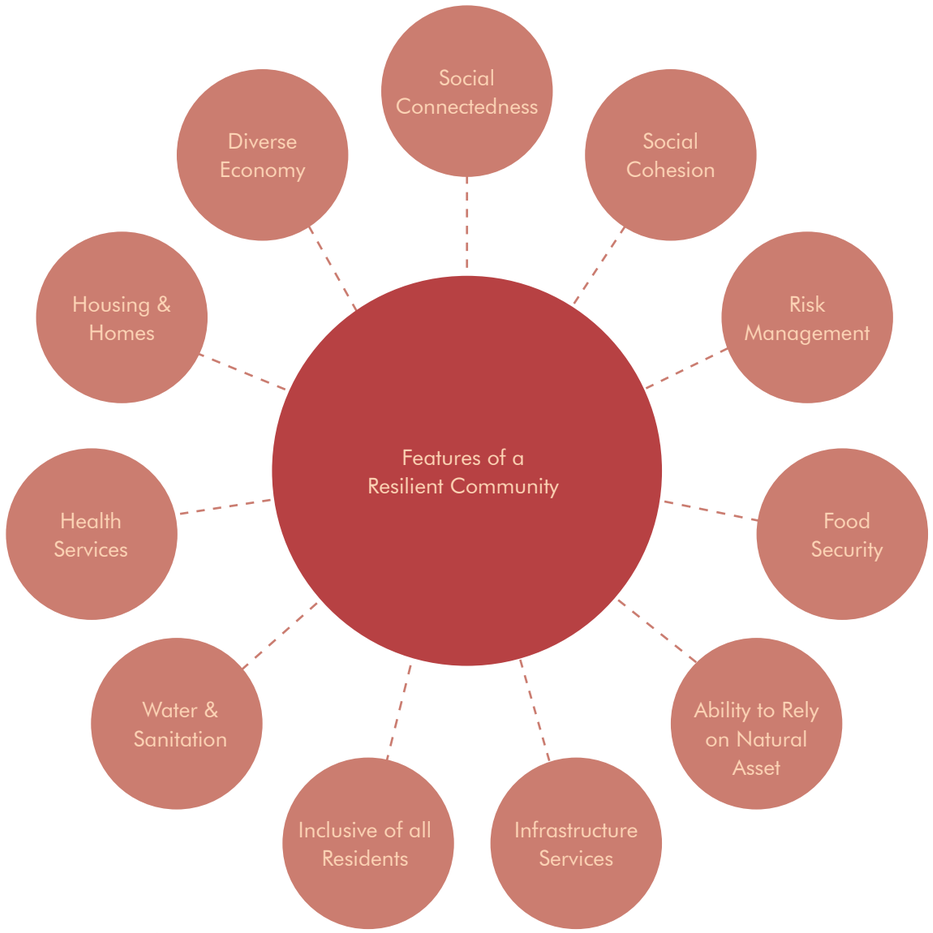

Figure 11. Features of a Resilient Community

The Disaster Management Plan for Kulhudhuffushi City aims to create a robust framework for effectively responding to and recovering from potential disasters. It emphasizes the importance of resilience-building through comprehensive strategies that engage all segments of the community, ensuring a collective approach to disaster preparedness and response. The plan recognizes that the city's vulnerability to various hazards necessitates a proactive and inclusive stance, where public education, stakeholder collaboration, and infrastructure resilience are paramount. It serves as a strategic pathway, detailing actionable steps to build a safer, more resilient Kulhudhuffushi as outlined below.

Table 7. Resiliency Building Actions

ACTION AREA	ACTION STEPS
Public Education and Outreach	Develop educational materials on disaster preparedness and response. Conduct regular workshops and training sessions for all community segments, including vulnerable groups. Implement awareness campaigns leveraging local media and social platforms.
Emergency Response Planning	Review and update all disaster related plans regularly to incorporate best practices. Establish and test emergency response plans for various hazard scenarios. Conduct disaster drills involving local emergency services and community members.
Infrastructure Resilience	Assess current critical infrastructure vulnerabilities and prioritize upgrades Implement zoning regulations to prevent construction in high-risk areas. Invest in resilient infrastructure, focusing on water, sanitation, and housing. Incorporate available natural assets into green infrastructure focusing on food security and sustainability.
Stakeholder Engagement	Establish partnerships with local NGOs, community-based organizations, and businesses for resource sharing. Form a Recovery Task-force to coordinate disaster recovery efforts. Facilitate regular stakeholder meetings to assess progress and address challenges. Develop a disaster risk reduction strategy that incorporates community feedback.
Risk Assessment and Management	Conduct regular risk assessments to identify and prioritize hazards. Integrate risk assessment findings into urban planning and development projects.
Financial and Resource Planning	Identify funding sources for disaster management initiatives, including government grants and private donations. Establish a dedicated disaster relief fund to support emergency response and recovery efforts. Promote sustainable economic practices that enhance community resilience.

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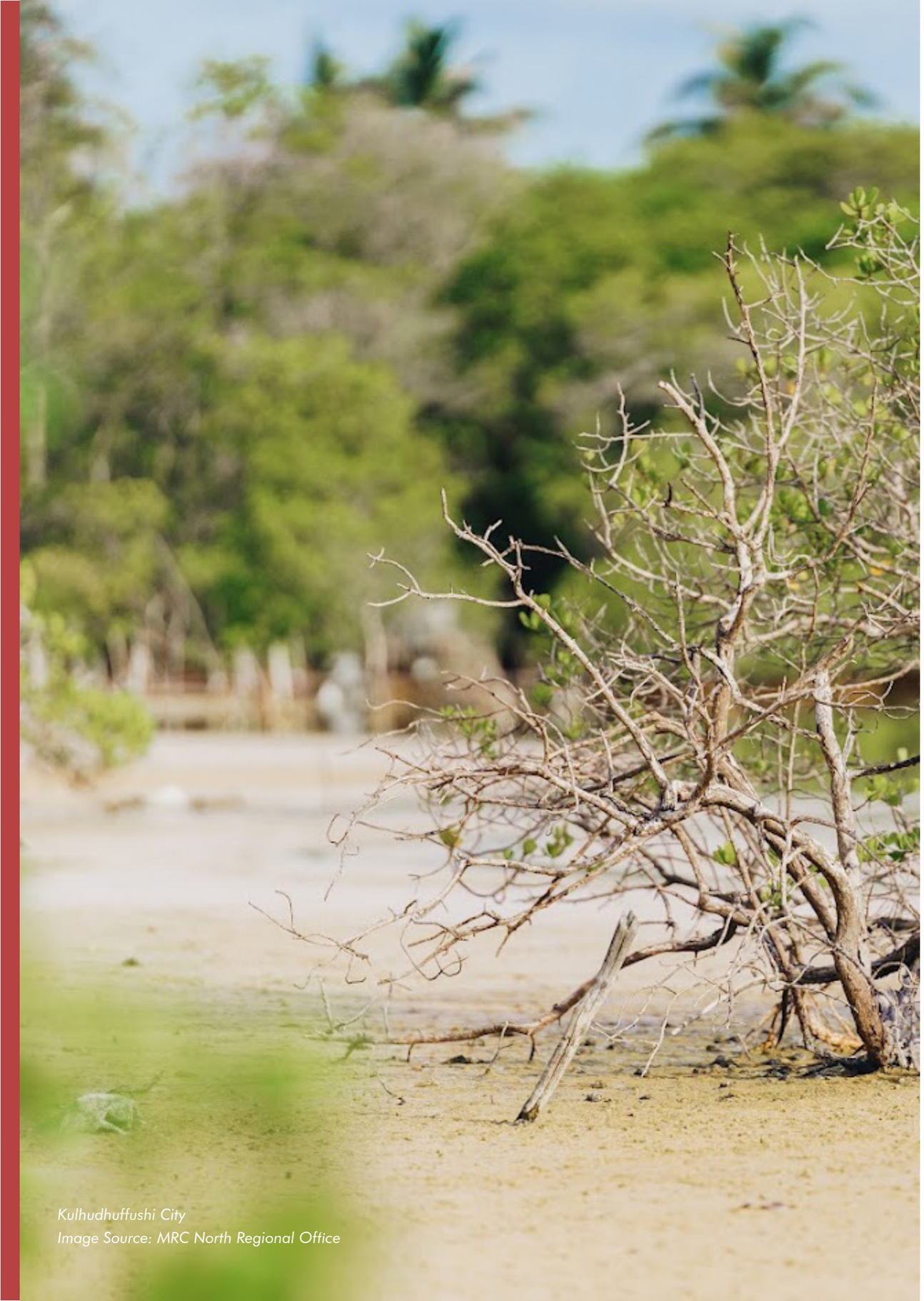

Kulhudhuffushi City
Image Source: MRC North Regional Office

08
WAY FORWARD

Kulhudhuffushi City faces growing risks from various hazards, highlighting the need for a strong, proactive disaster management approach. The Way Forward focuses on DRR, aiming to enhance public awareness, build resilient infrastructure, and improve emergency response systems. By fostering community engagement and collaboration with local and international stakeholders, this plan seeks to create a safer, more resilient city prepared for future challenges. Through collective action, Kulhudhuffushi will strengthen its ability to protect its people and ensure long-term sustainability.

Strengthen DRR Initiatives

- Prioritize DRR as the central focus of the disaster management framework, ensuring it informs all planning and actions.
- Incorporate DRR strategies in urban planning and development projects to reduce vulnerability to hazards.
- Regularly conduct risk assessments and update the disaster risk profile of the city to include new risks or emerging threats.
- Establish partnerships with academic and research institutions for ongoing hazard mapping and vulnerability studies.

Enhance Public Education and Awareness

- Develop and distribute targeted educational materials focusing on disaster preparedness, risk mitigation, and recovery processes.
- Implement inclusive public awareness campaigns, ensuring outreach to vulnerable groups such as PWD, women, children, the elderly, and migrant workers.
- Conduct regular workshops and community-based training on DRR, ensuring local ownership and participation in disaster preparedness activities.
- Leverage local media, social platforms, and schools to promote ongoing education on disaster risks and preparedness.

Build Infrastructure Resilience

- Assess current infrastructure vulnerabilities, particularly critical facilities such as hospitals, schools, and roads, and prioritize their upgrades.
- Enforce zoning laws to prevent construction in high-risk areas, ensuring future developments follow resilient construction standards.
- Invest in climate-resilient infrastructure for water, sanitation, housing, and energy systems, enhancing the city's capacity to withstand hydrometeorological and geo-hazards.
- Develop multi-use infrastructure, such as temporary shelters that serve everyday community purposes but can be converted during emergencies.

Improve Emergency Response Planning

- Regularly review and update the CEOP to reflect best practices and lessons learned from past disasters.
- Conduct regular, community-wide disaster drills that involve local emergency services, schools, businesses, and residents to build response capacity.
- Strengthen EWS by integrating technological advancements and ensuring timely, accessible alerts reach all segments of the population.
- Establish clear, accessible evacuation routes and disaster shelters for different hazard types, ensuring inclusivity in evacuation plans.

- Strengthen EWS by integrating technological advancements and ensuring timely, accessible alerts reach all segments of the population.
- Establish clear, accessible evacuation routes and temporary shelters for different hazard types, ensuring inclusivity in evacuation plans.

Enhance Stakeholder Engagement and Collaboration

- Foster collaboration between government agencies, NGOs, private sector actors, and the community to share resources, knowledge, and expertise in disaster management.
- Establish a local Disaster Management Committee to lead community-based risk reduction initiatives and ensure sustained engagement with stakeholders.
- Encourage participation from local businesses in business continuity planning and economic recovery strategies post-disaster.
- Establish local volunteer networks trained in disaster response and recovery operations, enhancing local capacity.

Focus on Community led DRR and Environmental Protection

- Integrate DRR into community development programs, promoting local ownership of disaster risk reduction initiatives.
- Launch inclusive reforestation and environmental protection programs tied to food security and sustainability, ensuring long-term resilience against climate-related hazards.
- Promote community-led waste management initiatives that reduce environmental degradation and flood risks.
- Include local leaders in decision-making processes to ensure that disaster preparedness programs are culturally and contextually relevant.

Strengthen Support for Vulnerable Populations

- Ensure that risk assessments and emergency plans take into account the specific needs of vulnerable groups, such as women, children, PWD, and migrant workers.
- Develop and implement business continuity plans that include small businesses and informal sector workers, ensuring economic recovery is inclusive.
- Provide disaster-specific training for healthcare workers and caregivers focused on the needs of vulnerable groups in emergency situations.
- Establish safe spaces and accessible healthcare facilities for at-risk populations during disaster recovery efforts.

Ensure Sustainable Financial and Resource Planning

- Identify and secure diversified funding sources for disaster preparedness and response, including government grants, donor funding, and public-private partnerships.
- Establish a local disaster relief fund to quickly mobilize resources in the aftermath of a disaster, supporting rapid response and recovery.
- Promote innovative financial solutions, such as insurance schemes for homes and businesses, to support recovery efforts and build economic resilience.
- Encourage sustainable economic practices, such as eco-friendly industries and climate-resilient agriculture, to reduce disaster risks and promote long-term recovery.

Capacity Building through Regional and International Cooperation

- Strengthen regional cooperation by sharing best practices, technical expertise, and resources with neighboring cities and islands.
- Engage with international organizations and donors to support capacity-building programs, technological upgrades, and resource mobilization.
- Explore partnerships for regional disaster preparedness exercises and information sharing to improve overall response capabilities.

Monitoring and Continuous Improvement

- Develop a comprehensive Monitoring and Evaluation framework for ongoing review of disaster preparedness and response efforts.
- Regularly assess progress against KPIs and update strategies based on lessons learned and evolving risks.
- Foster a culture of learning and adaptation, ensuring continuous improvement in disaster management policies, procedures, and practices.
- Update strategies based on lessons learned and evolving risks.
- Foster a culture of learning and adaptation, ensuring continuous improvement in disaster management policies, procedures, and practices.

Kulhudhuffushi City
Image Source: MRC North Regional Office

Definitions

- Community-Based Disaster Risk Management (CBDRM): A participatory approach that empowers communities to manage disaster risk using local knowledge, capacity building, and inclusive planning.
- City Disaster Management Committee (CDMC): A committee that oversees disaster management operations at the city level, including planning, coordination, and response activities.
- Contingency Plan: A backup plan that outlines alternative strategies and resources to ensure continuity of services during emergencies.
- Crisis Management: Coordinated actions taken to respond to and recover from a disaster situation, minimizing impact and restoring normalcy.
- Disaster Mitigation: lessening or minimizing of the adverse impacts of a hazardous event.
- Disaster Preparedness: the knowledge, skills, and capacities developed by governments, organizations, communities, and individuals to effectively anticipate, respond to, and recover from potential disasters.
- Disaster Prevention: activities and measures to avoid existing and new disaster risks.
- Disaster Recovery: The coordinated process of supporting affected communities in reconstructing the built environment and restoring social, economic, and environmental well-being after a disaster event.
- Disaster Risk Reduction (DRR): The systematic approach to identifying, assessing, and reducing the risks of disasters through prevention, mitigation, preparedness, and recovery efforts.
- Emergency Support Functions (ESF): Specific functional areas within disaster response operations that involve lead and support agencies to manage specific tasks during an emergency.
- Early Warning System (EWS): A system that provides timely and meaningful information on impending hazards, allowing individuals and communities to act to reduce harm.
- Hazard Mapping: Visual representation of areas exposed to specific hazards such as floods, storms or tsunamis.
- Emergency Operations Centre (EOC): A centralized command and control facility responsible for coordinating disaster response and recovery efforts.
- Incident Command System (ICS): A standardized approach to incident management that allows various agencies to work together efficiently during an emergency.
- Multi-agency Coordination System (MACS): A system that facilitates coordination among multiple agencies during disaster response. Rapid Disaster Needs Assessment (RDNA): An assessment conducted to evaluate the immediate needs, damages, and losses in the affected areas following a disaster.

Emergency Numbers

911	Universal Hotline
119	Police
118	Fire and Rescue
102	Ambulance
1401	KRH Ambulance
191	Coast Guard
1621	KCC
115	NDMA
1425	MRC; North Regional Office
652 8864	KRH
990 6726	MRC; North Regional Office
331 7179	MET

Kulhudhuffushi City Council
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