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**MODEL DISASTER PREPAREDNESS AND
RISK MANAGEMENT PLAN FOR THE
FISHERIES AND AQUACULTURE SECTOR
OF CRFM MEMBER STATES**

CRFM Secretariat
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MODEL DISASTER PREPAREDNESS AND RISK MANAGEMENT PLAN for the Fisheries and Aquaculture Sector of CRFM Member States

A model plan for preparedness, prevention and minimization of loss, damage, destruction and death arising from hazards such as severe hydro-meteorological event, tsunami, oil spill.

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The information contained in the model plan has been adapted from several Disaster Management Plans in the Caribbean and other Small Island Developing States (SIDS) of the Pacific Islands. Over a period of five weeks the model plan was created and subsequently circulated to CRFM staff and Member States for review.

How to use this document

This model plan may be utilised as whole or part herein by CRFM member states as deemed necessary.

Key - In this document, the following guidance has been used:

Normal	:	Proposed text
[bracketed normal]	:	optional text
<i>[bold bracketed italic]</i>	:	specific instructions for inclusion of text
<u>Larger font Bold italic underlined</u>	:	General instructions and/or guidance

Acronyms

CARICOM	Caribbean Community
CBDM	Community-Based Disaster Management
CCA	Climate Change Adaptation
CCCCC	Caribbean Community Climate Change Centre
CDEMA	Caribbean Disaster and Emergency Management Agency
CDEMA CHC	Caribbean Disaster and Emergency Management Agency Council on Harmonisation and Coordination
CDEMA CU	Caribbean Disaster and Emergency Management Agency Coordinating Unit
CC	Climate Change
CCRIF	Caribbean Catastrophe Risk Insurance Facility
CDERA	Caribbean Disaster and Emergency Response Agency
CDM	Comprehensive Disaster Management
CNFO	Caribbean Network of Fisher Folk Organizations
COAST	Caribbean Ocean Assets Sustainability Facility
CSME	Caribbean Single Market and Economy
DM	Disaster Management
DRM	Disaster Risk Management
DRR	Disaster Risk Reduction
DRRC	Disaster Risk Reduction Centre
ECROP	Eastern Caribbean Regional Oceans Policy
EOC	Emergency Operations Centre
HFA	Hyogo Framework for Action
HVA	Hazard and Vulnerability Assessment
ICT	Information and Communications Technology
IFRC	International Federation of Red Cross

IPCC	Inter-governmental Panel on Climate Change
IUCN	International Union for Conservation of Nature
FAO	Food and Agriculture Organisation
MER	Monitoring, Evaluation and Reporting
mFDRMP	Model Fisheries Disaster and Risk Management Plan
NaDMA	National Disaster Management Agency
NDO	National Disaster Organisation
NFADMP	National Fisheries and Aquaculture Disaster Management Plan
NEMA	National Emergency Management Agency
NEMO	National Emergency Management Office
NEOC	National Emergency Operations Centre
ODM	Office of Disaster Management
OECD DAC	Organisation for Economic Co-operation and Development – Development Assistance
OECS	Organisation of Eastern Caribbean States
ODPM	Office for Disaster Preparedness and Management
ODPEM	Office of Disaster Preparedness and Emergency Management
PBA	Programme Based Approach
PPCR	Pilot Programme for Climate Resilience
POA	Programme of Action
PS	Participating State
PVO's	Private Voluntary Organizations
RBM	Results Based Management
RSTS	Relief Supply Tracking System
SIDS	Small island Developing States

SFDRR	Sendai Framework for Disaster Risk Reduction
SSC	Sector Sub-Committee
SSF	Small Scale Fisheries
SRR	Search Rescue and Retrieval
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNISDR	United Nations International Strategy for Disaster Reduction
USAID	United States Agency for International Development

Definitions/ Glossary

Climate Change	<p>(a) The Inter-Governmental Panel on Climate Change (IPCC) defines climate change as: “a change in the state of the climate that can be identified (e.g., by using statistical tests) by changes in the mean and/or the variability of its properties, and that persists for an extended period, typically decades or longer. (b) The United Nations Framework Convention on Climate Change (UNFCCC) defines climate change as “a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods”.</p> <p><i>Comment: For disaster risk reduction purposes, either of these definitions may be suitable, depending on the context. The UNFCCC definition is the more restricted one as it excludes climate changes attributable to natural causes. The IPCC definition can be paraphrased for popular communications as “A change in the climate that persists for decades or longer, arising from either natural causes or human activity.” (UNISDR, 2009)</i></p>
Climate Change Adaptation	<p>The adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities. <i>Comment: This definition addresses the concerns of climate change and is sourced from the secretariat of the United Nations Framework Convention on Climate Change (UNFCCC). The broader concept of adaptation also applies to non-climatic factors such as soil erosion or surface subsidence. Adaptation can occur in autonomous fashion, for example through market changes, or as a result of intentional adaptation policies and plans. Many disaster risk reduction measures can directly contribute to better adaptation (UNISDR, 2009).</i></p>
Climate Variability	<p>Variations in the mean state and other statistics (such as standard deviations, the occurrence of extremes, etc.) of the climate on all temporal and spatial scales beyond that of individual weather events (IPCC, 2007). Departures from long-term averages or trends over seasons or a few years (CARICOM, 2003).</p>
Community	<p>Rural villages and/or urban neighbourhoods, which include shared experiences, locality, culture, language and social interests. These characteristics imply that a community should have some common cohesive social structures, which can be schools, community policies, common rules and regulations and most often a clearly defined geographical area.</p>
Contingency Planning	<p>A management process that analyses specific potential events or emerging situations that might threaten society or the environment and establishes arrangements in advance to enable timely, effective and appropriate responses to such events and situations.</p>

Comment: Contingency planning results in organized and coordinated courses of action with clearly identified institutional roles and resources, information processes, and operational arrangements for specific actors at times of need. (UNISDR,2009)

Disaster A serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resources.

Comment: Disasters are often described as a result of the combination of: the exposure to a hazard; the conditions of vulnerability that are present; and insufficient capacity or measures to reduce or cope with the potential negative consequences. Disaster impacts may include loss of life, injury, disease and other negative effects on human physical, mental and social well-being, together with damage to property, destruction of assets, loss of services, social and economic disruption and environmental degradation. (UNISDR, 2009)

Disaster Risk The potential disaster losses, in lives, health status, livelihoods, assets and services, which could occur to a particular community or a society over some specified future time period. *Comment: The definition of disaster risk reflects the concept of disasters as the outcome of continuously present conditions of risk. (UNISDR, 2009)*

Disaster Risk Management The systematic process of using administrative directives, organizations, and operational skills and capacities to implement strategies, policies and improved coping capacities in order to lessen the adverse impacts of hazards and the possibility of disaster.

Comment: This term is an extension of the more general term “risk management” to address the specific issue of disaster risks. Disaster risk management aims to avoid, lessen or transfer the adverse effects of hazards through activities and measures for prevention, mitigation and preparedness (UNISDR, 2009)

Disaster Risk Reduction The concept and practice of reducing disaster risks through systematic efforts to analyze and manage the causal factors of disasters, including through reduced exposure to hazards, lessened vulnerability of people and property, wise management of land and the environment, and improved preparedness for adverse events.

Comment: A comprehensive approach to reduce disaster risks is set out in the United Nations-endorsed Hyogo Framework for Action, adopted in 2005, whose expected outcome is “The substantial reduction of disaster losses, in lives and the social, economic and environmental assets of communities and countries.” Note that while the term “disaster reduction” is sometimes used, the term “disaster risk reduction” provides a better recognition of the ongoing nature of disaster risks and the ongoing potential to reduce these risks. (UNISDR, 2009)

Emergency Management The organization and management of resources and responsibilities for addressing all aspects of emergencies, in particular preparedness, response and initial recovery steps. *Comment: A crisis or emergency is a threatening*

condition that requires urgent action. Effective emergency action can avoid the escalation of an event into a disaster. Emergency management involves plans and institutional arrangements to engage and guide the efforts of government, non-government, voluntary and private agencies in comprehensive and coordinated ways to respond to the entire spectrum of emergency needs. (UNISDR, 2009)

Environmental Degradation	<p>The reduction of the capacity of the environment to meet social and ecological objectives and needs.</p> <p><i>Comment: Degradation of the environment can alter the frequency and intensity of natural hazards and increase the vulnerability of communities. The types of human-induced degradation are varied and include land misuse, soil erosion and loss, desertification, wildland fires, loss of biodiversity, deforestation, mangrove destruction, land, water and air pollution, climate change, sea level rise and ozone depletion. (UNISDR, 2009)</i></p>
Hazard	<p>A dangerous phenomenon, substance, human activity or condition that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage.</p> <p><i>Comment: The hazards of concern to disaster risk reduction as stated in footnote 3 of the Hyogo Framework are "... hazards of natural origin and related environmental and technological hazards and risks." Such hazards arise from a variety of geological, meteorological, hydrological, oceanic, biological, and technological sources, sometimes acting in combination. (UNISDR, 2009)</i></p>
Impact (Disaster Risk Context)	<p>A sudden occurrence without prior warning (EMA Manual 1998)</p>
Impact (Results Based Context)	<p>Positive and negative, primary and secondary long-term effects produced by a development intervention, directly or indirectly, intended or unintended. (OECD DAC)</p>
Livelihood	<p>A livelihood comprises the capabilities, assets (including both material and social resources) and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stress and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base. (Chambers, 1991). Livelihoods are viewed as systems and provide a way to understand: (1) the assets people draw upon, (2) the strategies they develop to make a living, (3) the context within which a livelihood is developed, and (4) those factors that make a livelihood more or less vulnerable to shocks and stresses. Assets may be tangible, such as food stores and cash savings, as well as trees, land, livestock, tools, and other resources. Assets may also be intangible such as claims one can make for food, work, and assistance as well as access to materials, information, education, health services and employment opportunities. (International Recovery Platform, UNDP and ISDR)</p>

Mitigation	The lessening or limitation of the adverse impacts of hazards and related disasters. <i>Comment:</i> The adverse impacts of hazards often cannot be prevented fully, but their scale or severity can be substantially lessened by various strategies and actions. Mitigation measures encompass engineering techniques and hazard-resistant construction as well as improved environmental policies and public awareness. It should be noted that in climate change policy, “mitigation” is defined differently, being the term used for the reduction of greenhouse gas emissions that are the source of climate change. (UNISDR, 2009)
Outcome	The likely or achieved short-term and medium-term effects of an intervention’s outputs. (OECD DAC)
Preparedness	The knowledge and capacities developed by governments, professional response and recovery organizations, communities and individuals to effectively anticipate, respond to, and recover from, the impacts of likely, imminent or current hazard events or conditions. <i>Comment: Preparedness action is carried out within the context of disaster risk management and aims to build the capacities needed to efficiently manage all types of emergencies and achieve orderly transitions from response through to sustained recovery. The related term “readiness” describes the ability to quickly and appropriately respond when required.</i> (UNISDR, 2009)
Prevention	The outright avoidance of adverse impacts of hazards and related disasters. <i>Comment: Prevention (i.e. disaster prevention) expresses the concept and intention to completely avoid potential adverse impacts through action taken in advance. Very often the complete avoidance of losses is not feasible and the task transforms to that of mitigation. Partly for this reason, the terms prevention and mitigation are sometimes used interchangeably in casual use.</i> (UNISDR, 2009)
Recovery	The restoration, and improvement where appropriate, of facilities, livelihoods and living conditions of disaster-affected communities, including efforts to reduce disaster risk factors. <i>Comment: The recovery task of rehabilitation and reconstruction begins soon after the emergency phase has ended, and should be based on pre-existing strategies and policies that facilitate clear institutional responsibilities for recovery action and enable public participation.</i> (UNISDR, 2009)
Resilience	The ability of a system, community or society exposed to hazards to resist, absorb, accommodate to and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions. <i>Comment: Resilience means the ability to “resile from” or “spring back from” a shock. The resilience of a community in respect to potential hazard events is determined by the degree to which the community has the necessary resources and is capable of organizing itself both prior to and during times of need.</i> (UNISDR, 2009)

Response	The provision of emergency services and public assistance during or immediately after a disaster in order to save lives, reduce health impacts, ensure public safety and meet the basic subsistence needs of the people affected. <i>Comment: Disaster response is predominantly focused on immediate and short -term needs and is sometimes called “disaster relief”. The division between this response stage and the subsequent recovery stage is not clear-cut. Some response actions, such as the supply of temporary housing and water supplies, may extend well into the recovery stage. (UNISDR,2009)</i>
Risk	The combination of the probability of an event and its negative consequences. <i>Comment: This definition closely follows the definition of the ISO/IEC Guide 73. The word “risk” has two distinctive connotations: in popular usage, the emphasis is usually placed on the concept of chance or possibility, such as in “the risk of an accident”; whereas in technical settings the emphasis is usually placed on the consequences, in terms of “potential losses” for some particular cause, place and period. (UNISDR 2009)</i>
Risk Assessment	A methodology to determine the nature and extent of risk by analysing potential hazards and evaluating existing conditions of vulnerability that together could potentially harm exposed people, property, services, livelihoods and the environment on which they depend. <i>Comment: Risk assessments (and associated risk mapping) include: a review of the technical characteristics of hazards such as their location, intensity, frequency and probability; the analysis of exposure and vulnerability including the physical social, health, economic and environmental dimensions; and the evaluation of the effectiveness of prevailing and alternative coping capacities in respect to likely risk scenarios. (UNISDR, 2009)</i>
Risk Management	The systematic approach and practice of managing uncertainty to minimize potential harm and loss. <i>Comment: Risk management comprises risk assessment and analysis, and the implementation of strategies and specific actions to control, reduce and transfer risks. It is widely practiced by organizations to minimise risk in investment decisions and to address s operational risks such as those of business disruption, production failure, environmental damage, social impacts and damage from fire and natural hazards. (UNISDR, 2009)</i>
Safety (Safer)	The control of recognized hazards to achieve an acceptable level of risk. The maintenance of an environment that is relatively free from actual or potential hazards that can injure people – Industrial Accident Prevention Association
Sustainable	A system (natural/ecological or human) which has the capacity to endure. The potential for long-term maintenance of well-being, which has ecological, economic, political and cultural dimensions. Sustainability requires the reconciliation of environmental, social equity and economic demands. (World Commission on Environment and Development, 1987) ¹

Sustainable
Development

Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

Comment: This definition coined by the 1987 Brundtland Commission is very succinct, but it leaves unanswered many questions regarding the meaning of the word development and the social, economic and environmental processes involved. Disaster risk is associated with unsustainable elements of development such as environmental degradation, while conversely disaster risk reduction can contribute to the achievement of sustainable development, through reduced losses and improved development practices. (UNISDR, 2009)

Vulnerability

The characteristics and circumstances of a community, system or asset that make it susceptible to the damaging effects of a hazard.

Comment: There are many aspects of vulnerability, arising from various physical, social, economic, and environmental factors. This definition identifies vulnerability as a characteristic of the element of interest (community, system or asset) which is independent of its exposure. However, in common use the word is often used more broadly to include the element's exposure. (UNISDR, 2009)

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Executive Summary

The Model Fisheries Disaster and Risk Management Plan (mFDRMP) for the Fisheries and Aquaculture Sector of CRFM Member States has emerged out of a necessity to have a framework that would advise regional partners the measures to be taken in order to be better prepared, prevent and minimize loss, damage, destruction and death arising from hazards such as severe hydro-meteorological events, tsunamis and oil spills. The purpose of the Model Fisheries Disaster and Risk Management Plan is to enhance the Caribbean's ability to manage all disasters at a regional and national level, with special emphasis on the fisheries and aquaculture sector.

The Plan sets forth fundamental policies, using international and regional best practices such as the Hyogo Framework for Action 2005-2015 (HFA), the Sendai Framework for Disaster Risk Reduction 2015 – 2030 (SFDRR), The Caribbean Community Common Fisheries Policy (CCCFP) and the Regional Comprehensive Disaster Management Plan 2014-2024 (CDM). The Model Fisheries Disaster and Risk Management Plan (mFDRMP) framework would be based on four thematic areas; (i) Disaster Prevention and Mitigation (ii) Disaster Preparedness; (iii) Disaster Response (iv) Disaster Rehabilitation and Recovery. It outlines the concept of operations, response and recovery actions and responsibilities required of relevant agencies at the national level of each CRFM Member State.

There are already some adaptation initiatives in existence to help countries become more resilient to natural disasters as well as tools to monitor the health of ecosystems such as coral reefs. The Model Fisheries Disaster and Risk Management Plan is structured into five (5) parts; A Background of the Caribbean Region, the Vulnerability and Adaptability of CRFM States to Natural Disasters and Climate Change impacts, Guiding Principles using International Treaties, Guiding Principles using Regional Treaties, and the Model Disaster and Risk Management Plan.

The first four sections of the plan present the policies and framework of Disaster Risk Management within the Fisheries and Aquaculture Sector of the Caribbean Region. The final part of the presentation provides a framework for the national guiding principles, scope, response and recovery actions, and responsibilities for Disaster Risk Management. A template has been developed in the Appendix for CRFM Member States to adopt and insert the relevant information pertaining to their country.

1. Background of the Caribbean Region

The Caribbean region is made up of over 700 islands, cayes, islets and mainland territories located in the Northern Atlantic Ocean (Figueredo, D., and Argote-Freyre, F., 2008). The region lies southeast of the Gulf of Mexico and the North American mainland, east of Central America and north of the South American continent (Figueredo, D., and Argote-Freyre, F., 2008).

The region of over 42 million inhabitants is synonymous with “sun, sand and sea” tourism because of its ideal year-round warm tropical weather (Shelter, 2004). Unfortunately, this popular tourist destination is also more vulnerable to the effects of climate change and natural disasters. It is considered the second most hazard prone region in the world (Regional Comprehensive Disaster Management (CDM), 2014). With many countries being directly located within the “hurricane belt”, islands have been grappling with the effects of an increase in the intensity of tropical storms and hurricanes which have decimated properties and destroyed livelihoods (Tannehill, 1934).

Countries like [Commonwealth of] Dominica and Haiti in most recent years are still rebuilding; Tropical Storm Erika hit Dominica in August 2015 killing at least 30 people and leaving hundreds homeless (Stewart, 2014; Balbus *et al.* 2016). Reports have stated the island cannot afford to get hit again as it has already set the country back twenty years (Balbus *et al.* 2016). Haiti whose economy was still recovering from the devastating 2010 earthquake, the worst in 200 years (Valecha *et al.* 2013) was once again thrown into the abyss as Hurricane Matthew wreaked havoc in September 2016, the strongest storm recorded in the Atlantic for the season, taking with it over 500 lives and destroying over 90 per cent of southern Haiti (Martin, Li and Cutter, 2017; Stewart, 2017).

The Caribbean has also had its fair share of other natural disasters including extreme flooding, droughts, landslides, and on the rare but significant occasions catastrophic volcanic eruptions (CMEP, 2017 Caribbean Marine Climate Change Report Card). Natural disaster losses account for approximately US \$3billion annually (Regional Comprehensive Disaster Management (CDM), 2014). With 60% of the region’s population within 2 miles of the coastline and 70% of the economic activity within 2 miles of the coastline, the region must be proactive in its mission on mitigating the effects of natural disasters (IPCC, 2014; Regional Comprehensive Disaster Management (CDM), 2014). The impacts from these hazards are predicted to intensify as a result of climate change. Therefore, Disaster Preparedness and Risk Management Plans are a critical component for the Caribbean region.

2. Vulnerability and Adaptability of CRFM Member States to Natural Disasters and Climate Change Impacts

Climate Change has affected countries all over the globe; however Small Island Developing States (SIDS) such as those in the Caribbean are among the countries to be most affected by the impacts of climate change (IPCC, 2014; Reguero *et al.* 2015). Rising sea levels, higher temperatures, ocean acidification, more intense storms, hurricanes, floods and droughts are already posing a threat to the livelihoods of people who depend on coastal and marine ecosystems (Keller, B.D *et al.* 2009; CMEP, 2017 Caribbean Marine Climate Change Report Card).

With a projected sea level rise of 5mm for the next 100 years, low-lying areas would feel the impacts first (IPCC, 2014). A rise in sea level would cause heightened coastal erosion, leading to encroachment of land

and property thereby forcing persons to move and seek alternative dwellings (Lin, B. *et al.* 2014; Toscano, 2015).

Saltwater intrusion into freshwater resources, reduced coastal ecosystem resilience and an increased risk from storm surges is also likely to occur (IPCC, 2014; Klassen and Allen, 2017). Temperature increases in the overall atmosphere would have negative impacts on coral reefs, mangroves sea grass beds and other coastal ecosystems (IPCC, 2014). The rate of coral bleaching continues to increase at unprecedented levels (Douglas, AE., 2003; Done T and Jone R, 2006). Due to higher CO² concentrations, there is a reduction in coral calcification (Doney *et al.* 2016) resulting in massive loss of reefs because constructions rates would fall below the destruction rates of corals (McNeil *et al.* 2004). The destruction of coral reef ecosystems would threaten fish nurseries and critical fishing grounds (Williamson, D. *et al.* 2014). The impacts of this are two-fold: The fisher folk who depend on fisheries resources to earn money would find it more difficult to meet the demands of consumers and there will be less feeding grounds for reef fish (IPCC, 2014).

Climate Change does not only affect coastal communities; agriculture is also negatively affected by its impacts. With many low lying, small island states already struggling to find arable land, soil salinization exacerbates the problem to provide the required domestic food production (Kurukulasuriya and Rosenthal, 2013; Dasgupta *et al.* 2014; Dasgupta *et al.* 2015).

Tourism, an economic contributor and major source of foreign exchange income to many Caribbean nations will also face severe disruption from climate change and sea level rise (IPCC, 2014).

These examples are a clear indicator of the vulnerability of the Caribbean to Climate Change impacts. Therefore, it is important that everyone is aware of the impacts currently being felt in the region and what can potentially happen in the future. Efforts are already underway internationally, regionally and nationally to help build more resilient societies. Failure to adapt to the impacts could potentially cost some countries millions in GDP.

As a region, the first step to consider in becoming more resilient to the impacts of climate change and natural disasters is identifying the risks, using climate change and risk information to assist development of our coasts and seas and prepare risk management and disaster preparation plans for the range of natural disasters that impact the Caribbean such as hurricanes, storms, floods and droughts.

Some of the initiatives that have already been implemented and which contribute to adaptation, are as follows:

- Improving the Outlook for Caribbean Coral Reefs: A Regional Plan of Action 2013-2018 – a plan aimed to identify key actions that can be taken by coral reef managers, fisheries managers and local communities to improve the resilience of coral reef ecosystems.
- The Network of Coral Reef Early Warning Systems (CREWS) Stations – a network that monitors changes in ocean temperatures and currents to get a better understanding of the impact on coral reefs in the Caribbean.
- The Caribbean Climate Online Risk and Adaptation Tool (CCORAL) – a tool to help countries make climate-smart decisions based on available data for their area.
- Implementation of the Caribbean Disaster Emergency Management Agency’s (CDEMA) Climate Change Disaster Risk Strategy (2014-2024) – A plan formulated “to strengthen regional, national and community level capacity for mitigation, management, and coordinated response to natural and technological hazards, and the effects of climate change.”

- Implementation of the Climate Change Adaptation and Disaster Risk Management in Fisheries and Aquaculture in the CARICOM Region: Strategy and Action Plan – A strategy and action plan for integrating Disaster Risk Management (DRM), Climate Change Adaption (CCA) and fisheries and aquaculture with a focus on small-scale fisheries (SSF) and small-scale aquaculture.
- Caribbean and North Brazil Shelf Large Marine Ecosystems (CLME+) Project – this project addresses fisheries sustainability, habitat degradation, pollution and climate change using an integrated ecosystem approach.
- Organisation of Eastern Caribbean States’ Eastern Caribbean Regional Oceans Policy (ECROP), which aims to maintain the benefits and functions of marine ecosystems for dependent communities.
- COAST (Caribbean Ocean Assets Sustainability Facility) – this is expected to provide an opportunity for countries to purchase insurance coverage to protect their fisheries sector from severe inclement weather.
- Pilot Programme for Climate Resilience (PPCR) – this programme provides capital to projects that focus on climate change adaption and resilience building.
- National Adaptation Policies - Several countries in the Caribbean such as Belize, Grenada and Antigua and Barbuda have come up with national climate change adaption policies.

3. Guiding Principles: International Agendas

Over the last few decades, disasters have increasingly become of global concern as its impacts can be felt from one region to the next. In fact, The International Strategy for Disaster Risk Reduction has estimated that more than 200 million people have been affected by natural disasters over the last two decades. Many countries are already vulnerable to other secondary issues related to demographics, unplanned urbanization, environmental degradation, competition for scarce resources and the impacts of epidemics such as HIV/AIDS (Neiderud, 2015). Hence, disasters can increasingly threaten the world's economy.

3.1 Hyogo Framework for Action 2005-2015

In order to better prepare for this predicament, a World Conference on Disaster Management was held in Kobe, Hyogo, Japan from 18-22 January 2005 and adopted the Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters. The “Yokohama Strategy of 1994” provided the basis and guidance on disaster risk reduction. The Hyogo Framework identified the gaps from the Yokohama Strategy and sought to overcome these shortcomings by focussing more on community education and outreach and encouraging pro-active involvement among communities.

The Priorities for Action for the Hyogo Framework 2005-2015 are as follows:

1. Ensure that disaster risk reduction (DRR) is a national and a local priority with a strong institutional basis for implementation.
2. Identify, assess and monitor disaster risks and enhance early warning.
3. Use knowledge, innovation and education to build a culture of safety and resilience at all levels.
4. Reduce the underlying risk factors.
5. Strengthen disaster preparedness for effective response at all levels.

3.2 Sendai Framework for Disaster Risk Reduction 2015-2030

From 14-18 March 2015, the United Nations held its Third World Conference on Disaster Risk Reduction in Sendai, Miyagi, Japan. After a critical assessment of the Hyogo Framework countries sought to adopt a succinct, progressive and action-oriented framework on disaster risk reduction. Thus, emerged the Sendai Framework for Disaster Risk Reduction 2015-2030.

Although the Hyogo Framework for Action was able to achieve a decrease in mortalities for some hazards, there was still a recorded 144 million people who were displaced by disasters between the period 2008-2012 as well as a \$1.3 trillion total economic loss over the 10-year period 2005 - 2015.

The Priorities for Action for the Sendai Framework 2015-2030 are as follows:

1. Understanding Disaster Risk.
2. Strengthening disaster risk governance to manage disaster 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.

4. Guiding Principles: CARICOM Regional Development Agenda

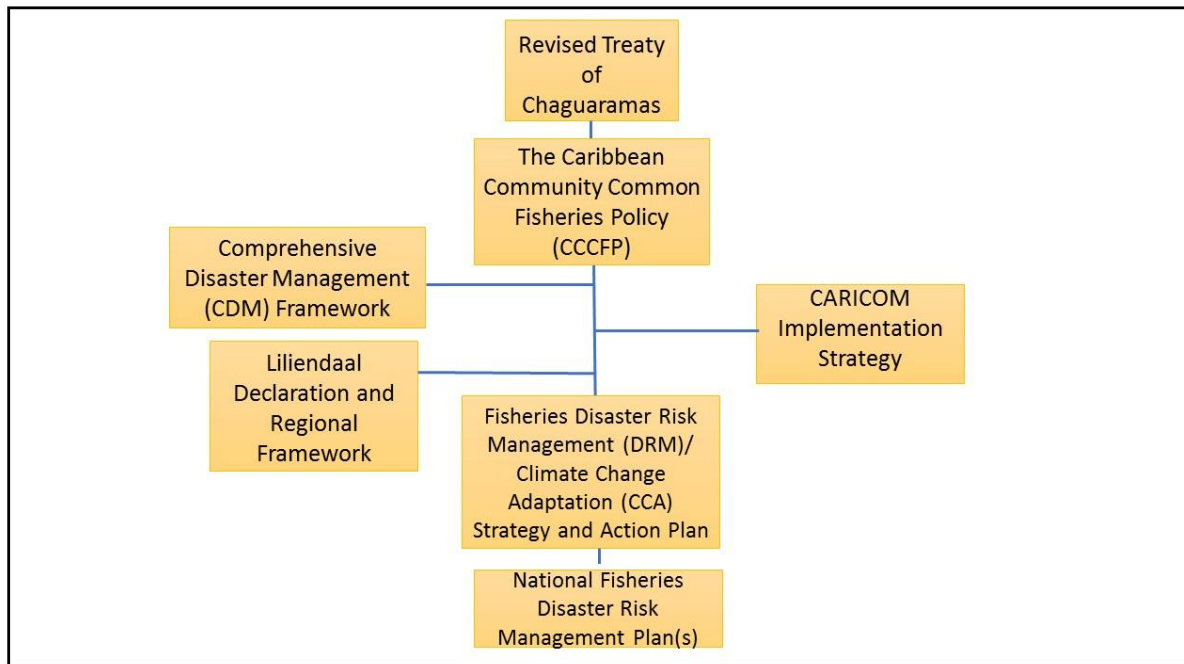


Fig. 1 Organizational chart depicting CARICOM content for the formation of the National Fisheries and Aquaculture Disaster Risk Management Plan

4.1 Revised Treaty of Chaguaramas

This Disaster Preparedness and Risk Management Plan has had its foundation laid out in the Revised Treaty of Chaguaramas which was first ratified on 4 July 1973 and later revised on 5 July 2001 by the Caribbean Heads of Government in Nassau, Bahamas. The (Revised) Treaty of Chaguaramas established the Caribbean Community (CARICOM) as well as CARICOM Single Market Economy (CSME).

Through this agreement it was acknowledged that some countries within the region are considered “disadvantaged countries” or more vulnerable to natural disasters. Therefore, some Member States may require special attention as opposed to others in the event of a national emergency. The Caribbean Disaster Emergency Response Agency (CDERA) was one of the institutions formed to treat with these disasters. It was later renamed The Caribbean Disaster Emergency Management Agency (CDEMA). Article 60 of the (Revised) Treaty of Chaguaramas focuses on the Fisheries Management and Development in the Caribbean. It states:

“The Community, in collaboration with competent national, regional and international agencies and organisations, shall promote the development, management and conservation of the fisheries resources in and among the Member States on a sustainable basis.”

Using Articles 62,63 and 64 of the United Nations Convention on Law of the Sea (1982) each Member State would successfully discharge the goals of the CARICOM by establishing policies, registration and management systems, resource monitoring and assessment as well as harvesting and post-harvesting technologies. The CARICOM has committed to the sustainable development of the fisheries and aquaculture sector in the Caribbean.

4.2 The Caribbean Community Common Fisheries Policy (CCCFP)

Recognising that the Caribbean Sea is a vast maritime network sharing a social and economic bond among Members and non-Members of the Caribbean Community, a Caribbean Community Common Fisheries Policy was established to ensure appropriate measures were taken to conserve, manage, sustainably utilize and develop fisheries resources and related ecosystems so that capacity building and the optimisation of social and economic returns to fisheries could be achieved. The CCCFP also promotes competitive trade and stable market conditions in order to attain the vision of the policy.

The Caribbean Community Common Fisheries Policy has identified nine objectives, including one that focuses on the protection of marine ecosystems from natural disasters. It states: *“To integrate environmental, coastal and marine management considerations into fisheries policy so as to safeguard fisheries and associated ecosystems from anthropogenic threats and to mitigate the impacts of climate change and natural disasters.”*

According to Article 7.1, Participating Parties will implement the appropriate measures to ensure total fulfilment of the obligations arising from the Policy and shall refrain from any activities which could jeopardise the attainment of the objectives.

Article 12 further outlines the Conservation and Management of Fisheries Resources. It states: *“The Participating Parties shall formulate, adopt, implement and revise conservation and management measures and, where appropriate, fisheries management and development plans on the basis of the best available information, including traditional knowledge.”*

Using international standards in fisheries management, participating parties would be better prepared to manage fisheries resources in a sustainable manner.

4.3 The Liliendaal Declaration and CARICOM Implementation Plan

In July 2009, the CARICOM Heads of Government met at the Thirteenth Meeting at the Conference in Liliendaal, Guyana to discuss a Regional Framework in order to strengthen the cooperation and coordination of national and regional partners to effectively address the impacts of climate change and disasters in the fisheries and aquaculture sector in the Caribbean.

It was at this meeting that the Liliendaal Declaration was issued. The Declaration sets out ‘key climate change related interests and aims of CARICOM Member States’. The Liliendaal Declaration lays the foundation for the CARICOM Implementation Plan (IP) which is entitled “Delivering Transformational change 2011-2021”. The plan incorporates several regional and international instruments concerning climate change and variability.

The Regional Framework and IP set out a hierarchy of mechanisms required to make this transformational change from vision to action.



Implementation Plan for the Regional Framework
(Source: CCCCC 2012)

4.4 Regional Comprehensive Disaster Management (CDM) Strategy and Programming Framework 2014-2024

In recent years, there has been a growing concern about the vulnerability and susceptibility of the Caribbean region to properly treat with natural and man-made disasters (Kirton, 2013; Thompson 2015). Global terrorism, cyber-security, health epidemics and climate change have all been making international headlines, giving rise to more risks than simply natural disasters (The World Economic Forum, 2016). The emphasis for current, updated Disaster Management Plans is therefore needed.

At the regional level, the Caribbean Disaster Emergency Agency (CDEMA) has spearheaded the planning and adoption of Comprehensive Disaster Management (CDM). In 2001, in collaboration with stakeholders the CDEMA formulated a five-year strategic framework for the Caribbean. In 2007 on completion of the 2001-2006 CDM Strategy, a revised CDM Strategy was formed for the period 2007-2012. This enhanced CDM Strategy was the basis for developing of the 2014-2024 CDM Strategy.

The Regional Comprehensive Disaster Management (CDM) 2014 – 2024 is a ten-year plan which considers the goals, values and principles from several stakeholder consultations to be achieved within the decade. The purpose of the CDM Strategy 2014- 2024 is “To strengthen regional, national and community level capacity for mitigation, management and coordinated response to natural and technological hazards, and the effects of climate change.”

Through its theme “Resilient Caribbean States” it hopes to stimulate community level action and provide a unifying vision in order to guide the implementation of the CDM Strategy over the time frame.

4.5 Disaster Risk Management and Climate Change Adaptation for the Fisheries and Aquaculture Sector of CRFM Member States

The Caribbean Regional Fisheries Mechanism (CRFM) in collaboration with the Food and Agriculture Organization (FAO) have come up with a framework to prepare CRFM Member States for Climate change adaptation and disaster risk management in fisheries and aquaculture in the CARICOM region. They have therefore developed a Regional Strategy and Action Plan; and, a number of programme proposals to give effect to this.

With a common vision of creating a ‘regional society and economy resilient to climate change through comprehensive disaster management and sustainable use of aquatic resources’, the CRFM has used some guiding principles to ensure that this vision is achieved. Some of these guiding principles include adequate stakeholder consultation and participation, effective coordination so as to minimize any incurred costs of technical, administrative and financial resources and an enabling environment that will allow for the facilitation and adoption of appropriate technologies and practices so that national, regional and international commitments regarding climate change are fulfilled.

4.6 Caribbean Oceans and Aquaculture Sustainability facility (COAST)

One of the initiatives that would encourage more countries to become more resilient to climate change and be better prepared for natural disasters is the Caribbean Oceans and Aquaculture Sustainability Facility (COAST).

COAST is an initiative to provide the fisheries sector with insurance coverage against natural disasters. In order to access this insurance facility, they have outlined criteria that countries ought to meet; this includes incorporating Climate-smart food security strategies in the fisheries sector. Climate smart food security strategies in the fisheries sector would use the Code of Conduct for Responsible Fisheries as well as the Caribbean Community Common Fisheries Policy (CCCFP) as international and regional frameworks for identifying the requirements for country-led initiatives and climate-smart food security strategies in order to fulfil the objectives of COAST.

COAST has four (4) main objectives:

- To increase the insurance penetration and the number of fishers indirectly covered by climate-risk insurance.
- To incentivize countries to implement the Caribbean Community Common Fisheries Policy (CCCFP) through country-led, climate-smart food security strategies and independent third-party verification.
- To encourage countries to develop coordinated disaster management plans for the fisheries sector – inter alia – marine capture catch fisheries, mari- and aquaculture, and bio-tourism and conservation to ensure that the benefits of parametric insurance coverage extend from the national level down to the level of small and medium enterprises, fisherfolk collectives, and individual fishers.
- To crowd-in finance for development to improve coastal resilience and support fisheries good governance and conservation.

5. National Fisheries and Aquaculture Sector Disaster and Risk Management Plan

5.1 Scope and Purpose

The Model Fisheries Disaster and Risk Management Plan (found in the Appendix) is based on previous disaster management plans, using best practices from the International and Regional treaties. It is to be used as a framework for CRFM Member States within the Fisheries and Aquaculture sector to ensure that national disaster risk management in the fisheries sector is executed in a coordinated and collective manner to prepare, prevent and minimize losses, damage, destruction and death arising from hazards caused by severe hydro-meteorological events. The framework for the Model Fisheries Disaster and Risk Management Plan (mFDRMP) should focus on four thematic areas; (i) Disaster Prevention and Mitigation (ii) Disaster Preparedness; (iii) Disaster Response (iv) Disaster Rehabilitation and Recovery.

The purpose of the Model Fisheries Disaster and Risk Management Plan (mFDRMP) is to enhance the Caribbean's preparedness to manage all disasters that may occur. It provides the basis for:

- Articulating the Guiding Principles of the International and Regional Policy Frameworks to meet best practices
- The strategic approach to Fisheries Disaster Risk Management (FDRM) and Climate Change Adaptation (CCA) in CRFM Member States
- The roles, responsibilities, governance and accountability arrangements of each of the National Disaster Management Authorities in each CRFM Member States.

5.2 Expected Outcome

The effective cooperation and collaboration among CFRM Member States to substantially reduce the risk of disasters which result in losses in lives and livelihoods in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries within the CRFM Member States.

5.3 Strategic Goals and Objectives

The goal of the Model Fisheries Disaster and Risk Management Plan (mFDRMP) is to establish, within the context of the Revised Treaty and Comprehensive Disaster Management appropriate measures for the conservation, management and sustainable utilisation of fisheries resources especially in the event of a natural disaster. Being guided by the Objectives of the Caribbean Community Common Fisheries Policy (CCCFP), the Model Fisheries Disaster and Risk Management Plan (mFDRMP) seeks to accomplish the following:

- I. The integration of disaster risk reduction into sustainable development policies and fisheries legislation.
- II. The development and strengthening of institutions, mechanisms and capacities to build resilience to hazards.
- III. The systematic incorporation of risk reduction approaches into the implementation of emergency preparedness, response and recovery programmes.
- IV. improve the welfare and livelihoods of fishers and fishing communities;
- V. integrate environmental, coastal and marine management considerations into fisheries policy so as to safeguard fisheries and associated ecosystems from anthropogenic threats and to mitigate the impacts of climate change and natural disasters;

5.4 Guiding Principles

The coasts of [country] are most likely to feel the impacts first when a disaster strikes making fishing communities most vulnerable to these impacts. Hence it is the primary responsibility of the State to prevent and reduce disaster risk, through cooperation of state, private and civil societies. This model plan is to be adopted through [*cite appropriate national legislation*] where [the procedures are established to address these events], [as well as where the preventative measures are described,] which result in the protection of the natural resources and the maintenance of optimal conditions of coasts and the rest of the environment presently and for posterity.

The Caribbean Community Common Fisheries Policy (CCCFP) has outlined fundamental principles, some of which should also be used for this management plan. They are as follows:

- I. use of the best available scientific information in fisheries management decision-making, taking into consideration traditional knowledge concerning the resources and their habitats as well as environmental, economic and social factors;
- II. principles of good governance, accountability and transparency, including the equitable allocation of rights, obligations, responsibilities and benefits;

5.5 Thematic Areas

The Model Fisheries Disaster and Risk Management Plan (mFDRMP) should focus on four thematic areas; (i) Disaster Prevention and Mitigation (ii) Disaster Preparedness; (iii) Disaster Response (iv) Disaster Rehabilitation and Recovery.

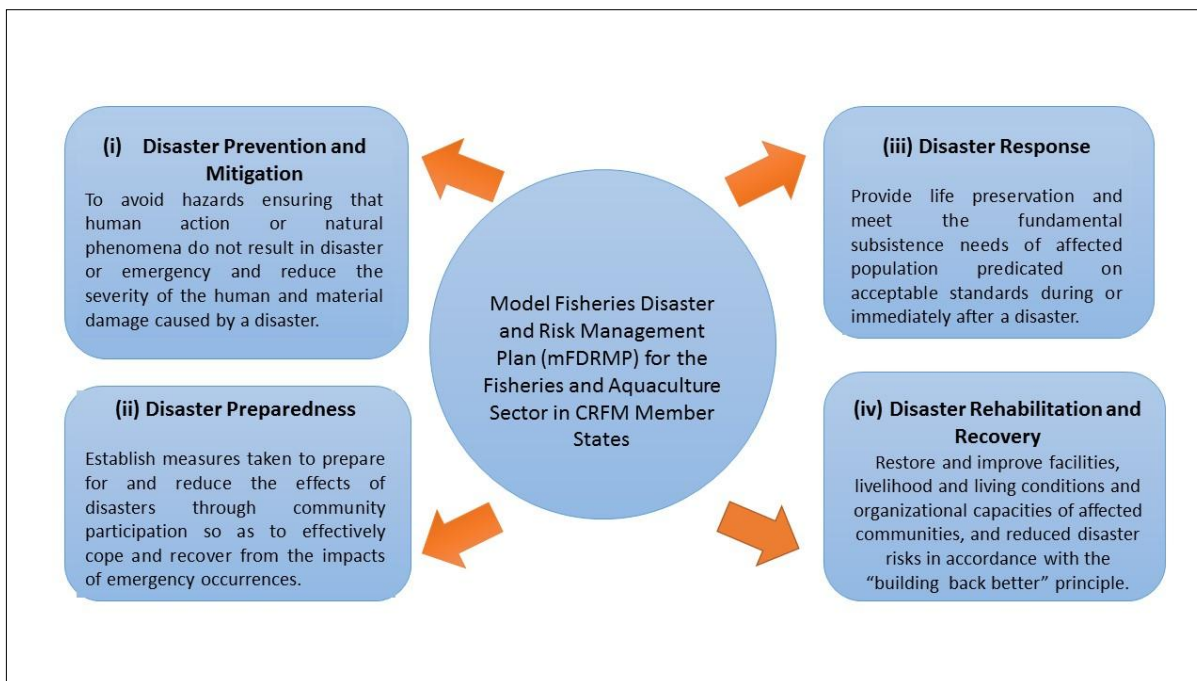


Fig. 2 Model Disaster and Risk Management Plan for Fisheries and Aquaculture in CRFM Member States

Thematic Area 1: Disaster Prevention and Mitigation

Overall responsible agency: [*cite relevant country's Department*]

Outcome	Lead Agency(ies)
1. Disaster Risk Reduction (DRR) and Climate Change Adaptation (CCA) mainstreamed and integrated in national, sectoral, regional and local development policies, plans and budget	[<i>Cite lead relevant agency(ies)</i>]
2. Disaster Risk Reduction (DRR) and Climate Change Adaptation-sensitive (CCA) environmental management	[<i>Cite lead relevant agency(ies)</i>]
3. Increased resiliency and infrastructure systems	[<i>Cite lead relevant agency(ies)</i>]
4. Enhanced and effective community-based scientific Disaster Risk Reduction (DRR) and Climate Change Assessment, mapping, analysis and monitoring	[<i>Cite lead relevant agency(ies)</i>]
5. Fishing communities' access to effective and applicable disaster risk financing and insurance	[<i>Cite lead relevant agency(ies)</i>]
6. End to end (monitoring and response), forecasting and early warning systems are established and/or improved	[<i>Cite lead relevant agency(ies)</i>]

Thematic Area 2: Disaster Preparedness

Overall responsible agency: [*cite relevant country's Department*]

Outcome	Lead Agency(ies)
7. Increased level of awareness and enhanced capacity of the fishing community to the threats and impacts of all hazards	[<i>Cite lead relevant agency(ies)</i>]
8. Communities are equipped with necessary skills and capability to cope with the impacts of disasters	[<i>Cite lead relevant agency(ies)</i>]
9. Increased Disaster Risk Reduction (DRR) and Climate Change Adaptation (CCA) capacity of Local Offices and Operation Centres at all levels	[<i>Cite lead relevant agency(ies)</i>]
10. Developed and implemented comprehensive national and local preparedness and response policies, plans, and systems	[<i>Cite lead relevant agency(ies)</i>]
11. Strengthened partnership and coordination among all key fisheries and aquaculture sector players and stakeholders	[<i>Cite lead relevant agency(ies)</i>]

Thematic Area 3: Disaster Response

Overall responsible agency: [*cite relevant country's Department*]

Outcome	Lead Agency(ies)
12. Well-established disaster response operations	[<i>Cite lead relevant agency(ies)</i>]
13. Adequate and prompt assessment of needs and damages at all levels	[<i>Cite lead relevant agency(ies)</i>]
14. Integrated and coordinated Search, Rescue and Retrieval (SRR) capacity	[<i>Cite lead relevant agency(ies)</i>]
15. Safe and timely evacuation of affected communities	[<i>Cite lead relevant agency(ies)</i>]
16. Temporary shelter needs adequately addressed	[<i>Cite lead relevant agency(ies)</i>]
17. Basic social services provided to affected population (whether inside or outside evacuation centres)	[<i>Cite lead relevant agency(ies)</i>]
18. Psychosocial needs of directly and indirectly affected population addressed	[<i>Cite lead relevant agency(ies)</i>]
19. Coordinated, integrated system for early recovery implemented	[<i>Cite lead relevant agency(ies)</i>]

Thematic Area 4: Disaster Rehabilitation and Recovery

Overall responsible agency: [*cite relevant country's Department*]

Outcome	Lead Agency(ies)
20. Damages, losses and needs assessed	[<i>Cite lead relevant agency(ies)</i>]
21. Economic activities restored, and if possible strengthened or expanded	[<i>Cite lead relevant agency(ies)</i>]
22. Houses/infrastructure rebuilt or repaired to be more resilient to hazard events; safer sites for fisheries infrastructure	[<i>Cite lead relevant agency(ies)</i>]
23. Disaster and climate change-resilient infrastructure constructed/reconstructed	[<i>Cite lead relevant agency(ies)</i>]
24. A psychologically sound, safe and secure citizenry that is protected from the effects of disasters is able to restore to normal functioning after each disaster	[<i>Cite lead relevant agency(ies)</i>]

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7. Appendix: Model Disaster Preparedness and Risk Management Plan for the Fisheries and Aquaculture Sector for CRFM Member States

Note: this appendix may be utilised as a part of the larger document, as herein; or, as a stand-alone document

EXECUTIVE SUMMARY

[Insert Executive Summary for Country, similar to the Belize example below]

The revised National Fisheries and Aquaculture Disaster Management Plan of Belize is the result of a consultative process involving several stakeholders who play an instrumental role in disaster management in that state. The purpose of the National Fisheries and Aquaculture Disaster Management Plan (NFADMP) is to enhance Belize's ability to manage all disasters using a comprehensive national approach. This plan emphasizes that the purpose of assistance from Government of Belize is to save lives, protect property and to help its people return to a state of normalcy as soon as possible after a disaster.

The plan sets forth fundamental policies, planning assumptions, a concept of operations, response and recovery actions and the responsibilities of relevant agencies; seeks to establish the threshold for when events are considered disasters; and the types of response, recovery, and mitigation resources available to assist fishing communities throughout the country that have been affected by a disaster. The NFADMP also organizes the types of national responses that are available according to the National Emergency Management Organization (NEMO) which comprises of the Cabinet, with the Prime Minister as the Chairperson, the Cabinet Secretary, as Secretary, the NEMO Secretariat and the thirteen (13) Operational Committees and nine (9) District and Special Committees. These are as follows: Education, Communication and Warning, Medical & Public Health, Housing and Shelter, Search & Rescue, Economic & Recovery, Damage Assessment & Needs Analysis, Foreign Assistance, Transport & Evacuation, Environment & Utilities, Human Resources Management, Relief & Supplies Management, Restoration of Utilities, Mitigation, Access & Infrastructure. Integral to NEMO are its 9 District Emergency Committees (chaired by the senior Minister in each District) representing Belize, Corozal, Orange Walk, Cayo, Stann Creek, Toledo, Belmopan, San Pedro and Caye Caulker.

This plan also outlines the roles and responsibilities of governmental and non-governmental agencies, private sector and service clubs, district organizations and regional and international institutions. As a result, it provides the basis for interagency cooperation in both the public and private sectors in emergency planning, training, disaster management coordination and information exchange.

The NFADMP is structured in seven (7) parts; the Basic Plan, National Hazard & Phase Specific plans, Functional Plans of National Operational Committees, District Hazard & Phase Specific Plans, Functional plans of District Operational sub-committees, Village/Community Hazard & Phase Specific Plans, and Functional Plans of Village/Community Operational sub-committees.

The Basic Plan presents the policies and concept of operations that guide how disaster response will be handled. It also summarizes national planning assumptions, scope, response and recovery actions, and responsibilities. In addition, the Appendices cover other relevant information, including terms and definitions, acronyms and abbreviations, guidelines for NFADMP changes and revisions, and overview of a disaster operation.

INTRODUCTION

[Insert Introduction for National Fisheries and Aquaculture Management Plan, similar to the Belize example below]

With the threat of more frequent and intense natural hazards coupled with the country's size, fragile economy, a population density laced with growing poverty; the people of Belize need to be more involved in comprehensive disaster management. We need to build peoples' resilience to achieve country risk reduction.

The comprehensive disaster management strategy gives every individual, in what area they are involved, an opportunity to participate in all its phases (prevention and mitigation, preparedness, response and recovery).

The development of a National Fisheries and Aquaculture Disaster Management Plan will guide the persons within the fisheries sector as to the measures that must be taken to reduce the risk and respond to save lives and properties. This will only be achieved if all persons/sectors play their part in all phases of the strategy.

The plan will address the hazards the country is prone to and the fisheries and aquaculture sector's responsibility to address these hazards. For this to be meaningful the underlying causes of the country's vulnerability must be identified and the necessary measures taken. This protective mechanism must be augmented by thorough preventative, mitigation and preparedness planning. All national organizations must participate in developing preparedness, mitigation and preventative National Plans by first identifying their existing emergency services, which are established for normal circumstances. Emergency Services – [Health Service, Fire and Rescue services, Police and Para-Military Services, the Coast Guard and the Voluntary Organizations].

Under normal circumstances each of these agencies has specific functions and defined rules of operation. During national emergencies, these agencies will fall under the control of the National Emergency Management Organization (NEMO). This will of necessity require a new managerial approach to the emergency situation and it is against this background that the 2017 National Plan amendments allow a system, which is best suited to the needs of the country and its people. It also allows for the introduction of a new management system, which has created the components required for effective deployment of all emergency services, either on a sectoral or national basis.

The plan provides for all phases of the disaster cycle – This includes the Pre-and Post-Disaster stages as follows:

Pre-disaster Stage (Normal Times)

- a) Prevention activities
- b) Mitigation activities
- c) Long and medium-term preparedness

These include but not limited to:

1. Carrying out of preparedness exercise
2. Implementation of a national public awareness programme
3. The development of a comprehensive disaster preparedness training programme in all levels of disaster management.
4. The monitoring of relief supplies
5. Detailing of evacuation plans, identification of Emergency Shelters and personnel
6. Full examination of relevant laws
7. The re-development of the District Organization
8. The establishment of the following management committees:
 - a. Public Information and Education
 - b. Damage and Needs Assessment
 - c. Transport and Road Clearance
 - d. Shelter Management
 - e. Health Services
 - f. Emergency Telecommunications
 - g. Disaster Relief Management
 - h. Public Utilities, Rehabilitation and Reconstruction

- i. Search and Rescue - Land and Sea
- j. Welfare and Voluntary Services
- k. Security Services
- l. Marine Pollution and Oil Spills
- m. Hazardous Materials and Hazardous Wastes

In order to ensure that the populace is always in a state of preparedness, it was agreed that the following activities should be included:

Knowledge of First Aid

Increase the knowledge of the general populace and emergency response support personnel on domestic emergencies, e.g. house fires, drowning, automobile accidents and sickness, hurricane preparation techniques, hurricane shelters, identification of shelter personnel and the correct interpretation of warning bulletins.

Enhance the coordinating mechanisms within the NEMO and the Fisheries Department to ensure that directives issued by the government of Belize are carried out with maximum efficiency.

The Post disaster stage includes:

Alert and Warning Stage

- a) Short term forecasting, and warning and alerting measures
- b) Issuing of Advisories and updates Response Stage
- c) Response measures such as saving life, providing emergency medical care, rescue, evacuation, shelter, security.

The plan will provide for the restructuring of the National Emergency Management Organization in order to utilize modern technological tools including [Web NEMO and Relief Supply Tracking System (RSTS)]. Provisions are made for the establishment of thirteen Operational Committees, nine District Emergency Committees, and the other Community Agencies.

Recovery Stage

- a) Rehabilitation measures such as short-term restoration of utilities, emergency repair of infrastructure.
- b) Reconstruction and rebuilding of the society, inclusion of prevention and mitigation measures, improvement of building codes and standards.

Some of the activities are:

- 1. Evacuation, house repair and house relocation
- 2. Pumping off of flood waters and the control of fires
- 3. Restoration of essential services
- 4. Examination of public health hazards
- 5. Erection of alternative shelters
- 6. Collection of damage assessment information and the presentation of financial estimates
- 7. Co-ordination of international and regional offers of assistance

The achievement of a resilient nation will be realized when the people of the country are empowered to recognize their role and take up their responsibility in the process of risk reduction.

This plan will act as a guide for the stakeholders to get involved in mainstreaming comprehensive disaster management by paying attention to risk reduction and response in the fisheries-related sectors in which they are involved. The indicator of the mainstreaming efforts at their sectors will be when disaster management is seen as a line item in their budgets.

The development of this plan is a cooperative effort designed with the input of all the relevant stakeholders from the government ministries, international organizations, non-government organization (NGOs), community based organizations (CBOs) and the private sector. This plan fulfils the mandate of the Caribbean Regional Fisheries Mechanism (CRFM) and the National Emergency Management Organization (NEMO), which is to provide a comprehensive disaster management strategy with complementing disaster management plans at the national level. These will be further mirrored at the district and more localized at the fishing community levels.

Lieutenant Colonel (Ret'd) Shelton Defour

National Disaster Coordinator

National Emergency Management Organization (NEMO)

ACKNOWLEDGEMENTS

[Cite individuals or agencies that have contributed to the development of the plan]

SIGNATURE PAGE

The [*country*] National Fisheries and Aquaculture Disaster Management Plan has been approved by

.....

The [*name of agency responsible of approving plan for the fisheries and aquaculture sector*]

On

[*date*]

.....

Hon. Omar Figueroa
Minister of State for Minister of Agriculture, Forestry,
Fisheries, the Environment, Sustainable Development
and Immigration

.....

Date

I. PREFACE TO THE [year] PLAN

[Insert Preface to the Country's plan]

The National Fisheries and Aquaculture Disaster Management Plan was developed during the period *[period of development of the plan]* under the Caribbean Regional Fisheries Mechanism (CRFM) and facilitated jointly by the Caribbean Catastrophe Risk Insurance Facility Segregated Portfolio Company (CCRIF SPC), the *[name of national emergency organisation]* and the *[abbreviated name of agency responsible for fisheries]* of *[country]*.

The process used was a consultative one where a technical team discussed/consulted with various planning and response agencies. The following agencies participated in the review:

[list relevant agencies]

E.g.:

Caribbean Regional Fisheries Mechanism (CRFM)

National Emergency Management Organization (NEMO)

Belize Fisheries Department

The updated version of the plan was presented to a wide range of stakeholders *[list the forum used for presenting]* which was followed by *[indicate the format used]*.

This National Fisheries and Aquaculture Disaster Management Plan is based on previous plans and good practices both in the Caribbean and other Small Island Developing States (SIDS) in the Pacific. It supersedes the *[name of relevant policy]* (from which it is patterned) with its focus on the Fisheries and Aquaculture sector and is to be used solely in *[country]* as the primary document for disaster management- including disaster planning and response in the fisheries and aquaculture sector.

The NFADMP has agreed that the *[relevant edition]* of the *[name of relevant act]* will be adapted within the national context and used to design *[country]*'s National Fisheries and Aquaculture Disaster Management Plan.

[date]

II: BACKGROUND TO THE HMP [year] POLICY

[Insert Background to any similar plans in Disaster Management for the Country]

The [country] National Hazard Mitigation Policy (HMP) was developed during the [state relevant time period] through a collaborative effort of the Government of [country], [list relevant collaborate agencies e.g.: the Caribbean Disaster Emergency Agency (CDEMA) formerly CDERA, and the Caribbean Development Bank (CDB)] to provide a comprehensive approach to hazard risk management and sustainable development at the national and community levels. The policy is an important benchmark for stakeholder participation and forms the national platform for addressing hazard reaction matters within a broader development framework.

The recommendations from the workshops and discussion sessions were compiled by the [list agencies involved in compiling recommendations], with [name] as the Country Plan Coordinator at the time. The policy was circulated amongst key stakeholders such as [list relevant stakeholders]. After incorporation of their feedback the [year] Policy was formed.

The Policy was formed as part of the [name of relevant programme, funding agency, executing and implementing agencies as relevant].

Several revisions were made including the responsibilities and composition of the [cite relevant National Disaster Emergency Advisory Council] and the [cite relevant National Disaster Management Committees]. The functions and activities of governmental organizations, the private sector, NGOs and service clubs were revised. **[note: this paragraph may be included or deleted as appropriate]**

The management of a disaster is beyond question an inter-sector activity. Co-operative action is essential. To maximize the effect of such action each sector must be prepared to undertake at its highest level of performance the functional role designated by its terms of reference.

III: AIM PURPOSE AND SCOPE OF THE PLAN

1. AIM

The aim of this plan is to set out the structure and operating procedures for addressing all aspects of Comprehensive Disaster Management in [*country*]. This plan seeks to ensure that disaster management is executed in a coordinated and collaborative manner, ensuring that the protection of life and property is paramount.

2. PURPOSE

The purpose of the National Fisheries and Aquaculture Disaster Management Plan (NFADMP) is to enhance [*country*]'s ability to manage all disasters the fisheries sector may face, using a comprehensive national approach.

The NFADMP will outline the prevention, mitigation, preparedness, response and recovery activities, before, during and after an emergency associated with impacts from natural/man-made hazards or technological incidents in [*country*]. It provides operational concepts relating to the various emergency situations, describes the overall responsibilities of the [*name of national emergency management entity*] and the role of the relevant sectors in assisting in minimizing loss of life, destruction to property and human suffering within the fisheries sector.

The National Fisheries and Aquaculture Disaster Management Plan documents the Government of [*country*] commitment to Comprehensive Disaster Management within the fisheries sector and provides for a rapid response to such disasters through maximum use of local, national, regional and international resources.

3. SCOPE

The extent of the coverage of the plan is state wide; including the [*country*]. The scope of the Plan is as hereunder:

- a. The NFADMP classifies small, medium, and large-scale natural and manmade disasters in the state of [*country*] and corresponding response mechanisms and procedures.
- b. Illustrates structures and mechanisms for providing operational direction to disaster management authorities at national, district and community levels.
- c. Defines emergencies at local and national levels and clearly identifies the process of declaring each level of emergency and response mechanisms and procedures accordingly.
- d. Explains roles/responsibilities and coordination among National, Districts, Communities, and sectoral disaster committees including their relationships with United Nation Agencies, Non-Government Organizations, civil society, and the news media.
- e. Describes the Terms of Reference and Composition for each emergency support function in case of a disaster and further defines the role of concerned government departments as lead and support agencies including the roles of the Non-Government Organizations, Voluntary Organizations and Private Organizations.
- f. Expresses a consistent approach for reporting disasters, providing assessments, and making recommendations to the Prime Minister and the National Emergency Advisory council for disaster management operations.

IV. MISSION STATEMENT, AUTHORITY AND CRITICAL ASSUMPTIONS

1. MISSION

The state of [country] has developed a culture of disaster management among all sectors of the society.

2. AUTHORITY

The National Fisheries and Aquaculture Disaster Management Plan (NFADMP) is developed under the authority of the [*Cabinet or relevant ministry, as appropriate*] of the Government of [country].

There are a number of statutes that provide guidance in the mitigation, preparedness, response and recovery efforts in [country]. These are found in the following regulations: [*list relevant regulations/policies*].

3. CRITICAL ASSUMPTIONS

The following assumptions are made:

- a. Incidents are managed at community, district and national levels according to the intensity and magnitude of the disaster.
- b. A national catastrophe results in a large number of casualties and damage to infrastructure, severely affects population and livelihoods; gives rise to the potential threat of disease outbreak; and displaces large numbers of people, triggering the declaration of a national disaster in the country.
- c. The nature and scope of catastrophes can include natural and manmade hazards; industrial, chemical or biological, wars, and terrorist attacks.
- d. Hurricanes (Cyclones), earthquakes, floods, tsunamis, storm surges, landslides, volcanic eruption and technological accidents can cause the destruction of physical and communication infrastructure, large-scale casualties and displacement of local communities.
- e. The response capacity and resources at community and district level may be insufficient and will therefore trigger a National response.
- f. In some cases, the first responders, e.g., local authorities, communities, and other response structures, may be affected by an incident and left unable to perform their duties.
- g. Disasters can occur at any time or of any scale, with little or no warning in the context of general or specific threats or hazards.
- h. Resources of government, local and regional Agencies such as [*cite relevant agencies*] and NGOs can be requisitioned at short notice for effective response.
- i. The Plan will be a dynamic document and changes and amendments will continue, as and when required, to address the emerging needs.

4. INSTITUTIONAL FRAMEWORK

The National Fisheries and Aquaculture Disaster Management Plan shall be a living document which is structured in seven (7) parts – The Basic Plan (Part 1) is standard to all other parts which are also independent (stand-alone/pull out) for their individual sectors. Figure 1 is a diagrammatic layout [**Note: include diagram showing relevant/appropriate national layout as show in the example below**]:

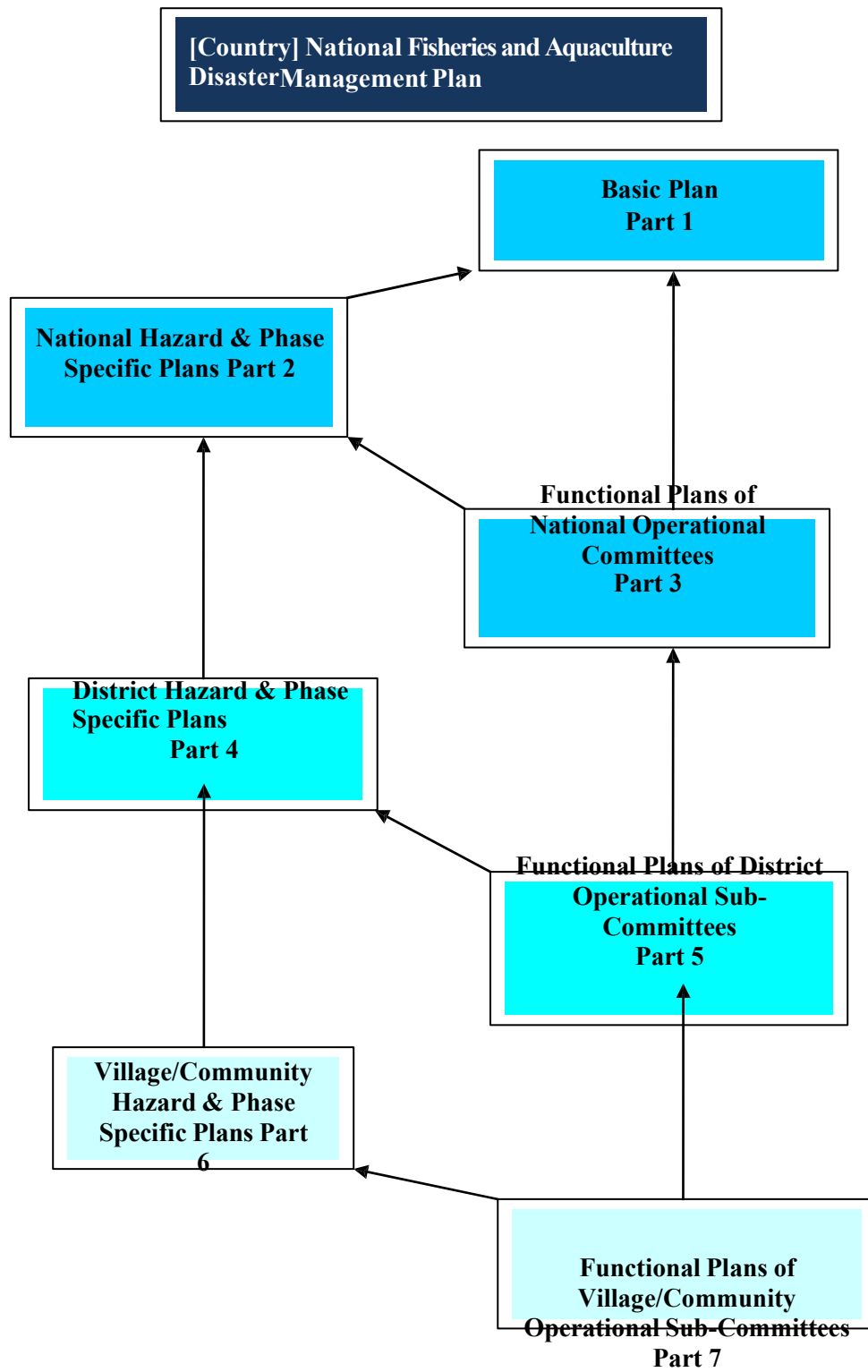


Figure 1: National Structure

V: COUNTRY OVERVIEW

[Include overview of the country: geographic, socio-economic, climatic: as Belize, in example below]

Belize is located in the northern half of Central America at 17°15' north of the equator and 88°45' west of the Prime Meridian on the Yucatán Peninsula. It is approximately 22,966 km² of which 160km² is water. It is bordered by Mexico to the north, Guatemala to the west and south and its entire eastern border is open to the Caribbean Sea. It is separated into six (6) administrative districts; Corozal, Orange Walk, Belize, Cayo, Stann Creek, Toledo (See Fig 1).

The northern districts of Corozal, Orange Walk and Belize are characterized by a relatively flat terrain, and slow flowing rivers which are often times subject to backwater effects. The southern districts of Cayo, Stann Creek and Toledo are characterized by the interior Maya Mountains rising to a maximum height of 1122m above sea level. Toward the southeast of the mountain range, the land is drained by various rivers, which are moderately quick flowing and inclined to flash flooding.

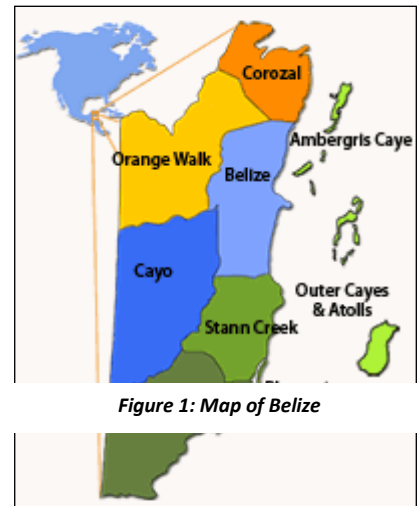


Figure 1: Map of Belize

Belize's climate is described as sub-tropical with two seasons, wet and dry. Most of the year's rainfall occurs during the period June to November, which is the rainy season. There is a sharp transition from dry to the rainy season across the country. Mean annual rainfall across Belize ranges from 60 inches (1524mm) in the north to 160 inches (4064mm) in the south. Except for the southern regions, the rainfall is variable from year to year. The months when tropical storms and hurricanes are most likely to occur are June to November. Rainfall is less from December through to May, when the equatorial low-pressure system moves south. Similarly, the highest humidity, usually close to 80 percent, is recorded during the rainy season and values from 68 to 78 percent are registered during the drier period. Temperatures averaging 29 °C (84.2 °F) are constant throughout the year, however, with slightly higher readings in the lowlands. Nevertheless, diurnal ranges within a 24-hour period are appreciable: between 26 and 32 °C (78.8 and 89.6 °F) during the day and between 19 and 24 °C (66.2 and 75.2 °F) at night.

Belize has an estimated population of 387,879 persons (June 2017), of which 49.5% lives in the urban centers and the rest 50.5% live in rural areas. The population density has been growing with the more concentrated densities being found more so in the urban centers, particularly Belize City. Approximately 35% of the total population is living on the coast, with 60% of that 35% living in Belize City. At least 33.5% of the total population is considered economically depressed.

The GDP of Belize is \$US1.77 billion (2016) with a growth rate of 1.1%. Its prime sectors are agriculture, agro-processing and tourism, the latter being its largest revenue earner. Belize's rich and diverse biodiversity lends itself to this. At least 67.4% of the land mass is covered in forests and the Belize Barrier Reef is the second largest in the western hemisphere.

VI: SUMMARY OF COUNTRY'S VULNERABILITY

[Summarize country's vulnerabilities: hurricanes, floods, sea surges, landslides, earthquakes, volcanic hazards. Cite relevant vulnerabilities, similar to the Belize example below].

According to a Disaster Risk Management Plan for Latin America and the Caribbean Region conducted by the World Bank, Belize was ranked the 61st highest exposed country in the world from hazards and 8th out 167 for climate change risk.

Throughout its history Belize has been affected by hurricanes, tropical storms, floods, sea surges, earthquakes and landslides. The deadliest hurricane was recorded in 1931, killing 2,000 people in the Belize City district and costing approximately US\$7.5million in damage. However, 30 years later the Belize City was decimated again with the impact of Hurricane Hattie. It costed the country over US\$413 million in losses – Belize's greatest financial cost to date. Although the damages sustained in Hurricane Hattie were more than the previous hurricane, only 307 deaths were recorded as a result of advanced warnings. After Hurricane Hattie, Belize attempted to build back its economy and spurred on this development by relocating the capital to Belmopan. Although the move was commendable, it still does not eliminate the impacts and vulnerability of Belize City; the city has very low-lying land and its position is exposed on the coast. It is estimated that this district has a 10% chance of experiencing hurricane storm wind speeds between 178km/h -209km/h every 10 years. Other more recent hurricanes to cause damage to Belize are Hurricane Keith in 2000, and Hurricane Iris in 2001 costing US\$280 million in damages; finally, Hurricane Earl a Category 1 caused significant damage to the northern districts of Belize in August 2016.

The country is also susceptible to flash flooding following excessive rainfalls which is experienced several times during the rainy season. Coastal flooding is also experienced during periods of high sea swells (high wave actions) and storm surge.

Although there are no records of major earthquakes in the country, it is close to the boundary of three tectonic plates, hence the likelihood of one occurring is not far-off. In fact, on September 7th, 2017 a massive 8.1 magnitude earthquake struck the southern coast of Mexico sending tremors to Belize and many other Central American countries. The earthquake was said to be the biggest to strike Mexico in over a century.

There are also no active volcanoes in Belize however reports have stated that underwater volcanoes such as Kick em' Jenny 8km off the coast of Grenada, if erupted can affect the coast of Belize and generate tsunamis at least 2 meters in height.

Generally, the country's vulnerability to these events is more so exacerbated by the high levels of poverty, high concentration of urban centers in low-lying coastal areas, lack of adequate infrastructure protection, lack of reliable transportation and poor access to information and health care if an event were to occur. The National Emergency Management Organization can continue to do everything to lessen the impacts of these disasters.

PART 1: BASIC PLAN

VII: DISASTER PREPAREDNESS

Disaster Preparedness

Disaster preparedness means preparing the response organizations and the communities of the State to react promptly to save lives and protect property if it is threatened or hit by a hazard or major emergency of any kind. In order to do this, planning must be done before there is even the threat of an emergency. This involves the assignment of responsibilities, classification and cataloguing of resources, training, practice drills and evaluation of experiences.

The role of the [*cite National Disaster Organization and/or list relevant agencies*] must not be seen simply as that of rendering "help after the disaster event". Instead, its role is one of activating the response organizations

and the community on a country wide basis to deal with any type of disaster event. The function of the [*cite National Disaster Management Organization and/or list relevant agencies*] with respect to emergencies can be divided into five categories:

1. **Informing** - the development and dissemination of information which will enhance the capability of the individual or the private Organization to cope with emergencies, to get help when needed.
2. **Warning** - the analysis and forecasting of the nature of potential emergencies and the development and operation of systems designed to maximize warning time and precision for the benefit of both victims and volunteers.
3. **Coordinating** - the development of systems to enable resources to be effectively applied to emergencies and disasters.
4. **Providing** - the provision and maintenance, when necessary, of extra-ordinary resources as well as the diversion of normal resources to meet emergency or disaster needs.
5. **Evaluating** - the review of the performance of the Organization with a view to its improvement.

Disaster Preparedness is a continuous exercise - it is a year-round pre-occupation not only for members of the [*cite National Disaster Management Organization and/or list relevant agencies*], but also for every citizen, government agencies and private organizations alike. They required to prepare their own internal disaster plans and these must be reviewed every year in order that they are kept up-to-date.

It is, therefore the responsibility of every responder at the national and local level to become familiar with this National Fisheries and Aquaculture Disaster Management Plan and to be so versed in the roles, which he/she is expected to play in the event of a disaster that, should action be necessary, the response would be instinctively orderly rather than merely a panic-stricken reaction. Everyone must see himself as a disaster responder.

Types of Hazards

This document focuses on procedures/measures that can be followed in the event of any hazards that are likely to threaten [*country*]. Hazards can be divided into two categories:

Natural Hazards

Natural hazards include: hurricanes, earthquakes, landslides, floods, droughts, tidal waves, tsunami, storm surges, volcanic eruptions, lightning strikes, and sink hole.

Man-made Hazards

Man-made hazards include: pollution, power failure, civil strife, epidemic, invasion, shipwreck, strikes, air crash, oil spills, explosion, nuclear accidents or spills, building and structural collapses, construction failures, major road accidents, hazardous material spills, mass poisoning, toxic chemical spills, pest infestations, fires, terrorism, hijacking and insurrection.

The most commonly occurring hazards affecting [*country*] are:

List relevant/appropriate hazards and definitions for each, as seen below

Natural Hazards

Tropical Cyclones

A tropical cyclone is a storm system characterized by a large low-pressure centre and numerous thunderstorms that produce strong winds and heavy rain. Tropical cyclones strengthen when water evaporated from the ocean is released as the saturated air rises, resulting in condensation of water vapour contained in the moist air. They are fueled by a different heat mechanism than other cyclonic windstorms such as nor'easters, European windstorms, and polar lows. The characteristic that separates tropical cyclones from other cyclonic systems is that any height in the atmosphere, the centre of a tropical cyclone will be warmer than its surrounds; a phenomenon called "warm core" storm systems.

Tropical cyclones are classified as follows:

Tropical Depression

A tropical depression is an organized system of clouds and thunderstorms with a defined surface circulation and maximum sustained winds of 38 mph (33 kt) or less. Sustained winds are a 1-minute average wind measured at about 33 ft (10 meters) above the surface. 1 knot = 1 nautical mile per hour or 1.15 statute miles per hour and is abbreviated as "kt".

Tropical Storm

An organized system of strong thunderstorms with a defined surface circulation and maximum sustained winds of 39-73 mph (34-63 kt).

Hurricanes

A hurricane is a type of tropical cyclone with sustained winds of 74mph (64kt) or higher, which is accompanied by thunderstorms with a counter clockwise circulation of winds near the earth's surface in the Northern Hemisphere, maximum sustained winds of 74 mph (64 kt) or higher.

The official hurricane season in the Gulf of Mexico, the Caribbean Sea and the North Atlantic Ocean runs from 1st June to 30th November annually. However, the record shows that hurricanes have occurred outside of this period. It is important that the public be well advised of precautions to be taken before the actual hurricane season as well as those to be taken during the occurrence of a hurricane and in the aftermath of any such disaster.

Floods

Floods are one of the most prevalent hazards in the Caribbean. A flood can be defined as an overflow of an expanse of water that submerges land that is not normally covered by water. Flooding may result from the volume of water within a body of water, such as a river or lake, which overflows or breaks levees, with the result that some of the water escapes its usual boundaries.

A flash flood is a rapid flooding of geomorphic low-lying areas - rivers, dry lakes and basins. It may be caused by heavy rain associated with a tropical wave, depression, tropical storm or hurricane.

Fires

Structural fires destroy a number of properties annually, causing millions of dollars in damage in the State of [country] and are responsible for an average of [*cite number of deaths per year*]. Heat and smoke from fire can be more dangerous than the flames. Inhaling the super-hot air can sear your lungs. Fire produces poisonous gases that make you disoriented and drowsy. Instead of being awakened by a fire, you may fall into a deeper sleep. Asphyxiation is the leading cause of fire deaths, exceeding burns by a three-to-one ratio.

A wildfire is any uncontrolled fire in combustible vegetation that occurs in the countryside or a wilderness area. Other names such as brush fire, bush fire, forest fire, grass fire, hill fire, vegetation fire and wild land fire may be used to describe the same phenomenon depending on the type of vegetation being burned. A wildfire differs from other fires by its extensive size, the speed at which it can spread out from its original source, its potential to change direction unexpectedly, and its ability to jump gaps such as roads, rivers and fire breaks.

Road Accidents

In [country], motor vehicle collisions lead to loss of lives death and disability as well as significant financial costs to both society and the individual.

Volcanoes

A volcano is an opening, or rupture, in the earth's surface or crust, which allows hot magma, volcanic ash and gases to escape from below the surface. [*Describe if country has a volcano*]

Earthquakes

An earthquake (also known as a quake, tremor or temblor) is the result of a sudden release of energy in the Earth's crust that creates seismic waves. The seismicity or seismic activity of an area refers to the frequency, type and size of earthquakes experienced over a period of time. Earthquakes are measured with a seismometer; a device which also records earthquakes is known as a seismograph. The

magnitude of an earthquake is conventionally reported, with magnitude 3 or lower earthquakes being mostly imperceptible and magnitude 7 causing serious damage over large areas. Intensity of shaking is measured on the modified Mercalli scale.

Consequences of Disaster

The consequences of a disaster on a community or country includes the loss of life, personal injury, hopelessness, physical damage to property, **negative** impact on social and economic development, and **negative** impact on social and political organizations.

VIII: NATIONAL FISHERIES AND AQUACULTURE SECTOR DISASTER PLAN

The National Fisheries and Aquaculture Disaster Management Plan

The National Fisheries and Aquaculture Disaster Management Plan involves the mobilization of human and material resources of the country in planning, training and managing the various aspects of a disaster or major emergency in order to return the State of [country] and its fisheries sector to a state of normality as quickly as possible. It includes:

- (a) The establishment of national and local disaster management organizations and its structures, the role and functions of government ministries and key departments, public utilities, statutory bodies, non-governmental and other voluntary Organizations.
- (b) The classification and cataloguing of resources at all levels.
- (c) The role and functions of all agencies before, during and after a disaster.
- (d) The need for emergency telecommunications network.
- (e) The need for the assessment of loss.
- (f) The co-ordination between the various committees within the operation.
- (g) The post-disaster relief and rehabilitation mechanisms.

Pre-disaster Planning

The main function of the [*cite relevant National Disaster Management Organization*] is to ensure that the country is in a state of preparedness at all times to deal effectively with any disaster, which may occur. Its areas of planning include:

1. Co-ordination of comprehensive disaster management activities in the country.
2. Collaboration with regional and international Disaster Management Organizations (CDEMA, etc.)
3. Warning systems, warning dissemination, responsibility and control of broadcasting.
4. Anticipatory orders under the [Emergency Powers Act].
5. Securing of boat vessels, files, equipment and windows with hurricane shutters.
6. Storage and control of reserve equipment, fuel, medication, medical equipment, food, radios and other relief supplies.
7. Public information and press briefings.
8. Evacuation plans, shelter and refuge areas, including promulgation of the plans.
9. Arrangements for relief aircraft and ships, including customs and visa clearance for relief supplies and personnel.
10. Transport and equipment requirements.
11. Direction of labour.
12. Entry control of non-essential visitors.
13. Post-disaster reconnaissance and reports.
14. Post-disaster demolition and repair.
15. Damage Assessment and Needs Analysis

The successful implementation of the National Fisheries and Aquaculture Disaster Management Plan depends on public awareness of the hazards, which are likely to affect the country, the roles, which everyone is expected to play in the event of the country being threatened or affected by a hazard and the expectation as per the Disaster Management Cycle.

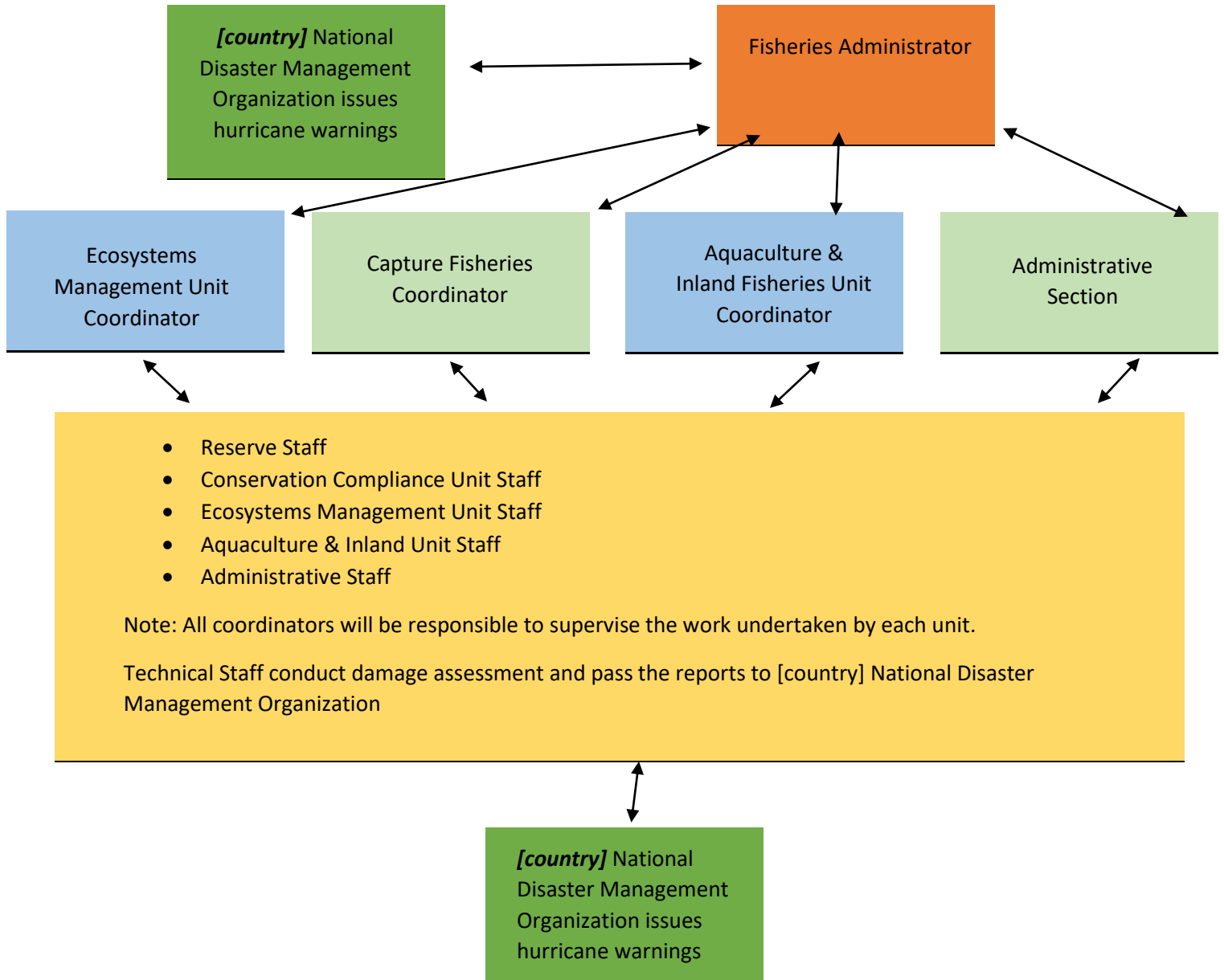
This is clearly articulated in the Comprehensive Disaster Management (CDM) strategy as:

- 1) All hazards that threaten the country;
- 2) All the people to be involved [Public, Private, NGOs, VOs & IOs]; and

3) All phases of the Disaster Management Cycle [Prevention/Mitigation, Preparedness, Response, Recovery].

[COUNTRY] NATIONAL DISASTER COMMUNICATION FLOWCHART

Include the communication flowchart for country's National Fisheries and Aquaculture Disaster Management such as example below



The following Initiatives can be used by the *[country]* Fisheries Department in order to make fisherfolk more prepared for and resilient to Natural Disasters:

All or part of these examples can be used

- I. A Pilot Vessel Monitoring System (VMS) and Communications System - This will be purchased and outfitted on *[relevant number]* of fishing vessels per target community. It will assist the *[country]* Fisheries Department in collecting baseline data on sea temperatures, strong cold fronts and increased sedimentation from surface run-off. The VMS would also benefit communities as it would be able to strengthen communication with fishers for safety and will be used to update fishers in each fishing zone of weather forecast and port calls during hurricane and craft warnings.
- II. To establish a Mooring Buoy Program - The mooring buoy system which will be in place for special mooring of fishing vessels in the case of very inclement weather conditions will help to ensure fishers safety and safeguarding of vessels at sea. The purchase and installation of *[relevant number]* mooring buoys for safe harbour will be purchased. The moorings will be maintained by protected area personnel and fishers operating in those areas.
- III. Disaster and Adaptation funds at low interest rates - The *[country]* *[short name of fisheries agency]* will hire a consultant to dialogue with lending institutions and identify funding mechanisms that would be accessible to fisherfolk. This would serve as an incentive to fisherfolk as they would want to reduce their vulnerabilities to severe weather patterns by improving their seaworthiness of fishing boats and fishing gear. The *[country]* *[short name of fisheries agency]* would benefit from a structured National Fisheries and Aquaculture Disaster Management Plan through increased communication with fisherfolk at sea and in turn will gather information of the location, type and quantity of fishing gear and data that can be used to produce maps of fishing grounds.
- IV. Product Improvement and Alternative Income Generating Activities - This would involve training and capacity building workshops provided by the *[country]* *[short name of fisheries agency]* in primary seafood safety, processing, handling and storage for fishers. The aim is to help fishers improve their product quality which will in turn result in an increase in fish sales. This opportunity will assist fishers in securing a stable income that is necessary to provide their families in the event of adverse weather conditions when they are unable to go out. [Additionally, the *[country]* *[short name of fisheries agency]* will develop a Lionfish Fishery. In order to control this invasive species, the *[country]* *[short name of fisheries agency]* has come up with the establishment of a commercial fishing industry to improve the health of the *[country]* Reef System. The Lionfish Industry would help stimulate the creation of permanent jobs and long-term income generation opportunities for fishers and unemployed youths thus reducing the national poverty level.] **This latter information can be included if there is an intention to develop fisheries for “invasive” fisheries**

IX: [COUNTRY] COMPREHENSIVE DISASTER MANAGEMENT STRATEGY

[*Country*] comprehensive disaster management strategy seeks to create a culture in which *NFADMP* and citizens are able to mitigate and/or prevent the impact of hazards, and if that is not possible to effectively and quickly respond to and recover from these impacts.

This is achieved by:

- a) Establishment of a dedicated emergency management office and staff
- b) Development of plans
- c) Country-wide training at all levels
- d) Establishment of monitoring, forecasting and warning capability
- e) Provision of budget and resources for disaster management activities
- f) Simulation exercises and drills
- g) Decentralization of disaster management by establishment of Operational, District, Ministry, Agency and Community Committees

Organisation for Comprehensive Disaster Management

Responsibility for Comprehensive Disaster Management in [*country*] lies with [*indicate relevant agencies*] which is chaired by the [*indicate relevant personnel*]. The Executive Group comprises the [*list relevant authorities*].

[*Indicate National Disaster Agency and how many committees it comprises of*]

[*List other members and their responsibilities*]

[*Relevant National Disaster Agency*] has responsibility for national emergency/disaster management and coordination of international assistance. Day to day programme management is carried out by [*Relevant National Disaster Agency*] Secretariat.

Operational functions are the responsibility of the National Committees.

[*List relevant committees*].

[COUNTRY] NATIONAL DISASTER MANAGEMENT STRUCTURE

Indicate structure of country's National Fisheries and Aquaculture Disaster Management using flow chart in a way that indicates how the NFADMP fits into the overall structure

PART 3: FUNCTIONAL PLANS OF NATIONAL OPERATIONAL COMMITTEES

X: NATIONAL DISASTER MANAGEMENT ORGANIZATION

The National Disaster Management Organization is the term used to refer to all participants in national disaster management efforts, whether Government, Non-Government Organizations (NGO's), Private Voluntary Organizations (PVO's) or Volunteers, and is depicted by the Organization chart shown above and comprises:

[*cite relevant agencies*]

[*Cite country's National Disaster Management Council and role*]

The organizational structure has been developed to ensure the effective functioning of the National Plan.

The membership of the [*Cite relevant National Disaster Management Organization*] is as follows:

1. [*list members*]

The National Disaster Coordinator (NDC) will be the Secretary to the NFADMP and will attend, either in person or by proxy, meetings of all Management Committees established by the [relevant committee] Council. The NDC will also be responsible for the administrative secretariat of the NFADMP as established by the Government of [*country*].

Duties and Responsibilities

The following duties and responsibilities have been developed for the [*name of relevant committee*] [Advisory Council]:

- (a) To ensure that all disasters and emergency preparedness processes and resources are adequate.
- (b) To mobilize, direct and co-ordinate preventative, mitigation, preparedness, response, rescue and relief mechanisms for all hazards and emergency situations.
- (c) To promote preventative mechanisms and activities and rapid response techniques by all Organizations and agencies with disaster functions or services especially Police, Fire, Health Services, etc.
- (d) To prepare for approval by Cabinet, guidelines and administrative policy for all sections of the National Disaster Management Organization.
- (e) To ensure the acquisition and dissemination of adequate public information

The [*name of relevant committee*] shall meet **at least** once per month, and as necessary during cases of emergency.

All correspondence concerning the Organization should be addressed to:

[*provide address of country's National Disaster Organization*]

National Fisheries and Aquaculture Disaster Management Sub-Committees

Note: States should consider whether this section is necessary in whole or in part; or, may be left out, if considered inappropriate

Membership

There will be [*indicate number of committees*] National Disaster Management Committees which will be responsible for the planning and execution of the National Fisheries and Aquaculture Disaster Management Plan. They are as follows:

[*List names of committees appropriate to the fisheries and aquaculture sector*]

Consideration should be given to whether any, or all, of these sub-committees should be included herein

National Fisheries and Aquaculture Sector Disaster Management Sub-Committees

Roles and Responsibilities

The national committees as presented below have been developed by the [*cite relevant National Disaster Management Organization*] to facilitate a better distribution of services and as a method of streamlining and co-coordinating all disaster management services within the State of [*country*].

The national disaster management committee's primary responsibility will be that of ensuring that the Comprehensive Disaster Management strategy is adapted and the required preparedness and preventative measures have been instituted, in order to minimize loss of life and reduce damage to property damage where possible.

The national and district committees are all designed to function and carry out their duties and responsibilities before the event so that the required level of preparedness can be achieved that ensures an adequate and effective response. Their role is one of pre-disaster planning, establishing management systems for implementation of an adequate response and responding when an emergency or a disaster occurs.

The committees have not been presented in any specific order, as they are all of equal importance and do not take precedence over each other. Their duties are defined against the background of the sectoral and specific needs of the country.

Sub- Committees

The membership of the National Fisheries Disaster Management Sub-Committees and their Terms of Reference are as follows:

1: Public Information and Education Sub-Committee

[*List Membership: such as Representatives from the Education Ministry, Sports Ministry, Community Development, Health Ministry and Members of the Media, as appropriate*]

Terms of Reference

1. To design/update an emergency public information and education plan for the State of [*country*].
2. To use all available media to develop and organize ongoing public awareness and education programmes on all types of disasters/hazards the State of [*country*] is prone to [*country*] as well as the preventative measures to be taken.
3. To disseminate accurate and updated information to the public in an efficient manner before, during and after any type of emergency or disaster situations or threats to [*country*].
4. To alert the population on any impending disaster and the precautionary measures to be taken.
5. To disseminate all decisions of [*relevant National Disaster Emergency Organization*] to the Public.
6. To design and conduct an annual exercise to test the Public Information and Education Plan.

2: Damage Assessment and Needs Analysis Sub-Committee

[List Membership: such as Representatives from Public Utilities Ministry, Health Ministry, Finance Ministry and Professional Engineers, as appropriate]

Terms of Reference

1. To develop and maintain plans for post-disaster damage and needs assessment
2. To develop and maintain data bases necessary for support of post-disaster damage assessment and recovery planning
3. To ensure that the committee and its members are prepared to assess damage and needs at the national and local levels if a disaster occurs.
4. To assign specific responsibilities to committee members to assess damage and needs of different sectors: housing, health services, agriculture, utilities, etc.
5. To coordinate the resources needed to rapidly assess the damage caused by a hazard to determine number of deaths, casualties, damages to property and relief requirements (food, shelter, medical attention).
6. To coordinate the assessment of damages to public utilities (– water, sewage and drainage facilities, telephone, electricity, and cable) and assist where possible with the other utilities.
7. To co-ordinate the assessment of damages to agriculture and livestock.
8. To co-ordinate the surveys of roads, bridges, ports and other infrastructure to determine extent of damage.
9. To supply information to the [*relevant National Emergency Centre*] and to the [*cite relevant Disaster Relief Management agencies and committees*], as necessary and provide initial financial evaluations and estimates to the relevant ministries and departments as required.
10. To conduct assessments of damages to private sector including tourism, distribution, retailers, etc.
11. To co-ordinate, within the [*relevant National Emergency Centre*], with regional and international Organizations conducting damage and needs assessment in the case of a disaster.
12. To prepare an initial assessment of the damage and needs within eight hours of a disaster, and a second report twenty-four to thirty-six hours later
13. Up-date assessments periodically until the disaster is finished
14. To spearhead efforts leading to eventual establishment of a national inventory of assets
15. To design and conduct an annual exercise to test the Plan

3: Transport and Road Clearance Sub-Committee

[List Membership such as: Representatives from the Transportation Division, Port Authority, Airport Authority, Solid Waste Management, Private Construction Companies, as appropriate]

Terms of Reference

1. To develop a plan to meet transportation needs for the various committees of National Fisheries and Aquaculture Disaster Management Plan to assist them in the execution of their duties.
2. To develop an emergency plan to cope with transportation requirements at national and sectoral level to include traffic control.
3. To develop Memorandum of Understanding (MOU) with private construction companies.
4. To develop a resource list of all transport (including boats and other marine craft) chain saw and heavy equipment that would be available for use in a disaster.
5. To arrange for the release of privately owned vehicles, equipment and boats and other marine craft and where necessary and if available aircraft.

6. To ensure that fuel supplies are available for preparedness and response operations.
7. To arrange for the relief drivers to assist in road clearance and transportation
8. To arrange for the release of all vehicles from any department to be use as emergency ambulances and other emergency purposes.
9. To arrange for clearing of main roads and movement of emergency personnel and relief supplies as soon as possible after a disaster.
10. To co-ordinate standardised road passes, identification cards and vehicle passes for approval of the Security Services Committee.
11. To collaborate with evacuation and the distribution of relief goods always in co-ordination with the [*relevant authorities*].
12. To design and conduct an annual exercise to test the Transport and Road Clearance plan.

4: Shelter Management Sub-Committee

[List Membership such as: Representatives from Housing Ministry, Red Cross Society, Health Ministry, Communications Authority, as appropriate]

Terms of Reference

1. Selection of suitably safe buildings for use as emergency shelters.
2. To provide general education programme on management of informal shelters in [*country*].
3. To coordinate the identification of emergency shelters through the relevant Government departments.
4. To arrange for the inspection and proper maintenance of emergency shelters through the relevant Government departments, ensuring that they are structurally sound and located in safe areas.
5. To submit a list of approved shelters to the [*cite relevant National Disaster Office*] by [*date*] annually (with further updates on a quarterly basis).
6. To organize the staffing and administration of approved emergency shelters.
7. To maintain a list of all approved emergency shelters with locations, ownership, capacity facilities as well as contact persons, addresses and telephone numbers, where possible.
8. To conduct training for shelter management personnel on an annual basis to maintain the standards of management.
9. To maintain a list of Shelter managers and key holders for the shelters.
10. To design and conduct an annual exercise to test the Shelter Management Plan
11. Arranging for the movement and care of the aged, disabled and incapacitated to safe areas if evacuation is needed.
12. Providing special emergency needs (medicines, food, etc.) to the aged, disabled and incapacitated.
13. Arranging for the delivery of emergency supplies to institutions.
14. Assisting in the management of emergency shelters.
15. Providing messenger and stretcher-bearer services.
16. Assist in providing psychological support and counselling.
17. To co-ordinate with NGOs and develop resource lists.

5: Welfare and Voluntary Services Sub-Committee

[List Membership such as: Representatives from Civil Societies i.e. Rotary, Lion's Red Cross Society, as appropriate]

Terms of Reference

1. Design their own emergency management plans and procedures
2. Participate in the National Disaster Management Committees
3. Participate in the District Disaster Committees
4. Assist with public awareness programmes
5. Assist with the distribution of educational material
6. Assist with the evacuation of disaster victims
7. Assist with evacuation of victims and aged persons
8. Assist in clearing debris
9. Assist in distributing relief supplies
10. Assist local disaster preparedness Committees
11. Assist at emergency shelters and feeding centers
12. Assist with sorting and parceling of clothing
13. Assist in record keeping
14. Perform messenger service

6: Health Services Sub-Committee

[List Membership such as: Representatives from Public and Private Hospitals, Civil societies i.e. St. John's Ambulance, Red Cross Society, as appropriate]

Terms of Reference

1. To ensure that an adequate supply of emergency medical supplies is available.
2. To coordinate with the relevant public/private health related voluntary organizations, the medical and first-aid assistance required before, during and after a disaster.
3. To monitor post-disaster public and environmental health conditions and maintain public health standards including within shelters
4. Requisitioning of medical supplies through the relevant departments as necessary.
5. Proper identification of health service workers and first aid personnel and First-Aid stations for information of field personnel and the public.
6. To coordinate the arrangements with the Transport sub-committee for the use of additional vehicles to augment existing ambulance service where necessary.
7. To make provision for the establishment of field hospital units at designated areas if required.
8. To coordinate with Search and Rescue – Land and Sea subcommittees
9. To organize training of health service workers and emergency First-Aid personnel and operation at all emergency shelters and other First-Aid Stations established in the Districts.
10. To ensure the provision of environmental health services at emergency shelters and the development of plans for quick deployment of health personnel to all pre-determined points.
11. To develop a list of all health facilities including pharmacies, in [country], that can be used in the event of a disaster.
12. To develop guidelines for the identification and disposal of the dead.
13. To develop a program for prevention and management of epidemics.
14. To ensure that counselling is provided to the affected population after a disaster.
15. To develop plans for management of mass casualty situations and stress management in disasters.
16. To design and conduct an annual exercise to test the Health disaster plans.

7: Emergency Telecommunications Sub-Committee

[List Membership such as: Representatives from the National Telecommunications Authority, Public and Private Cellular providers, as appropriate]

Terms of Reference

1. Identify emergency telecommunications needs.
2. Make inventories of available telecommunications equipment
3. Design a national emergency telecommunications plan.
4. Establish a training programme for all radio operations, to be conducted annually.
5. Establishment contact with the regional emergency communication system.
6. Coordination of the availability of telecommunications by the [*cite National Telecommunications Authority*]
7. Conducting simulation exercises on a regular basis to test the effectiveness of the telecommunication system.

8: Disaster Relief Management Sub-Committee

[List Membership such as: Representatives from the Communications Division, National Security Ministry, Port Authority, Airport Authority, Fisheries Department, Agriculture Department, Health Authority and Volunteer Organizations]

Terms of Reference

1. Design a specific disaster relief management plan and mechanisms.
2. Arrange for suitable buildings for the storage of food, clothing, building material and other emergency supplies.
3. Arrange for other safe areas for storage of non-perishable emergency supplies.
4. Establish distribution centers for bulk distribution of emergency supplies.
5. Arranging for staff to package and distribute emergency supplies.
6. Arranging for the transportation of emergency supplies to storage at all predetermined points.
7. Arrange for security of areas where emergency supplies are stored.
8. Determine the quantity and type of assistance required with information of the damage and needs assessment committee.
9. Maintain proper records of emergency supplies received and distributed.
10. To co-ordinate NGOs supplies from arrival to distribution.

9: Public Utilities, Rehabilitation and Reconstruction Sub-Committee

[List Membership such as: Representatives from the Telecommunications Authority, Private Cellular service providers, Public and Private Construction companies, Public Utilities and Public Health Departments, Engineer Professionals and NGOs]

Terms of Reference

1. Design specific plans for the rehabilitation of public utilities after a disaster.
2. Maintain of alternative backup services for use in disaster situations.
3. To identify damage to public utilities including information from the damage and needs assessment.
4. Restore services as soon as possible after disaster.
5. To co-ordinate supply of labour – local and external.
6. Repair and reconstruction of buildings and infrastructure to permit population to revert to normal activity in the shortest possible time.
7. Determine suitability for resettlement in formerly hazardous areas.

8. Determine the need for land use/ownership policy.
9. To procure and subsequently make available building supplies.
10. Transfer of population from high-risk areas.
11. Identify of hazardous industries before the disaster.
12. To adhere to building codes and maintain prices.
13. Liaise with the [*relevant Disaster Management Authority*]
14. Plan/co-ordinate /liaise for external assistance for rehabilitation and reconstruction.

10: Search & Rescue - Land & Sea Sub-Committee

[List Membership such as: Representatives from the Coast Guard, Commissioner of Police, Airport Authority, Port Authority, Fisheries Authority, Association of Fishermen, Chief Medical Officer]

Terms of Reference

1. To train, orient and drill individuals in emergency procedures, and the development of a rapid deployment procedure.
2. To Rescue trapped or dislocated persons and animals in post-disaster operations, and prepare reports for the Executive Committee within 48 hours.

11: Security Services Sub-Committee

[List Membership such as: Representatives from the National Security Ministry and Private Security Companies]

Terms of Reference

1. To design a specific disaster security plan.
2. To immediately deploy resources to key places for security and safety before, during or after a disaster.
3. To be responsible for the identification of personnel
4. To plan and organise simulation exercise
5. To advise the National Disaster Management Council on all emergency security matters
6. To manage crowd and protect barriers
7. To manage traffic
8. To arrange for the supply of special equipment

12: Marine Pollution & Oil Spills Sub-Committee

[List Membership such as: Representatives from the Port Authority, Environmental Ministry, Tourism Ministry, Health Ministry, Legal Department, Finance Ministry, National Security Ministry, Wildlife Division]

Terms of Reference

1. To design/redesign a national oil spill plan according to regional and international guidelines and international conventions.
2. To plan for and co-ordinate all actions to deal with any oil spill which may affect the State.
3. To train persons to deal with oil spill contingencies and other forms of marine pollution.
4. To develop a prevention and mitigation plan for oil spills.
5. To alleviate the effects of wildlife as soon as possible.

13: Hazardous Materials & Hazardous Waste Sub-Committee

[List Membership such as: Representatives from Fisheries Department, Fire Department, National Security Ministry, Port Authority, Coast Guard Division, Solid Waste Management, as appropriate]

Terms of Reference

1. To identify hazardous materials used in the country.
2. To identify the method of storage, handling, transfer, movement, transportation and disposal of such materials.
3. To train personnel to identify, handle and dispose of hazardous material and toxic waste.
4. To design specific regulations for the management of hazardous materials.
5. To design specific hazardous materials emergency plan for the response to specific types of accidents involving hazardous materials.

PART 4: [FISHING] DISTRICT HAZARD AND PHASE SPECIFIC PLAN

XI: RESPONSIBILITIES OF GOVERNMENT AGENCIES

List relevant public sector, governmental/Statutory/parastatal organizations; add or delete as appropriate to the fisheries sector

All Government Agencies and Ministries are responsible for designing their own continuity of operations and emergency management plans. These plans must provide for security of the Organizations' facilities, materials, information, vehicles, equipment, uniforms and personnel as well as to determine emergency response procedures to provide assistance to the population according to the specific Organizations' role during emergencies and disasters.

All plans and revisions must be submitted to the National Disaster Coordinator of the [*cite relevant National Disaster Management Agency*] not later than [*date*] of each year for submission to the [*cite National Disaster Management Council*] within one month of receipt of document.

As a general rule, Government agencies and officers will continue to exercise their normal functions during a disaster, but in some cases, special additional responsibilities will be assigned.

It is important to note the following:

1. In cases where a Department or Statutory Body is assigned specific responsibilities in this document, ultimate responsibility rests with the [*Permanent Secretary or relevant person in the Ministry concerned*]. The [*Permanent Secretary/relevant authority*] must ensure that all members of staff involved are familiar with the plan.
2. Where more than one agency is involved with the same area of activity, it is the responsibility of the first listed Permanent Secretary or Head of Department, unless otherwise indicated herein, to arrange meetings to arrive at a common line of action.
3. Where an agency must liaise with another Organization it must make sure that inter- communication is well established, e.g. by exchange of telephone numbers of relevant personnel and a code for recognition.

Some of the actions, which will be required to be performed, and which should be detailed in individual disaster plans are as follows:

[Office of the Prime Minister]

1. Chair the National Disaster Management Council.
2. Co-ordinate all response, Relief and rehabilitation activities from the NEOC during emergencies and disasters.
3. Declare a National Disaster when necessary.
4. Co-ordinate all the reconstruction activities.

[cite relevant Ministry E.g. Finance, Planning & Development]

1. To design, update, test and evaluate continuity of operations and emergency management plans and procedures for the ministry.
2. Organise post-disaster damage and needs assessments
3. Collect, collate and maintain damage statistics
4. Estimate amounts of financial and other relief and rehabilitation requirements
5. Assist with co-ordination of supplies and other assistance received by government and non-governmental Organizations
6. Provide budgetary support for emergency expenditure

[Police]

1. To design, update, test and evaluate continuity of operations and emergency management plans and procedures.
2. Protection of public property, and prevention of looting/vandalism.
3. Traffic control to and from Emergency areas and hospitals
4. Crowd Control
5. Evacuation procedures
6. Security of essential services and vulnerable points
7. Co-ordination of Telecommunication system

[Fire Service]

1. To design, update, test and evaluate continuity of operations and emergency management plans and procedures
2. Hazardous material and hazardous waste handling.
3. All fire-fighting operations
4. Assistance in fires at sea
5. Assistance in evacuation
6. Pumping of flood water
7. Airport fire and rescue

[Country Coast Guard]

1. To design, update, test and evaluate continuity of operations and emergency management plans and procedures for land and maritime search and rescue.
2. Search and Rescue - from any part of the [country]
3. Law Enforcement - in contact with other vessels carrying Arms and Ammunition.
4. Marine Safety - Distress, saving lives and property
5. Pollution Control - oily substances into the sea from other ships and from land into the sea
6. National Security - Along the coastline etc.
7. Evacuation - assistance when required

[Ministry of Education]

1. To design, update, test and evaluate continuity of operations and emergency management plans and procedures
2. Ensure selection and maintenance of government and non-governmental buildings considered as shelters is carried out.
3. Staffing of shelter in collaboration with the [*relevant Ministry*], which will be used as emergency shelters should be done in co-operation with Emergency Committees as required.
4. Liaise with [*Ministry of Health*] with regards to Sanitary Services at shelters
5. Preparation of and the annual review of the operations administrative manual for shelter wardens
6. Requisitioning relief food and other essential supplies for shelter occupants
- . Training of shelter staff
8. Collaborating with voluntary services sub-committee in distribution of supplies and other materials

[Ministry of Health]

1. To design, update, test and evaluate continuity of operations and emergency management plans and procedures (including hospitals plans and procedures for other health facilities)
2. Training of personnel

3. Caring for injured, elderly persons, children and treatment of mass casualties
4. Education of the public in matters concerning public health
5. Arranging for mass immunization, if required
6. Investigating the quality of water supply
7. Ensuring that hospital and health centers make and practice disaster plans
8. Arranging for the prevention and /or control of any outbreak of disease resulting from a disaster
9. Preparation of a manual for First-Aid stations and personnel
10. Providing sanitary services for shelters
11. Establishing procedures for collaboration with the Red Cross Society and St. John's Ambulance Brigade
12. Arranging for sanitary inspection of relief food supplies
13. Recording, tagging, identifying the injured and the dead and also ensuring adequate disposal of the dead by delivering the dead to their next of kin. (Write MOUs with funeral homes).
14. Manning ambulance services
15. Monitor, assort, store and distribute relief medical supplies
16. Participate in assimilated drill on airport, accidents in co-operation with fire service and airport authority

[Ministry of Works, Public Utilities and Transport]

1. To design, update, test and evaluate continuity of operations and emergency management plans and procedures
2. Road clearance
3. Assistance in rescue work in collaboration with Fire Officers
4. Provision of emergency transport service
5. Co-ordination with the [*country Solid Waste Management Authority*] for debris management after clearance
6. Maintenance of telecommunication system
7. Supply generators and motorcar batteries as directed by [*relevant authority*]
8. Demolition of unsafe buildings
9. Evacuation operators as necessary
10. Erection of temporary bridges
11. Provision of protective materials, maintenance and repair to Government buildings
Maintenance and purification of [*National Water Service Company*].
12. The supply of emergency water service to key areas in association with [*relevant authority*]
13. Immediate restoration of electricity services to key areas re emergency operation centre, health and security centers.
14. Restoring of telephone and telexes services to the Emergency Operation Centre and other key areas.
15. Co-ordination with [*country's National Solid Waste Authority*] for the restoration of municipal solid waste collection and disposal services.

[Community Development Division]

1. To design, update, test and evaluate continuity of operations and emergency management plans and procedures
2. In collaboration with the relevant government departments assist in the possible identification of suitable buildings, within their scope of authority, other than school which may be used as alternative emergency shelters.

3. Assist with registration of evacuees at shelters
4. Supplying of additional manpower if required by the senior shelter manager
5. Assist with the transfer and relocation of evacuees
6. Assist with information on possible numbers of evacuees.
7. Assist with the distribution of food and other supplies
8. Assist in the development of a register of all youth Organizations as a resource manual for manpower support.
9. Assist with unsupervised children and senior citizens

[Government Information Service]

1. To design, update, test and evaluate continuity of operations and emergency management plans and procedures
2. To ensure all members of the media design, update, test and evaluate continuity of operations and emergency management plans and procedures
3. Keep the public informed about disaster preparedness by the publication of special leaflets
4. Control the dissemination of information during and after a disaster.
5. Inform the public of the whereabouts of emergency shelters and first-aid post
6. Provide liaison between the public and the [*relevant National Emergency Advisory Council*] on emergency preparedness matters
7. Arrange with the local media for broadcast, interviews and publication of information on disaster preparedness and prevention

[Ministry of Legal Affairs]

1. To design, update, test and evaluate continuity of operations and emergency management plans and procedures
2. Review and the development of rules and regulation for shelter administration in collaboration with the Ministry of Education
3. Examine and update relevant sections of the Insurance Act for public liability
4. Examine and revise relevant sections under the Emergency Powers Act, to provide additional supervisory authority, through legislation, when required by the National Emergency Relief Organization in order to guarantee full delivery of relief services.

[Ministry of Agriculture]

1. To design, update, test and evaluate continuity of operations and emergency management plans and procedures
2. Identification possible sources of food that can be used if a disaster occurs.
3. Maintenance of adequate food centers throughout the country
4. Assignment of personnel to work in these centers in the event of an emergency
5. Co-ordination with the [*Ministry of Works and Communication*] to arrange adequate transport service for the distribution of food
6. Assist [*Food and Nutrition Council*] in the designing of rationing systems.

[Marketing and National Import Board]

1. To design, update, test and evaluate continuity of operations and emergency management plans and procedures
2. Maintenance of adequate stocks of food during the hurricane season
3. In collaboration with the [*Ministry of Agriculture*] assign personnel to work in Food Centers

[Ministry of Social Development]

1. To design, update, test and evaluate continuity of operations and emergency management plans and procedures
2. Distribution of welfare supplies (other than food)
3. Maintenance of adequate stocks of blankets, beds, feeding utensils, lanterns, torch lights, etc. during hurricane season

[Department of Customs & Excise – Finance]

1. To design, update, test and evaluate continuity of operations and emergency management plans and procedures
2. Speedy handling of document in order to facilitate the inflow of relief supplies

[Ports Authority]

1. To design, update, test and evaluate continuity of operations and emergency management plans and procedures.
2. Collaborate in the receipt and storage of disaster relief goods.
3. Oil Spills and Coastal Zone Monitoring
4. Advise Ministry of Fisheries of safe methods of guarding the Fishing Fleet.
5. Informing and advising ships in the harbor of impending disaster.
6. Advising small boat owners on safety of their boats.

[*Ministry of Foreign Affairs*]

1. To design, update, test and evaluate continuity of operations and emergency management plans and procedures
2. Informing Missions abroad of impending disaster
3. Establish contact with International Organization and Agencies
4. Provide protocol services for visiting diplomats

PART 5: FUNCTIONAL PLANS OF DISTRICT OPERATIONAL SUB- COMMITTEES

XII: ROLE OF PRIVATE SECTOR, NON-GOVERNMENTAL ORGANIZATIONS & SERVICE CLUBS

List relevant private sector, non-governmental organizations and service clubs of the country; add or delete as appropriate to the fisheries sector

[Chamber of Commerce]

1. Ensure its members design continuity of operations and emergency management plans
2. Identify and provide resources from the private sector to be used in emergencies and disasters.
3. Identify needs from the private sector to increase its level of preparedness.
4. To ensure availability and distribution of essential emergency supplies that could be provided by the private sector.
5. To provide damage assessment of the private sector during emergencies and disasters.

[Red Cross Society]

1. To design, update, test and evaluate continuity of operations and emergency management plans and procedures.
2. Assist with First-Aid training
3. Provide relief supplies
4. Assist with distribution of relief supplies
5. Assist with Emergency Shelters
6. Co-ordinate activities of voluntary Organizations
7. International tracing
8. Assist in search and rescue
9. Educate on water and sanitation
10. Liaise with health services re: health issues/risks following disasters
11. Provide psychological support and counselling

[Conference of Churches/Ministry of Ecclesiastical Affairs]

1. Design continuity of operations and emergency management plans and procedures.
2. Assist with the identification of specific vulnerable areas and communities.
3. Assist with rehabilitation
4. Assist with public awareness programmes
5. Assist with management of shelters
6. Assist with distribution of supplies
7. Provide relief supplies

[Telecommunications]

[List country's telecommunication providers]

1. Participate in the [*cite National Telecommunications Committee*].
2. Participate in the design of the national telecommunications plan.
3. Assist with telecommunications at essential points in keeping with directions of the Telecommunications committee
4. Provide emergency telecommunications services at the [*cite relevant National Emergency Operations Centre*]
5. Restore telephone and internet services as soon as possible.

[Service Clubs and Youth Organizations]

[List Service Clubs and Youth Organizations of the country such as list below]

- Lions
- Rotarians

- Boys Scouts
- Girl Guides
- Brigades
- 4-H
- Cadet Corps

15. Design their own emergency management plans and procedures
16. Participate in the National Disaster Management Committees
17. Participate in the District Disaster Committees
18. Assist with public awareness programmes
19. Assist with the distribution of educational material
20. Assist with the evacuation of disaster victims
21. Assist with evacuation of victims and senior citizens
22. Assist in clearing debris
23. Assist in distributing relief supplies
24. Assist local disaster preparedness Committees
25. Assist at emergency shelters and feeding centers
26. Assist with sorting and parceling of clothing
27. Assist in record keeping
28. Perform messenger service

PART 6: FISHING VILLAGE/COMMUNITY HAZARD & PHASE SPECIFIC PLANS

XIII: DISTRICT DISASTER MANAGEMENT COMMITTEES

The value of advanced planning of effective action in emergencies has often been proved to be the best method of maintaining and achieving efficiency.

Through advanced and effective organizational systems, before, during and after the emergency situation the [***District Disaster Committees***] will be able to coordinate the activities of the communities in support of the national response. In respect of national planning, the involvement of the community ensures the widest level of co-operation. The [***District Management Committee***] will provide the essential link between the National Organization and the community, which they represent.

Objectives

1. Selection and appointment of members of the sub-committee
2. Development of an organizational plan for each district
3. Selection and training of volunteer personnel for field operations
4. Participation in the overall planning of disaster preparedness operations in the district
5. Co-ordination of operational plan of all emergency services at district level.
6. Development of job functions for members of the district organization
7. Supplying half yearly reports to the Executive Committee on all disaster preparedness activities.

Note: The structures and services herein may be limited or enhanced based on relevance/appropriateness to/of fisheries and aquaculture sector

[The District Organization should provide for the development of the following management structures and services]:

1. District Disaster Coordinator
2. Deputy Disaster Co-Ordinator
3. District Shelter Management Officer
4. District Health and Welfare Officer
5. District Damage and Needs Assessment Officer
6. District Emergency Works and Transport Officer
7. District Supplies Management Officer.
8. District Telecommunications Officer
9. District Safety and Security Officer
10. District Public Education and Information Officer

Services

District Shelter Service

1. Selection of, in collaboration with, the [*list appropriate Ministries*], suitable community buildings for Emergency Shelters
2. Implementation of all Government directives and procedures
3. Assist with staffing at Emergency Shelters
4. Co-ordination of District Shelter Plans with the [*National Disaster Management Organization*]
5. Ensure continuous service by developing a shift for staff if required
6. Provide the National Organization and the District Chairman with periodic reports on the situation

Emergency Feeding Service

1. Establishing centers for distribution of supplies
2. Supplying staff and provide a briefing on the operation of the centre
3. Assisting with transportation of food supplies from Official depots to district distribution centers
4. Maintaining records on all supplies received and distributed in the area.

Emergency Medical Service

The [*Ministry of Health*] is responsible for all medical services. The District Organization can provide the following supportive services:

1. Identification of, in collaboration with the [*Ministry of Health*], Emergency First-Aid Stations
2. Providing a rescue service for severely injured persons in the transportation of all injured personnel
3. Provision of supervisory support for injured, elderly and unsupervised children
4. Selecting persons to be stretcher bearers
5. Requesting medical supplies for First-Aid stations as required
6. Co-ordination of the District Medical rescue and First-Aid service with the [*Ministry of Health*], the Health Services Committee and the National Organization.

Functions

Pre-Emergency activities

1. Liaise with group leaders
2. Conduct evacuation operations
3. Nominate work teams
4. Rescue of persons from endangered areas
5. Chair committee
6. Develop operational plans
7. Develop an information and education Programme
8. Develop training programmes
9. Secure emergency equipment
10. Conduct simulation exercises
11. Maintain co-ordination of services at National and the district levels

Post Emergency

12. Mobilization of services

13. Damage assessment

14. Implementation of the district plan for the following:

- Shelters, welfare, rescue of trapped persons, transport, First-Aid, road clearance, building repairs, communication systems and operators

The District Organization will require the assistance and co-operation of the security services; the Organization should therefore establish contact and involve the [*relevant authority*] in charge of the District Police Station.

XIV: TELECOMMUNICATIONS

Emergency Telecommunications Centre

The [*cite relevant Emergency Telecommunications Authority*] is located in the [*venue*].

Points will be established in the [*Telecommunications Centre*] for the installation of equipment for the [*cite Radio operators or radio operators organisation*] likely to be used during an impact of a hazard.

In the event of a disaster or major emergency the Chairman of the Emergency Telecommunications Sub-Committee will contact the [*radio operator or radio operators organisation*] with regard to assistance in telecommunications.

The telecommunications committee will ensure that there is communication to and from the [*Emergency Operations Centre*] with all the key response Organizations.

[*Radio Operators or radio operators organisation*]

In the event of an emergency and when so requested, the [*cite Radio Operators or radio operators organisation*] will make available to the National Disaster Organization such equipment and operators as may be necessary for providing communications between the [*Emergency Telecommunication Centre*] in the [*Emergency Operation Centre*] and the respective areas to which they may be assigned.

The Clubs will assign equipment and operators to the various areas identified by the Chairman of the Telecommunications Committee.

The [*Radio Operators*] or radio operators organisation should draw up their own internal disaster plans for submission to the National Disaster Coordinator for inclusion in the National Plan.

[*Public and Private Cellular service providers*] will assist in providing emergency links between the [*Emergency Operations Centre, Police Headquarters*] and other areas as required.

XV: EMERGENCY SHELTERS

The [*post/title of officer that would be Chief Shelter Warden for Fisheries and Aquaculture sector*] will maintain a list of buildings, which have been identified as shelters for use by the fisheries and aquaculture sector in an emergency.

The list of Emergency Committee members will arrange for the wide publicity of shelters in its area through churches, school voluntary Organizations and community groups.

The [*post/title of officer that would be Chief Shelter Warden for Fisheries and Aquaculture sector*] in collaboration with the [Chief Community Development Officer] and the [District Disaster Management Committees] will ensure that the manager of every emergency shelter has the shelters open and ready to receive evacuees when necessary.

The [*post/title of officer that would be Chief Shelter Warden for Fisheries and Aquaculture sector*] will ensure the appointment of suitably qualified staff to manage emergency shelters. Specific procedures should be developed for each member of a shelter Organization.

The [*post/title of officer that would be Chief Shelter Warden for Fisheries and Aquaculture sector*] will collaborate with the District Committees and the [*Chief Community Development Officer*] and the [*Public Works Department*] to ensure the proper maintenance of emergency shelters.

Where tents are used as emergency shelters they will be under the control of the Department responsible for such equipment.

Internal Emergency procedures sectoral plan will be developed and presented to the National Disaster Organization. The guidelines as outlined in the preceding paragraphs provide the foundation for the management of all [fisheries and aquaculture sector] shelters in [*country*].

XVI: LIST OF ABBREVIATIONS

CDEMA	-	Caribbean Disaster Emergency Management Agency
CDEMA CU	-	Caribbean Disaster Emergency Management Agency Coordinating Unit
CDM	-	Comprehensive Disaster Management
GIS	-	Government Information Service
IO	-	International Organizations
MPH	-	Miles per Hour
NGO	-	Non-Government Organization
PO	-	Private Organization
RSTS	-	Relief Supply Tracking System
UN	-	United Nations
VO	-	Voluntary Organization

XVII: ANNEXES

Include Annexes to show:

- List of Hurricane and Emergency Supplies
- Managing a Hurricane Hazard: Mitigation and Preparation, Communications During, Post Impact and Recovery
- Map of country and relevant districts
- List of Emergency centres in each district
- Meteorological Information
- Glossary of Terms
- National Contact List

The CRFM is an inter-governmental organization whose mission is to “Promote and facilitate the responsible utilization of the region’s fisheries and other aquatic resources for the economic and social benefits of the current and future population of the region”. The CRFM consists of three bodies – the Ministerial Council, the Caribbean Fisheries Forum and the CRFM Secretariat. CRFM members are Anguilla, Antigua and Barbuda, The Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, Montserrat, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Suriname, Trinidad and Tobago and the Turks and Caicos Islands.

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