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RE: Individual Consultancy - National Disaster Risk Management Plan for Jamaica

Eleanor Jones is pleased to submit the Final Draft National Framework for Disaster Risk Management, which represents Deliverable d (i) for the captioned consultancy.

Yours sincerely,

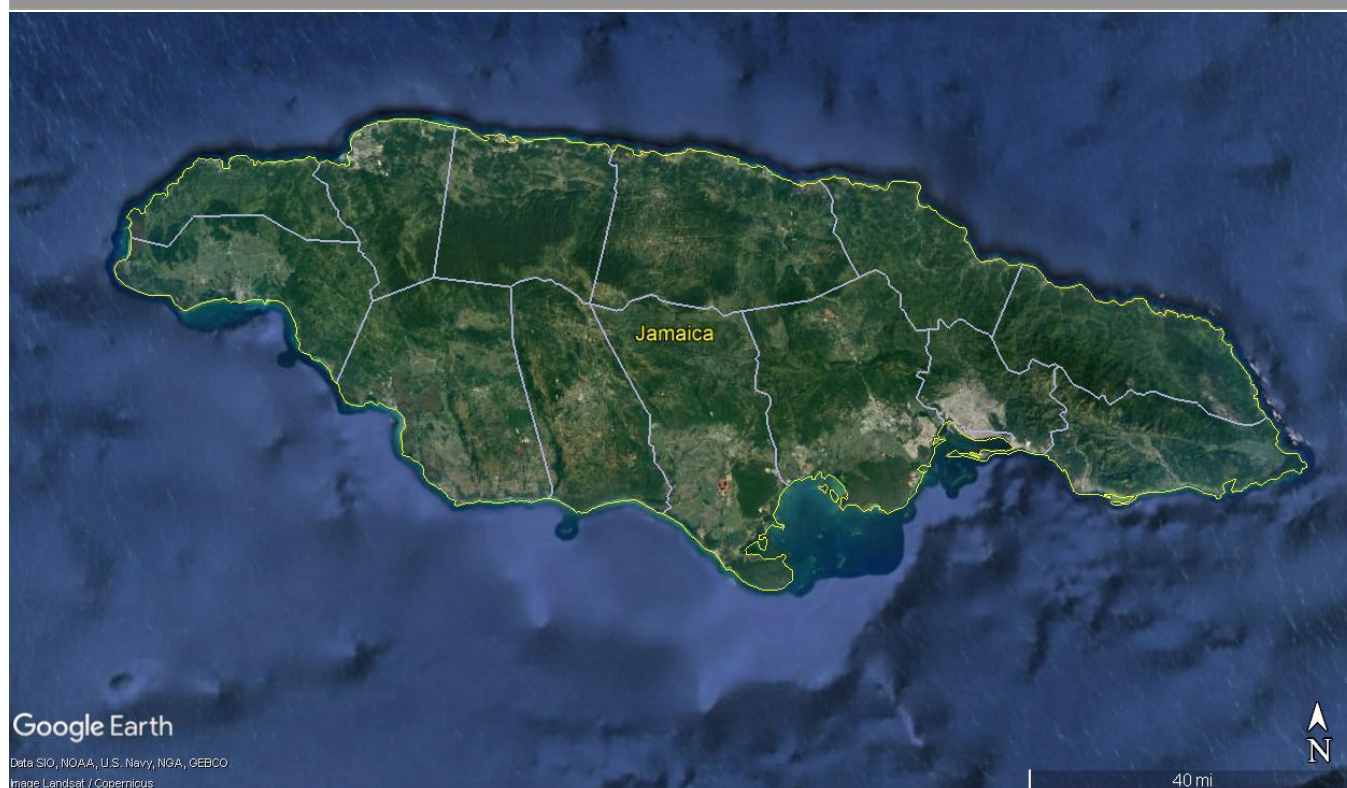
ENVIRONMENTAL SOLUTIONS LIMITED



Eleanor B. Jones, O.D.
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NATIONAL DISASTER RISK MANAGEMENT PLAN FOR JAMAICA

Submitted: April 26, 2021



Deliverable d (i)

FINAL DRAFT NATIONAL FRAMEWORK FOR DISASTER RISK MANAGEMENT

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List of Acronyms

CBO	Community-Based Organization
CCA	Climate Change Adaptation
CCFPN	Climate Change Focal Point Network
CCRIF	CCRIF SPC (formerly the Caribbean Catastrophe Risk Insurance Facility)
CDEMA	Caribbean Disaster Emergency Management Agency
CDM	Comprehensive Disaster Management
CRDM	Comprehensive Disaster Risk Management
DaLA	Damage and Loss Assessment
DRM	Disaster Risk Management
DRMA	Disaster Risk Management Act
DRR	Disaster Risk Reduction
GIS	Geographic Information System(s)
GOJ	Government of Jamaica
HRRACC	Hazard Risk Reduction and Adaptation to Climate Change
ICT	Information and Communication Technology
IDB	Inter-American Development Bank
IGOPP	Index of Governance and Public Policy in Disaster Risk Management
JCF	Jamaica Constabulary Force
JDF	Jamaica Defence Force
JIS	Jamaica Information Service
M&E	Monitoring and Evaluation
MEGJC	Ministry of Economic Growth and Job Creation
MFPS	Ministry of Finance and the Public Service
MHW	Ministry of Health and Wellness
MLGRD	Ministry of Local Government and Rural Development
MNS	Ministry of National Security
MTF	Medium Term Socio-Economic Policy Framework
NDRMC	National Disaster Risk Management Council
NEOC	National Emergency Operations Centre

NEPA	National Environment and Planning Agency
NGO	Non-Governmental Organization
NWA	National Works Agency
ODPEM	Office of Disaster Preparedness and Emergency Management
PIOJ	Planning Institute of Jamaica
PWDs	Persons with Disabilities
SDGs	Sustainable Development Goals
UWI	University of the West Indies
WRA	Water Resources Authority

Glossary

Affected	People who are affected, either directly or indirectly by a hazardous event. Directly affected are those who have suffered injury, illness or other health effects; who were evacuated, displaced, relocated or have suffered direct damage to their livelihoods, economic, physical, social, cultural and environmental assets. Indirectly affected are people who have suffered consequences other than or in addition to direct effects, over time, due to disruption or changes in economy, critical infrastructure, basic services, commerce or work or social, health and psychological consequences.
Build Back Better	The use of the recovery, rehabilitation and reconstruction phases after a disaster to increase the resilience of nations and communities through integrating disaster risk reduction measures into the restoration of physical infrastructure and societal systems, and into the revitalization of livelihoods, economies and the environment.
Building Code	A set of ordinances or regulations and associated standards intended to control aspects of the design, construction, materials, alterations and occupancy of structures that are necessary to ensure human safety and welfare including resistance to collapse and damage.
Capacity	The combination of all strengths, attributes and resources available within an organization, community or society to manage and reduce disaster risks and strengthen resilience.
Climate change adaptation	The process of adjustment to actual or expected climate and its effects, in order to moderate harm or exploit beneficial opportunities.
Coping Capacity	The ability of people, organizations and systems, using available skills and resources, to manage adverse conditions, risk or disasters. The capacity to cope requires continuing awareness, resources and good management, both in normal times as well as during disasters or adverse conditions. Coping capacities contribute to the reduction of disaster risks.
Critical Facilities	Hospitals, schools, police stations, fire stations, health centres
Disaster	The occurrence or threat of occurrence of an event or other calamity... which results or threatens to result in loss or damage to property, damage to the environment or death, ill health or injury to persons on a scale which requires emergency intervention by the state and which may result from fire, accident, an act of terrorism, storm, hurricane, pollution, disease, earthquake, drought, flood, the widespread dislocation of the essential services, or other calamity. <i>From the Disaster Risk Management Act 2015</i>
Disaster area	Any part of Jamaica that is threatened with or affected by a natural or anthropogenic hazard.
Disaster damage	Disaster damage occurs during and immediately after the disaster. This is usually measures in physical units (e.g. Sqm of housing, Km of roads etc) and describes the total or partial destruction of physical assets; the disruption of basic services and damages to sources of livelihood in the affected area.
Disaster impact	The total effect including negative effects and positive effects of a hazardous event or a disaster. The term includes economic, human and environmental

	impacts and may include death, injuries, disease and other negative effects on human physical, mental and social well-being.
Disaster risk assessment	The process used to determine risk management priorities by evaluating and comparing the level of risk against predetermined standards. Disaster risk assessments determine community vulnerability through the identification of risks, likelihood and consequence of a disaster occurring.
Disaster risk financing	Allocating financial resources to finance response, recovery, and reconstruction needs after a disaster while protecting the country's fiscal balance and preventing further disruptions caused by reallocations from other priorities
Disaster risk management	Processes for designing, implementing, and evaluating strategies, policies, and measures to improve the understanding of disaster risk, foster disaster risk reduction and transfer, and promote continuous improvement in disaster preparedness, response, and recovery practices, with the explicit purpose of increasing human security, well-being, quality of life, and sustainable development. It is the process to anticipate, adapt to and mitigate against present and future risks.
Disaster risk mitigation Disaster risk reduction Disaster preparedness	The means taken to decrease or eliminate the impact of hazards on society and the environment: putting in place measures before an event occurs with the goal of reducing loss and damage, which could be caused by slow onset events, such as desertification, sea level rise, and ocean acidification, or by extreme weather events, such as storms and flash floods. Risk mitigation activities include asset-based responses (such as constructing sea walls, "wind-proofing" buildings, reviving coral reefs and making coastal areas flood-proof) and behavioural measures (such as enforcing building codes and zoning restrictions).
Emergency	Sometimes used interchangeably with the term disaster. It also related to hazardous events that do not result in serious disruption of the functioning of a community or society.
Exposure	The location, attributes and value of assets that are important to the various communities, such as people, buildings, factories, farmland and infrastructure that are exposed to a hazard
First Responder Agencies	Agencies including the Jamaica Constabulary Force, Jamaica Fire Brigade
Hazard	The likelihood and intensity of a potentially destructive natural phenomenon, such as ground shaking induced by an earthquake or wind speed associated with a tropical cyclone
National Disaster	An overwhelming ecological or man-caused disruption, with or without warning, which exceeds the capacity of the community to adjust, and causes suffering of persons in excess of those which can be dealt with by public services operating under normal conditions, and which calls for the special mobilization and organization of emergency services, possibly including assistance from overseas.

Operational Preparedness/Readiness	Aims to reduce this gap to the extent possible and indicates the minimum level of readiness that should be in place to deliver humanitarian assistance and protection in an accountable manner
Parametric Insurance	Insurance contracts that make payments based on the intensity of an event (for example, hurricane wind speed, earthquake intensity, volume of rainfall) and the amount of loss calculated in a pre-agreed model caused by these events. Therefore, payouts can be made very quickly after a hazard event.
Preparedness	The knowledge and capacities developed by governments, response and recovery organizations, communities and individuals to effectively anticipate response to and recover from the impacts of likely imminent or current disasters.
Reconstruction	The medium and long-term rebuilding and sustainable restoration of resilient critical infrastructures, services, housing, facilities and livelihoods required for the full functioning of a community or society.
Recovery	The restoring or improving of livelihoods and health, as well as economic, physical, social, cultural and environmental assets, systems and activities of a disaster-affected community or society, aligning with the principles of sustainable development and “build back better” to avoid or reduce future disaster risk.
Rehabilitation	The restoration of basic services and facilities for the functioning of a community or a society affected by a disaster.
Response	Actions taken directly before, during or immediately after a disaster in order to save lives, reduce health impacts, ensure public safety and meet the basic subsistence needs of the people affected.
Risk	The chance of something happening that may have an impact on the safety and wellbeing of nations or communities. It is measured in terms of consequences and likelihood.
Risk transfer	Shifting the risk of loss and damage from one entity to another. It is typically undertaken when the potential loss and damage is greater than the ability to manage it. Risk transfer instruments are instruments through which risk is ceded to a third party, such as insurance.
Vulnerability	The reaction of assets when exposed to the spatially variable forces produced by a hazard event. For example, a building’s vulnerability to an earthquake increases with the intensity of ground shaking and decreases with improved conformity to seismic design standards. Similarly, socioeconomic conditions can make responding to a hazard event easier or more difficult.

1 Introduction

“Reducing disaster risk is about addressing basic development that helps build “accumulated resilience” and preparing for and mitigating disasters. It also entails ensuring adequate governance – that is, transparent, accountable and representative decision-making structures – so that everyone’s needs and voices are considered and development gains benefit all. Thus, connecting DRR with broader development processes contributes to advance a people-centred risk reduction approach”

(after UNDRR, 2019)

1.1 Purpose

This document entitled Draft National Framework for Disaster Risk Management (DRM) in Jamaica, represents the second deliverable for the consultancy **National Disaster Risk Management Plan for Jamaica**. The specific objective of this consultancy is to **develop a National Disaster Risk Management Plan (NDRMP) in accordance with the DRM Act, 2015 and develop a guideline for Parish Disaster Risk Management Plans**. Sections 5 (2c) of the Act mandates the NDRMP as the document that articulates “the overall framework for disaster risk management in Jamaica” and details the processes and actions of risk management throughout all its phases - risk identification, preparedness for response, risk reduction, resilient recovery and financial protection. Sections 18, 19, and 20 of the DRM Act also articulate the development of Parish Disaster Risk Management Plans that should be consistent with NDRMP.

The consultancy is intended to form part of the IDB’s Technical Cooperation Agreement *to support the programmatic policy-based program loan series for the Strengthening of DRM and CCA Governance (JA-L1081)*. The overall objective of the program (JA-L1081), comprising three (3) components is **to improve Jamaica’s governance and financial capacity for DRM**, through the strengthening and modernization of the regulatory, institutional and budgetary DRM framework. More specifically, a series of reforms aimed at improving public policy conditions in the areas of: (i) general DRM governance (ii) risk identification; (iii) risk reduction; (iv) disaster preparedness; (v) disaster recovery planning; and (vi) financial protection is envisaged.

In that regard, the specific mandate for the Consultant for this deliverable is to develop and define the overall framework for disaster risk management in Jamaica taking account of the existing institutional arrangements for leadership at the national and parish levels as well as roles and functions of Non-Governmental Organizations (NGO’s), private sector, civil society and academia, and considering sectors and communities. This Framework will further inform the National Disaster Risk Management Plan.

1.2 Scope of the DRM Framework

The NDRM Framework will be anchored in the pressing need to treat with disaster risk management as a substantial development issue for the multi-hazard vulnerability of Jamaica. It is therefore necessary to examine the existing legal and institutional framework as well as the changes necessary to move the country toward risk reduction and disaster resilience. The Theory of Change has been considered, and the Framework will incorporate best practice as well as issues raised and recommendations that have come out of a detailed document review process and a series of stakeholder consultations.

The transition necessary will require a change in approach, which is illustrated in the diagram below.

FROM		TO
Event-based		Risk-based
Reactive		Proactive
Single-hazard		Multi-hazard
Hazard-focused		Vulnerability and Capacity-focused
Single Organisation		Cross-Sectoral Approach
Separate Responsibility		Shared Responsibility
Response-focused		Risk Management
ODPEM Focused		Collaborative Approach (Public Sector, Private Sector, NGO, Civil Society)

Figure 1-1: Change in Approach

A results-based framework based on the CDRM Policy 2020 is presented, articulating goals, outcomes and strategic activities. The NDRM Framework will take into consideration the National Disaster Risk Financing Policy¹ which defines the strategic direction of the GOJ with regards to financial protection. The relationship with other policies plans, strategies relevant to disaster risk management will also be detailed in the plan. Cross cutting themes including climate change, environment, gender and vulnerable groups will all be taken into consideration in the NDRMP.

1.3 Guiding Principles

The following guiding principles were used to create this results-based DRM Framework, which will also guide the development of the NDRMP for Jamaica:

Inclusiveness and Consultation

All stakeholders must be fully engaged in decision-making processes and activities aimed at reducing the impact of disasters. All relevant stakeholders have been included and participated in individual interviews, focus group meetings as well as stakeholder consultation sessions throughout the development of the NDRM framework and plan. Stakeholder engagement will be important for implementation to foster meaningful and sustainable partnerships. Emphasis will be placed on participatory processes that involve multidisciplinary and multi-sectoral perspectives and action and include community input and ownership. Cooperation also is critical, and the engagement of development partners must be considered to be key.

Building on Conditions Precedent

The framework has considered the findings from a series of stakeholder consultations and document review process examining legal and policy documentation locally, regionally and internationally applicable to Jamaica to determine where the country is with respect to the integration of comprehensive disaster risk management (CDRM). It considers the findings from a (Strengths, Opportunities, Aspirations, Results) SOAR analysis according to the different phases of the CDRM cycle. The challenges and barriers to implementation were unearthed during the consultation process, but rather than reflect these, the

¹ The National Natural Disaster Risk Financing Policy is currently being developed by the Ministry of Finance and Public Service

improvement opportunities that these issues presented were identified and documented to build the national DRM Framework.

Results Based Management (RBM)

The creation of this framework has benefited from the application of RBM principles. This involved a focus on results rather than on individual activities. The strategic framework also further entrenches the principles of mutually supporting priority areas and outcomes to achieve the desired goals and impact.

Theory of Change

Aspects of the Theory of Change as articulated through UN Habitat (UN Habitat.org) are considered in terms of moving beyond 'business as usual', generic programme and project designs through a greater awareness of the context; strengthening the clarity, effectiveness and focus of programmes and projects; improving relationships with partners and stakeholders by identifying opportunities for dialogue and collaboration; providing a unifying framework for strategic decision-making, communication and reporting; and finding new ways, through legislation and governance, of bringing rigour to the evaluation of complex and emergent change in difficult areas related to disaster resilient and sustainable prosperity.

Continuous Improvement

This framework is considered a living document and should be subject to regular review and updates at least every four years or more frequently as the circumstances arise.

All-hazards Approach

Jamaica is vulnerable to different types of hazards. It is neither efficient nor cost-effective to develop separate, stand-alone capacities or response mechanisms for each individual hazard. The NDRMP Framework and Plan should therefore be designed to address common issues with common capacities, supplemented by risk-specific capacities.

Sustainable Development and Good Governance

Disaster risk must be seen as a development issue and as such its integration in development planning within the country is critical. The integration of economic, social, and environmental issues underpinned by good governance must be given due consideration in operationalizing the framework and plan. Disaster risk reduction (natural, health-related and man-made) must be regarded as an important issue to advancing sustainable development prospects in the public and private sectors as these entities engage in advancing the triple bottom line.

Gender equity and social inclusion, "leaving no one behind"

It is well known that the vulnerable in society are disproportionately affected by disaster events. Women, children, the elderly, the disabled, and other vulnerable persons such as those that rely on natural resources for their livelihoods (e.g. fishers, farmers, market vendors, seasonal tourism workers etc.) are often at high risk to disaster events and disaster-caused shocks and have limited or no coping mechanisms to deal with the impacts. These persons' varying needs, capabilities and experiences following a disaster are important considerations that must be taken into account in establishing the framework and implementing the NDRMP.

Ecosystems-based management

The important role that ecosystems play in reducing the impact of natural-hazard induced disasters must be considered and clear linkages must be established with the environmental community to ensure that actions are undertaken to rehabilitate degraded ecosystems and conserve existing ecosystems so that decisions taken in economic sectors do not impact negatively on ecosystems and that within the DRR context certain ecosystems such as wetlands, coral reefs and watersheds are used to provide ecosystem-based solutions for resilience building.

Science, Technology, Innovation and Continuous Improvement

The employment of modern science and technologies for DRR will be key to the implementation of the NDRM Framework and Plan. The monitoring and evaluation framework supporting the NDRMP sets a template for continuous improvement which would ensure that, where required, corrective action will be taken and there always will be recognition of improving on existing technologies, responding to changing needs, and building on best practices and learning lessons along the way. Learning within the context of DRR also will lend itself to innovations as there must be deliberate attempts to add to the ‘Body of Knowledge’ of DRR and DRR-related subjects – through technical content (e.g. linking DRR to specific sectors) and in process (e.g. mechanisms for learning and development of approaches).

Adequate resources

Technical and financial resources must be prioritized in a timely manner to implement activities aimed at achieving risk identification, risk reduction, preparedness for response, resilient recovery and financial protection. This requires proper mainstreaming of DRM within Jamaica’s governance structure. This is critical for the successful implementation of the NDRMP.

1.4 DRM Vision and Goals

The overarching vision with respect to disaster risk management in Jamaica is “A Resilient and Safe Jamaica”, as articulated in the island’s Draft Comprehensive Disaster Risk Management Policy (CDRM) on the “Road to Resilience”. The goals of the CDRM Policy 2020 have been carried over into this overarching framework for Jamaica as extensive consultations were recently conducted and the challenges reflected in the IGOPP report have been taken into consideration in its development. This Framework and the ensuing National DRM Plan serve to build on the existing Policy so that disaster resilience can be fully integrated and implemented within Jamaica’s governance system. The goals are as follows:

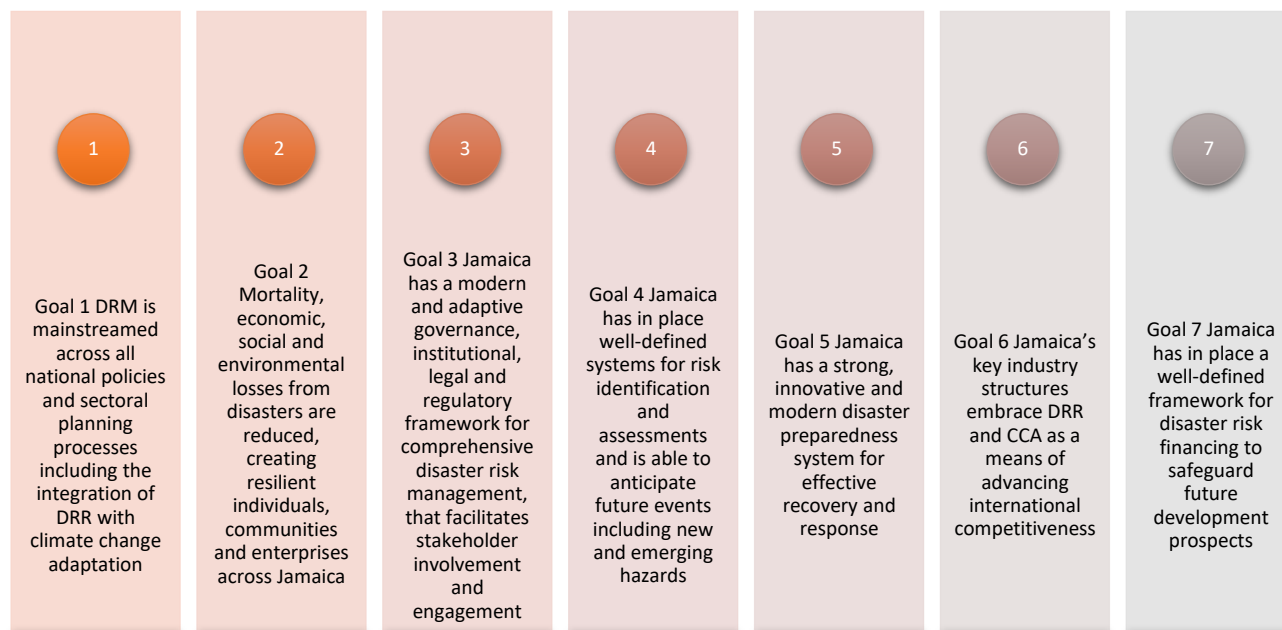


Figure 1-2: The goals of the CDRM Policy 2020

2 Disaster Risk Profile

2.1 Overview

Jamaica's economic, social and environmental vulnerability to, and repeated loss and damage from the impact of natural and human induced hazards, have underscored the need for treatment of disaster risk management as a development issue. Jamaica's location within the Caribbean has imbued the island with geophysical and climatic characteristics that in some instances present as natural hazards. The Caribbean plate margin and extensive fault systems make the island prone to earthquakes, and the geologic, topographic and drainage form increase the susceptibility to riverine and overland flooding and slope failure in many parts of the island. The latitudinal position exposes Jamaica to extreme climatic events and so high winds and heavy rainfall from tropical systems, tropical storms and hurricanes produce flooding and wind damage on a regular basis. The coastal zone has been susceptible to erosion from rising sea level and storm surge, and warming temperatures have affected coral reefs and marine life which are important to coastal protection and livelihoods. Approximately 82 per cent of Jamaica's population lives on coastal plains (Jones, 2011), which are experiencing growing urbanisation, and there are significant investments in tourism infrastructure, power utilities, manufacturing entities, and fisheries, *inter alia*.

Jamaica, as a small island developing state or "*large ocean state*", is particularly vulnerable to the impacts of climate change, and warming temperatures, variable precipitation patterns, and unpredictable extreme weather events have all been increasingly experienced in recent years. Key sectors of the economy are climate sensitive and land use, settlement patterns, construction practices and development initiatives have exacerbated shocks. Between 2001 and 2012 Jamaica experienced 11 storm events (including 5 major hurricanes) and several flood events. These events combined resulted in loss and damage amounting to approximately J\$128.54 billion (GOJ, 2015). Flood rains triggered by the outer bands of

Hurricanes Zeta and ETA in October 2020 resulted in all-too-familiar scenes of extensive damage and loss amounting to approximately JM\$3 Billion, triggering a JM\$500 million pay-out from the 2020/21 Excess Rainfall policy, held with the Caribbean Catastrophe Risk Insurance Facility (CCRIF) Segregated Portfolio Company to assist recovery (**Error! Reference source not found.**).



Figure 2-1: Disasters from 2020 rainfall Incidents (Damage in Junction roadway (top left); Kingston Roadway into rivers (top right); Death from landslides in Shooters Hill (bottom) (Source of Photos: Loop Jamaica)

Manmade hazards, which are often over-looked, such as chemical spills, oil spills, and fires as well as biological hazards such as dengue, chikungunya, zika virus and the most recent corona virus pandemic (COVID-19) also form part of Jamaica's hazard profile, which impacts people, the economy and the society. The Planning Institute of Jamaica (2020) reported that there was a 10.7% in Jamaica's economy for the period January to September 2020 in comparison to the 2019 January to September period (Figure 2-2).

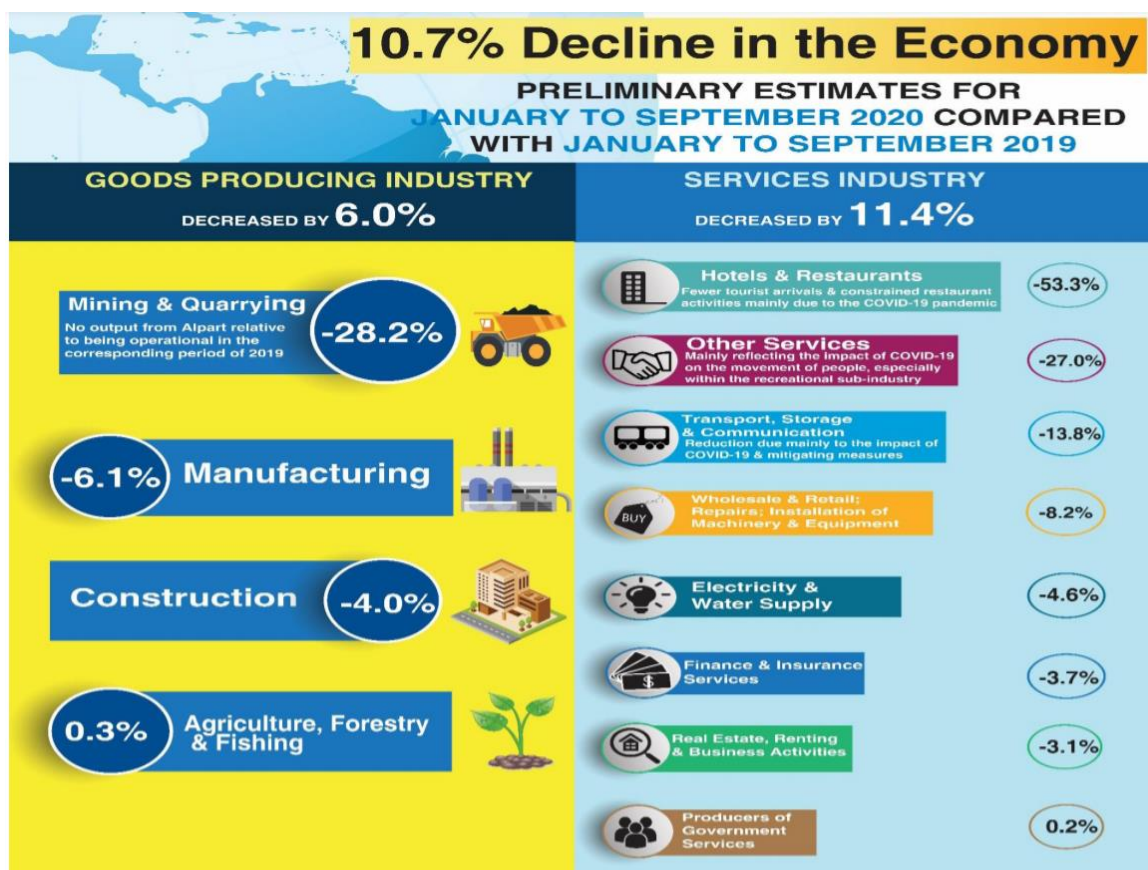


Figure 2-2: Review of Economic Performance July–September 2020 (PIOJ, 2020)

The InterAmerican Development Bank compiled a Disaster Risk Profile for Jamaica in 2020 utilising probabilistic techniques to focus on the two principal hazards of the country; hurricane wind hazard risk and seismic hazard risk. The objective of the risk evaluation was “to provide robust analysis that will identify important disaster risk issues in the context of the country’s development priorities and will orient the setting of risk management priorities” primarily for dialogue around the Bank’s country strategies. Asset exposure as a key consideration and the result of the study indicated that the country in 2020, would lose more than US\$ 45 billion in total exposed value (TEV) for building constructions and infrastructure if there were to be a seismic or a hurricane wind hazard event or a . The expected annual loss (EAL) for hurricane wind is about US\$ 127 million (2.8 of the TEV and 0.87% of the GDP) and for earthquake ground vibrations is US\$ 37 million (0.8% of the TEV and 0.25% of the GDP).

2.2 Multi-Hazard Risk Profile

Table 2-1 below elaborates on the multi-hazard risk profile as well as climate change and variability for the country.

Table 2-1: Summary of main hazards that have the potential to affect Jamaica

Hazards	Brief Descriptions
Geophysical Hazards	
Seismic (Earthquakes and Tsunamis)	Jamaica lies within a belt of seismicity that stretches from Central America south to Trinidad, and which defines the boundaries of the Caribbean Tectonic Plate. Jamaica has multiple fault zones and has recorded several earthquakes with magnitudes greater than 4.0 on the Richter Scale between 1997 and 2007. The most active earthquake zone are the faults associated with the Blue Mountains Block in Eastern Jamaica. Most earthquakes occur in the eastern part of the island in the Blue Mountains Block. Tsunami events appear to be very infrequent around the coastline of Jamaica, with the most recent tsunamic observed on the shoreline of Kingston in 1907. The available historical record for this event does not list the height of the wave nor the strength of the tsunami.
Climate Triggered Hazards	
Droughts and Floods	Jamaica has a bimodal rainfall pattern with peaks in May and October. The lowest rainfall amounts are at a minimum during the period February to March and the month of July. The mountainous interior generally receives rainfall in excess of 1700 mm annually, while the north and south coasts are significantly drier, with the plains of the south coast being the driest region (1000 mm or less). Rainfall maxima occur on the west and east of the island, with highest rainfall amounts (up to 5000 mm or more) occurring over far eastern Jamaica (Portland), likely due to a convergence of mountain and sea breezes. Flood occurrences in Jamaica also follow a bimodal pattern which mirrors that of the rainfall climatology previously mentioned, with a minor peak in April-May-June and a maximum in September-October-November (39%). There is an increasing trend in flood occurrences over the last century to present with the period between 2000 and 2010 being the most intense decade on record with 35 flood events. Areas most likely to be worst affected by flooding are: • Low-lying coastal areas • Areas near gully banks • Flood plains of major rivers • Areas vulnerable to landslides •
Hurricanes and Tropical Storms	The most significant impacts of hurricanes result from the effects of strong winds, storm surge, wind-driven waves, and coastal flooding on exposed assets. In the last two decades, several notable hurricanes and tropical storms have resulted in significant damages and losses, even without direct hits, including Charley (2004), Ivan (2004), Dennis (2005), Emily (2005), Wilma (2005), Dean (2007), TS Nicole (2008), TS Gustav (2009), Sandy 2012, TS Zeta (2020) and TS Eta (2020).

Hazards	Brief Descriptions
	The frequency of tropical storm and hurricane activity in the proximity of Jamaica peaks between August and October. The most active months are August and September while the least active months are May and June. The preferred path of hurricanes that impact Jamaica is from the southeast to northwest, with the majority approaching from south of the island. This makes the south coast of Jamaica more susceptible to highest wind, rain and surge events associated with hurricane passage. Based on historical trends, the majority of the storms or hurricanes impacting the island of Jamaica are of categories 3 and 4 strength (CSGM, 2017). Climate change projections indicate an 80% increase in the frequency of Saffir-Simpson category 4 and 5 Atlantic hurricanes over the next 80 years using the A1B scenario (CSGM, 2017). The 2020 Atlantic hurricane season was the most active on record with 29 named storms.
Health Related Hazards	
Infectious diseases	Through the expansion of global links to Jamaica, the country is also susceptible to infectious diseases from the major climatic and geographic zones. Outbreaks of vector-borne diseases have consistently impacted the country, most notably: • Jamaica has recorded approx. seven major outbreaks between 1995 and 2018 (Henry & Mendonça, 2020) • Local transmission of Chikungunya virus (Chik-V) was identified on 5 August 2014. A total of 5,180 cases of Chikungunya fever were notified to the National Epidemiology Unit of the Ministry of Health as at the end of 2015 (MOHW) • As of 2017, a total of 12 probable and 60 suspected cases of congenital syndrome associated with the Zika virus infection were reported by the Jamaica health authorities to PAHO/WHO (PAHO) • Most recently, the country, like the rest of the world, has been impacted by the SARS-CoV-2 (Coronavirus COVID-19) pandemic, which according to the World Health Organisation (WHO) is primarily spread through contact and respiratory droplets. Over the past year, 2020-2021 Jamaica has experienced a phenomenal rise in the spread of the Covid -19 virus and the impact on livelihoods, the economy and social fabric has been extreme.
Biological Hazards	• Contaminated food outbreak • Contamination of some water sources being used for domestic purposes • Toxic materials present in buildings e.g., mould, asbestos, substances in school science laboratories
Anthropogenic Related Hazards	

Hazards	Brief Descriptions
Adversarial, Incidental and Human-Caused Hazards	• Fire • Medical Emergency • Intruder • Active shooter/Threats of violence • Fights • Gang violence • Bomb threat • Cyber attack • Suicide • Dangerous animal • Social Unrest
Climate Change and Variability	
Extreme weather and climate-related hazards	Climate change and variability represent additional elements of DRM stemming from the risks associated with increases in extreme weather and climate-related hazards, and long-term gradual changes in weather patterns that exacerbate existing vulnerabilities. The way in which companies respond in regions hardest hit, like the Caribbean, will affect the viability of the markets in those areas and as such improving future resilience is a matter of strategy and corporate social responsibility. In Jamaica, climate-related disasters such as severe hurricanes, increased rainfall intensity, and longer periods of drought, have led to significant losses in livelihoods, assets, and human health in recent years. As a small island developing state (SIDS), Jamaica is vulnerable to the impacts of climate variability and climate change, which have imposed significant and deleterious costs to Jamaica's ecosystems, economic stability and growth, community livelihoods and well-being. Model projections suggest that the country will be exposed to increases in temperature, extended periods of drought, sea level rise and increased frequency of intense storms (Saffir-Simpson Category 4 and 5 Atlantic hurricanes over the next 10 – 80 years.

2.3 Climate Change and Variability

Specific projections are detailed in Figure 2-3 below and have been extracted from the State of the Jamaican Climate, 2015, which presents the most recent published climate projection data for Jamaica.



Figure 2-3: Climate Change Projections (Source of data: State of the Jamaican Climate 2015)

2.4 Impacts of Disasters in Jamaica

As indicated in Section 2.1 above, disasters have consistently had significant negative impacts on the Jamaican people, its economy and the environment. Table 2-2 below shows the cost of several natural disaster events on Jamaica and its GDP. These losses all have implications not just for the country's GDP, but also inflation, debt stock, budget, revenue, employment and balance of payments (BOP). Further, the data shows that the greatest loss is attributed to the infrastructure sector (Figure 2-4). The economic sector and social sector follow significantly. This is a recurring cost to the government speaks to the need for resilience building.

Table 2-2: Impact of Extreme Climate Events on the Economy (1999- 2017)

EVENT	Year	Category	Cost (\$JB)	Cost as the share of Previous year GDP (%)
Drought	1999/2000	-	0.73	0.2
Hurricane Michelle	2001	4	2.52	0.7
May/June Flood Rains	2002	-	2.47	0.6
Hurricane Charley	2004	4	0.44	0.1
Hurricane Ivan	2004	3	36.9	6.8
Hurricanes Dennis & Emily	2005	4	5.98	1

EVENT	Year	Category	Cost (\$JB)	Cost as the share of Previous year GDP (%)
Hurricane Wilma	2005	5	3.6	0.6
Drought	2005	-	0.52	0.1
Hurricane Dean	2007	4	23.8	3
Tropical Storm Gustav	2008	-	15.5	1.8
Drought	2008	-	0.04	0
Tropical Storm Nicole	2010	-	20.6	1.9
Hurricane Sandy	2012	2	9.9	0.8
Drought	2014	-	0.9	0.1
May Flood Rains	2017	-	4.05	0.2
Total			127.95	1.3
Source: DaLA Reports (Planning Institute of Jamaica) & Ministry of Industry, Commerce Agriculture and Fisheries				

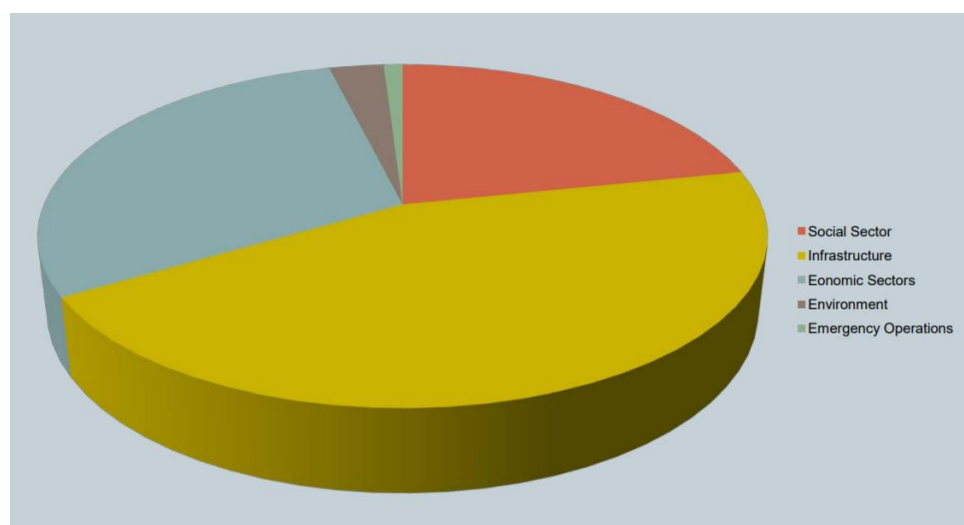


Figure 2-4: Cost of Disasters by Sector 2001-2012

Catastrophe risk assessment for Jamaica shows that while the numbers of deaths from natural disasters are trending downwards, losses to public infrastructure remain high (Figure 2-4, Thompson, 2020). Every dollar spent on rebuilding carries with it a steep opportunity cost, as the money could be better spent on sustainability in development. The competition with routine service delivery often redirects funds needed for disaster planning to other more pressing areas like healthcare and debt repayment (Thompson, 2020).

3 Challenges and Gaps in DRM Framework

3.1 Status of DRM - Where is Jamaica now with DRM?

Jamaica's vulnerability to natural and anthropogenic hazards remains high and recurring disasters have impacted not only the population, settlements, and infrastructure, but all sectors of the economy. The COVID-19 pandemic which reached Jamaican shores in March 2020 highlighted the significance of health

risks and disasters which had previously not been a foremost and conventional consideration in the disaster risk profile of the island. Activation of the Disaster Management Act (2015) to handle the response to the health crisis is instructive in that the significance of intersectoral linkages or the intersectionality of several sectors has been revealed as the country's vulnerabilities have been laid bare. A Health Emergency Disaster Risk Management approach has been applied and it is fair to posit that this approach can be broadened to include a similar multi-faceted and integrated approach to treating with the multi-hazard risk profile of Jamaica as a development issue. The urgency for change toward obtaining results is marked.

The current institutional framework for managing disaster risk in Jamaica is led by the National Disaster Risk Management Council (NDRMC), which is responsible for overall coordination of disaster management activities in Jamaica. The Office of Disaster Preparedness and Emergency Management (ODPEM) serves as the secretariat and the agency with overarching responsibility for DRM. The current structure does not facilitate effective disaster risk reduction since disaster risk is a development issue. "Disaster Risk Management is the systematic process of using administrative decisions, organization, operational skills and capacities to implement policies, strategies and coping capacities of the society and communities to lessen the impacts of natural hazards and related environmental and technological disasters" (UNDP, 2007). DRM is therefore a core function of government and as such disaster risk needs to be a consideration of all Ministries and Agencies of government.

In terms of integrating comprehensive disaster risk management (CDRM), the Index of Governance and Public Policy in Disaster Risk Management (iGOPP) developed under the IDB was applied in Jamaica. The National Report (2018) highlighted a current focus on preparedness and response. Significant weaknesses have been highlighted in the areas of risk identification, risk reduction and post-disaster recovery planning: Section 3.1.1 elaborates on this further.

Due to the cross-cutting nature of DRM, as long as the focus remains only on ODPEM, CDRM cannot be achieved. Several players in other government Ministries and Agencies also need to drive DRM and resilience building through their mandates and work programmes.

Full integration of disaster risk from the outset for all Ministries and Agencies is prudent to achieve "A Resilient and Safe Jamaica". When people and institutions consider disaster risk, it is then possible to reduce the number of deaths and damage from natural, manmade and biological hazards and its significant impact on the economy and GDP. Reports from the Planning Institute of Jamaica (PIOJ) indicate that damage associated with hurricanes, floods and droughts has cost the country an annual average of two per cent of GDP since 2001 and could reach 56 per cent of GDP by 2025 (JIS, 2012).

The country's Disaster Risk management Act (2015) and a number of policies and pieces of legislation lay the groundwork for and support comprehensive disaster risk management in Jamaica that focus on areas including climate change, disaster risk financing, physical development and land use, national security, poverty reduction, social protection and cyber security among others. However, there is a lack of implementation of several elements hindering resilience building. The DRM Act 2015 is the fundamental legislation which has now been operationalised by the government as a result of the COVID-19 Pandemic. The Act was used directly by the requisite Ministry responsible for responding to a biological hazard of this nature. Several lessons learnt can be drawn on through this experience as Jamaica witnessed the operationalisation of this Act. It is therefore pertinent that each Ministry or Agency should have risk

reduction, risk management and resilience within their structure so that CDRM can be fully integrated into Jamaica’s governance system.

Implementation and integration of DRM will also require leadership from the Ministry of Finance as corporate plans are submitted with a budget. Resources will need to be supplied to facilitate the execution of the risk reduction activities. The public investment management system would therefore need to integrate DRM. Resilience building is at the helm of the government, and so the attitudes and actions needed to foster a ***culture of risk as a development issue*** is therefore “everybody’s business”, not just one entity.

This national framework outlines how this integration of DRM can be achieved so that the key activities to achieve CDRM can be institutionalised and implemented.

3.1.1 Challenges with Jamaica’s Existing Disaster Risk Management Framework

The Index of Governance and Public Policy in Disaster Risk Management (iGOPP) has been designed to evaluate the formal, and therefore provable, existence of a series of legal, institutional and budgetary conditions that are considered fundamental for the processes of disaster risk management to be implemented in a country. The results in the Jamaica National Report for iGOPP indicates that there is room for much improvement in the framework that has been employed over the years for the management of disaster risk in Jamaica. Figure 3-1 below shows the results of the assessment of Jamaica’s achievement for each of the DRM components.

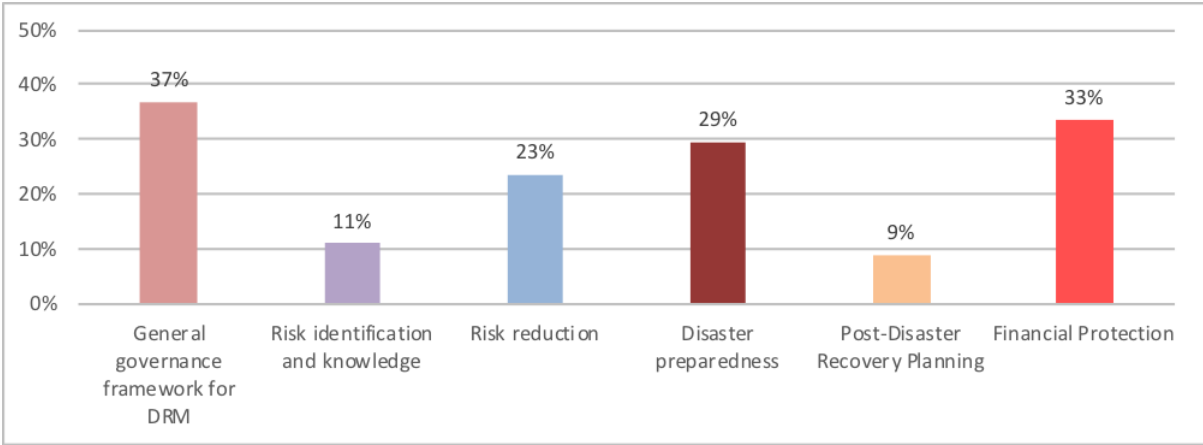


Figure 3-1: Level of Jamaica’s Achievement of the DRM Components (Source: IDB, 2018)

The graph shows that risk identification and knowledge, risk reduction and post-disaster recovery planning received the lowest scores. Despite this, there are areas for improvement among all indicators. For example, while General Governance receives the highest score there are still weak sub-indicators such as capacity building and resources allocation to support local first responders (Zonal Committees) as outlined in the DRM Act.

Additionally, there are weaknesses in the current framework in that climate change, which is a major trigger for disasters globally, regionally and nationally is not fully integrated in these components. Further, issues related to the environment and land use practices, as well as gender and vulnerable groups and their linkages with poverty are all crosscutting issues that need to be integrated into the DRM framework. The full integration of DRM and the cross-cutting issues (climate change, environment, gender and

vulnerable groups) into the strategic plans and corporate programmes of various sectors and ministries (e.g. water, agriculture, tourism) are key to improving Jamaica's performance.

This integration will also need to include greater involvement of the private sector. Globally, there is a push for disaster risk reduction through private sector partnership. This is elaborated on in the UNISDR publication entitled: *Post 2015 Framework - Private Sector Blueprint Five Private Sector Visions for a Resilient Future*. Private sector partnership is needed at the local and national level to drive disaster risk reduction and resilience.

At the local level, there are some Parish Disaster Plan, however, these are not consistent due to the absence of a proper guideline. This further stems to the inconsistencies in plans at the community level.

The revision of the national DRM (NDRM) Framework under this consultancy is timely and pertinent to ensure that there is a unified approach in executing overall comprehensive disaster management (CDM). The revision of the NDRM framework will take into consideration working through the Cabinet Office to incorporate disaster risk into the corporate plans of each Ministry. The national and global frameworks summarised below are now also required to be fully embedded in the NDRM Framework.

3.1.1.1 Sustainable Development Goals and Vision 2030

The SDGs as shown in Figure 3-2 below were integrated into Jamaica's Vision 2030 and are being integrated into the Jamaican environment and tracked by the Planning Institute of Jamaica (PIOJ). However, Jamaica's Voluntary National Review Report on the Implementation of the 2030 Agenda for Sustainable Development 2018 (PIOJ) reports that the Vision 2030 Jamaica and the SDGs require the prioritization of catalytic actions that can drive progress across multiple goals and targets simultaneously. There is need to establish mechanisms for the sustainable financing of national development priorities, including the implementation of priorities aligned with the SDGs. Several related challenges remain, primarily triggered by the country's vulnerabilities to internal and external shocks. Vulnerabilities and the impact of natural disasters along with the negative effects of climate change remain a hindrance constraining the efforts towards sustainable development.

These SDGs are not fully integrated into the DRM framework and as such the developing NDRMP and PDRMP guidelines should address the weaknesses identified here.



Figure 3-2: Sustainable Development Goals

3.1.1.2 Climate Change Adaptation Policy Framework

The Climate Change Policy Framework for Jamaica is intended primarily to support the goals of Vision 2030 by reducing the risks posed by climate change to all of Jamaica's sectors and development goals (GOJ, 2015). The objectives of the Policy Framework are:

- I. To mainstream climate change considerations into national policies and all types and levels of development planning and to build the country's capacity to develop and implement climate change adaptation and mitigation activities.
- II. To support the institutions responsible for research, data collection, analysis and projections at the national level on climate change, its impacts, and appropriate adaptation and mitigation measures, to facilitate informed decision-making and strategic actions at all levels.
- III. To facilitate and coordinate the national response to the impacts of climate change and promote low carbon development.
- IV. To improve communication at all levels on climate change impacts and also adaptation and mitigation related opportunities so that decision makers and the general public will be better informed.
- V. To mobilize climate financing for adaptation and mitigation initiatives.

This policy did not integrate disaster risk management within its framework. This perpetuates the existing gap between disaster risk management activities and climate change adaptation.

3.1.1.3 Regional CDM Strategy 2014-2024

The Regional CDM Strategy 2014-2024 mentioned in Section 2.1 has been integrated into Jamaica's Comprehensive Disaster Risk Management Policy, 2020. It is now very important that this policy be put into practice and fully incorporated into the NDRMP being development.

The CDM Strategy builds on the successes and addresses the priority challenges ahead for improved disaster risk reduction at all levels. The Strategy pushes improvement of disaster risk governance in the following four (4) areas which are not yet fully integrated into Jamaica's disaster risk governance.

1. Expanding the stakeholder base with the inclusion of the emerging priority sectors - Physical and Environmental Planning and Finance and Economic Development
2. Strengthening public-private partnerships within all the sector groupings going forward
3. Enhancing results-oriented programming, monitoring and evaluation through the elaboration of an Implementation Plan, Performance Measurement Framework and supporting information management database.
4. Focusing on a more strategically aligned and integrated risk management approach, where climate change considerations are integrated into priority sectors allowing for the application of appropriate interventions.²

These four areas must now be integrated into the NDRMP and PDRMP guidelines being prepared. The implementation strategy and monitoring and evaluation plan will need to guide interventions at the national, sectoral and local level.

3.1.1.4 Sendai Framework for Disaster Risk Reduction 2015-2030

The Sendai Framework for Disaster Risk Reduction 2015-2030 was adopted at the Third UN World Conference on Disaster Risk Reduction in Sendai, Japan, on March 18, 2015. This conference facilitated an opportunity for countries:

- (a) To adopt a concise, focused, forward-looking and action-oriented post 2015 framework for disaster risk reduction;
- (b) To complete the assessment and review of the implementation of the Hyogo Framework for Action 2005–2015: Building the Resilience of Nations and Communities to Disasters;¹
- (c) To consider the experience gained through the regional and national strategies/ institutions and plans for disaster risk reduction and their recommendations, as well as relevant regional agreements for the implementation of the Hyogo Framework for Action;
- (d) To identify modalities of cooperation based on commitments to implement a post 2015 framework for disaster risk reduction; and
- (e) To determine modalities for the periodic review of the implementation of a post 2015 framework for disaster risk reduction.

The aim of the Sendai framework is to achieve the substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries between 2015 and 2030. The following seven global targets were set and will need to be integrated in Jamaica's DRM Framework:

- (a) Substantially reduce global disaster mortality by 2030, aiming to lower the average per 100,000 global mortality rate in the decade 2020–2030 compared to the period 2005– 2015;
- (b) Substantially reduce the number of people affected by disasters globally by 2030, aiming to lower the average global figure per 100,000 in the decade 2020–2030 compared to the period 2005– 2015;

² CDEMA. 2014. *Regional CDM Strategy 2014-2024* Retrieved from: <https://www.cdema.org/CDMStrategy2014-2024.pdf> Pg.9

- (c) Reduce direct disaster economic loss in relation to global gross domestic product (GDP) by 2030;
- (d) Substantially reduce disaster damage to critical infrastructure and disruption of basic services, among them health and educational facilities, including through developing their resilience by 2030;
- (e) Substantially increase the number of countries with national and local disaster risk reduction strategies by 2020;
- (f) Substantially enhance international cooperation to developing countries through adequate and sustainable support to complement their national actions for implementation of the present Framework by 2030; and
- (g) Substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to people by 2030.

Four priorities for action to prevent new and reduce existing disaster risks were outlined as follows:

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

Section 3.1.1 above, along with several stakeholder consultations, revealed that there are significant weaknesses for Jamaica in all 4 areas outlines above. There is need for improved understanding at the political level, across all Ministries, agencies and sectors and at the community level. Risk identification and reduction remain significant weaknesses as there is no structured approach to ensure key sectors are informed by sectoral identification of natural and human-induced risk. The approach to this remains projectized and fragmented. The focus on response remains with little efforts to truly recover from an event and funds are not available to “build back better”. In order to implement these priority action, disaster risk need to be integrated into Jamaica’s policy structure so that the required DRM programmes are integrated into the various key ministries and agencies for execution. In this respect DRM is no longer the responsibility of ODPEM alone but of the Jamaican Government. A multi-agency approach is required under a national policy is required to fulfil the disaster risk management needs nationally and locally.

3.1.2 Strengths Opportunities, Aspirations and Results

To devise the way forward for the DRM framework for Jamaica, the Consultant conducted a series of key stakeholder consultations and this section presents the Strengths Opportunities, Aspirations and Results (SOAR) identified during the discussions. The SOAR analysis was proposed and endorsed through the consultations and involves a visionary based action plan, that attempts to focus on possibilities rather than limitations. Importantly, the challenges and weaknesses identified during the consultations were used to develop opportunities for improvement which have been built into the results presented in Table 3-1 below.

Table 3-1: Strengths, Opportunities, Aspirations, Results

CDRM Theme	Strengths	Opportunities	Aspirations	Results
Overall Governance	DRM in Jamaica is guided by the Disaster Risk Management Act (2015) which stipulates the institutional framework for the management of disaster prevention, preparedness, response, and rehabilitation at the national and local/ parish/ community levels. The Act is intended to support the reduction of risks associated with natural and anthropogenic hazards, and other connected matters. The 2020 DRM Policy has been developed and several hazard-specific Plans exist. Several Plans exist providing guidance on dealing with specific hazards. The National Disaster Risk Management Council (NDRMC) and its seven	Holding sensitisation sessions with the public and private sector presents an opportunity to improve the understanding of multi hazard vulnerability and risk reduction at the policy level. The current preparation the draft CDRM Policy (2020) and the draft Disaster Risk Financing Policy, which will create the basis for further strengthening of the legislative and institutional framework for DRM in Jamaica. The existing national command system which exists has some weaknesses which present an opportunity for review and strengthening through properly defining roles and responsibilities, establishing clear terms of references, key performance indicators and targets, monitoring and evaluation system to ensure functions are maintained and effective. The NDRMC now meets once per year at just before the start of the hurricane season to	DRM recognized as development issue given the multi-hazard vulnerability and heightened risk faced by the country. Integration of DRR principles and practices in all sectors, through Ministries, Municipal Corporations and agencies of the GOJ at the central and local levels Structured involvement of private sector organisations and entities with ODPEM to drive DRM as development issue.	Improved understanding of and engagement with the value of including risk assessment and management in the programs of Ministries and agencies in all sectors. Series of Cabinet sensitisation sessions on DRM and governance. DRM integrated into the Corporate Plans and budgets for all Ministries and Agencies of government. DRM integrated into the agenda of private sector groups such as the Jamaica Chamber of Commerce's All-Island Network and the Private Sector Organisation of Jamaica.

CDRM Theme	Strengths	Opportunities	Aspirations	Results
	committees provides an already existing multi-agency and multi-sector framework for coordination and planning. Vision 2030 National Development Plan incorporates Hazard risk reduction as one of its outcomes and the supporting Medium-Term Socio-economic Policy Framework (MTF) has integrated disaster risk management among the priorities for the MTF 2018-2021 The existence of other coordinating bodies such as the Hazard Risk Reduction and Climate Change Thematic Working Group, Climate Change Focal Point Network also provide an avenue for multi-agency and multi-sector planning and coordination.	receive reports from agencies on state of readiness. The development of the NDRMP presents an opportunity to make the following recommendations for improvement: • The seven committees of the NDRMC should meet quarterly and clear terms of reference and work plan written to guide the activities of the committee. Job descriptions should also be written for the key roles. • Key ministries and agencies should be sensitized on the significance of DRR role and their corporate plans integrate these activities into specific work plans and programmes. • Strengthening the institutional capacity of ODPEM which is responsible for national disaster coordination to reflect all the stages of CDRM. ODPEM		

CDRM Theme	Strengths	Opportunities	Aspirations	Results
		Departments should reflect: Risk Identification, Risk reduction, Preparedness and Response and Recovery. • Financial and human resources are needed to improve the effectiveness of ODPEM operations. • Strengthen ODPEM leadership to drive coordination with various stakeholders to address overall disaster planning needs at the various levels.		
Risk Identification	Mines and Geology Division already has a clear mandate for conducting landslide risk assessments and mapping. Existence of multi hazard risk assessments for some locations across the country.	Appropriate sensitisation and buy-in and the policy-maker level will facilitate DRM being written into corporate plans and budgets allocated for the Ministries and Government Agencies with risk identification responsibilities. The current development of a number of information platforms (including spatial data) to support risk identification and assessment namely: National Risk Information Platform and Climate Data Node.	Technology invested to enable efficient, island-wide data collection systems and database development to support risk identification processes. Systems established for ready accessibility to data across sectors. Establish stakeholder partnerships and MOUs to effect integrated sectoral identification of natural and human-induced risk.	Efficient data collection transfer mechanisms. Accessibility to data facilitated. Efficient data analysis and island-wide multi-hazard risk mapping.

CDRM Theme	Strengths	Opportunities	Aspirations	Results
		Integration of DRM into Corporate Plans and Budgets will allow for: - the resource allocation needed to improve hazard risk mapping, location specific modelling and climate change risk analysis as well as location specific and sector-specific vulnerability assessments. - the Design and implementation of a national programme of intervention and establishment of the stakeholder partnerships necessary to effect integrated sectoral programmes for natural and human-induced risk identification. Consistent historical hazard data and their impact forms the basis of a robust disaster management system. Appropriate planning and resource allocation allows for efficient data collection systems through the application of relevant technology needed for many organizations. This can save	System established to identify and catalogue assets at risk in especially vulnerable sectors	

CDRM Theme	Strengths	Opportunities	Aspirations	Results
		time and human resources. The technical capacity for electronic parish-wide data collection is needed to support more efficient data transfer, risk mapping and analysis and reduce information gaps.		
Risk Reduction	The Meteorological Office of Jamaica (Met Office) have formed linkages with several entities to improve their database and use of information. For example, through their relationship with the Water Resources Authority (WRA), they have access to rainfall stations in some river basins and to the associated software which allows them to better understand the impact of rainfall on flooding in these areas. Partnership with RADA benefits farmers as they are able to provide climate services like drought management.	Sensitisation and buy-in at the policy-maker level will allow for DRM to be integrated into the development planning and reflected in the development orders. This is important to guide the planners in the development approval process. Already completed hazard risk assessments and maps should be used by planners as a guide in the development approval process. All Hazard Risk and Vulnerability Assessment and Plans resting with ODPEM should be shared with NEPA and the local municipal planners, and should be integrated in the Local Sustainable Development Plans (LSDP).	Disaster risk reduction becomes a part of all government corporate planning processes. Technical expertise included in the planning process at the national and local levels. Broaden application to management of assets in all Ministries, Departments and Agencies (MDAs) and the private sector	Municipal Planners participate on the DRM subcommittees at the parish level. Disaster Risk identification and management integrated into the work programme and budget of the National Works Agency. Disaster Risk identification and management integrated into the work programme and budget of housing development agencies.
Risk Reduction	The upgrading of the hydro-meteorological system with equipment reporting in real time	Sensitisation, buy-in and resource allocation at the local level will facilitate: development planning needed for town centres		All realms of the disaster risk management cycle represented at the local levels. Particular attention to mechanisms

CDRM Theme	Strengths	Opportunities	Aspirations	Results
	allows for better coverage of the island in identifying and monitoring potential risks as well as provide more scientific information to better inform risk identification and analysis.	and environs This should include the integration of hazard prone areas, and 'no build zones' as applicable. • risk transfer integrated into guidelines for building within 'no build zones'. It should require asset insurance so that in the event of a disaster investors would have the resources to recover. • Town centre planning to be include designated areas for vendors and clear evacuation routes; it should address parking issues to always ensure easy flow of traffic. • Risk Reduction and Recovery included as a fourth committee at the local level to address the existing gap. This can facilitate coordination with the planners at the Municipal Corporation and allow for integration of disaster risk planning within the town planning and rural development agenda for each location.		for risk reduction and recovery

CDRM Theme	Strengths	Opportunities	Aspirations	Results
Preparedness and Response	The ODPEM has established mechanisms for emergency preparedness and response primarily for hurricanes and floods	Sensitisation and buy-in at the policy-maker level will allow for: • DRM to be written into corporate plans of the Ministry of Local Government and Rural Development and the work plans for its various Departments. • A responsibility matrix is needed at the parish level along with the key performance indicators and monitoring, evaluation and reporting (MER) directives for all the key players. • Development of DRM regulations to support the process of integrating DRM in ministries and agencies.	Supporting regulations established and compliance included in job descriptions	Corporate Plans include DRM with responsibilities assigned and monitoring and reporting systems implemented. Corporate Plan include the development of response plans and recovery mechanisms in the event of a disaster.
Recovery	The NDRMC has a Committee for Recovery.	Establishment of a Department within ODPEM to reflect the Recovery Phase for CDRM to provide leadership and drive these activities minimizing many recovery gaps. This established department would provide guidance to the PIOJ, who is the named lead for that committee of	Recovery integrated within the corporate plans of the Ministry of Local Government, The Parish Level DRM Committees. Leadership and MER directives assigned and outlined at the parish level.	A Recovery Department set up within ODPEM that provides leadership in the mainstreaming activities. PIOJ has clear terms of reference and monitoring, evaluation

CDRM Theme	Strengths	Opportunities	Aspirations	Results
		the DRM Council. It would also lead in the integration of recovery activities in other line Ministries and Agencies. Recovery reflected at the parish level and within the municipal corporations would lend to the proper delegation of recovery tasks to be carried out at the national level. Clear terms of reference and monitoring, evaluation and reporting directives would lend to a greater drive for action on the various committees and subcommittees of the NDRMC. Establishing legislative guidelines to govern successful relocation planning for vulnerable settlements in 'no build zones' or during the recovery phase of a disaster that occurred presents an opportunity for reducing disasters. The seven committees at the national level, if properly mirrored at the local would present an opportunity to eliminate the		and reporting directives to drive action.

CDRM Theme	Strengths	Opportunities	Aspirations	Results
		current gap in Risk Reduction and Recovery at the local level. Development of a responsibility matrix at the parish level along with the key performance indicators and monitoring, evaluation and reporting (MER) directives for all the key players would allow for effective CDRM planning and execution. Development of DRM regulations present an opportunity to support the process of integrating DRM responsibilities and activities in all ministries and agencies.		
Disaster Risk Financing	The development of Jamaica's Public Financial Management Policy for Natural Disaster Risk has been commissioned. Potential examples: Contingent Credit Facilities with multilateral institutions, Catastrophe Bonds, the development of a Natural Disaster Fund, and accessing Climate Financing for adaptation and mitigation purposes.	The Policy will improve the understanding of fiscal risks of natural disasters and recommend appropriate public financial management for natural disaster risk including the implementation of various financing strategies. Integration of DRM in the Public Investment Management System (PIMS).	DRM activities are within the budget of key ministries and agencies to carry out the necessary risk identification and risk reduction activities and improve preparedness and response as well as recovery tasks.	DRM checklist created and integrated into PIMS. Increase in dedicated budgetary allocation at the local level or by sectors to expedite risk reduction programme. Increase in annual allocation to the National Disaster Fund.

CDRM Theme	Strengths	Opportunities	Aspirations	Results
	Jamaica is a member of the CCRIF SPC ³ which is a segregated portfolio company, owned, operated and registered in the Caribbean. It provides member countries with short-term liquidity when a parametric insurance policy is triggered by earthquake, tropical cyclone and excess rainfall catastrophe coverage with lowest-possible pricing.			
Public-Private Partnership	The NDRMC and its structure presents avenues for incorporating private sector and civil-society.	The development of the NDRMP presents an opportunity to recommend the following for improvement: • Parish and community level awareness of risk needs to be driven by the subcommittee with the responsibility for public education. Resources need to be allocated and MER outlined for the designated function/person(s). • Given the downsizing of JIS the Public Relations	Public-private partnership established for driving identified aspects of DRM. Civil society integrated in DRM activities.	Sensitization sessions with private sector groups and key civil society members fully incorporated into DRM structure.

³ Caribbean Catastrophe Risk Insurance Facility segregated portfolio company (CCRIF SPC)

CDRM Theme	Strengths	Opportunities	Aspirations	Results
		designate for the Municipal Corporation can incorporate disaster risk as a part of their work plan of activities for public education at the parish level. • It is recommended that at the parish level the public education be separated from health and welfare into its own subcommittee. • It is recommended that the public education subcommittee at the parish level be more inclusive adding at the table: key members of civil society such as local correspondence (e.g. Freelance Journalists), local NGO groups, parish representatives for the Jamaica Hotel and Tourism Association (and TPDCO if one exists) as well as the parish representative from the all-island Jamaica Chamber of Commerce		

CDRM Theme	Strengths	Opportunities	Aspirations	Results
Gender-sensitive	Post Disaster Needs Assessments (PDNA) conducted by the PIOJ captures gender-sensitive data.	The NDRMC multi-agency and multi-sectoral structure allows for the incorporation of The Bureau of Gender Affairs to sit on the NDRMC. Appropriate resource allocation would facilitate data collection related to all phases of CDRM e.g. vulnerability and risk assessments, damage assessments, post-disaster needs assessments etc. need to include the collection and use of sex-disaggregated data as well as data on vulnerable groups.	All-inclusive approach to DRM for social protection and for optimising human resources	Sensitization Sessions held on incorporation of gender in DR activities. Gender sensitive data collection, assessment and planning for DRM.
Civil Society Involvement	Traditional Civil Society agencies engaged primarily with preparedness and response such as Red Cross, Salvation Army, St John's Ambulance Brigade represented on the NDRMC	The NDRMC multi-agency and multi-sectoral structure allows for the integration of local writers, reporters e.g. freelance journalists and columnists that are usually involved in Municipal activities. The NDRMC multi-agency and multi-sectoral structure allows for the incorporation of local NGO and CBO groups linked to the Jamaica Disabilities Association, National Council for Senior Citizens (parish offices), Blind and Deaf Societies, HIV Groups in the Health and/ Welfare	All-inclusive approach to DRM for social protection and for optimising human resources.	

CDRM Theme	Strengths	Opportunities	Aspirations	Results
		subcommittee at the local level and Parish Disaster Committee.		

4 Legal Framework for Disaster Risk Management

This section speaks to the legislation, policies and plans that set the legal framework for DRM to be executed. The lack of DRM regulations and the current development of the NDRMP and their role in improving the legal framework is also discussed. A legal framework without the corresponding institutional structure causes a lack of implementation of the measures in the documents as discussed below. Currently, implementation is seen as weak and as such, Section 5 which follows discusses the existing framework and the changes necessary for better implementation.

4.1 Regional and International Framework

The Sustainable Development Goals, the Regional CDM Strategy 2014-2024 and the Sendai Framework for Disaster Risk Reduction 2015-2030 that have already been elaborated on in Section 3.1.1 above will now guide the development of the National DRM Framework.

4.2 Disaster Risk Management Legislation

4.2.1 Disaster Risk Management Act (2015)

The National Disaster Risk Management (DRM) framework for Jamaica includes national, parish and community level functions and responsibilities. The framework is governed by the Disaster Risk Management Act (2015). The Disaster Risk Management (DRM) Act (2015) establishes the Office of Disaster Preparedness and Emergency management (ODPEM) as the Secretariat and a Board of Management of the Office to:

- a) Advance disaster preparedness and emergency management measures in Jamaica by facilitating and coordinating the development and implementation of integrated disaster management systems; and
- b) Institute measures as may be necessary for mitigating disaster.

The Act establishes as part of the governance mechanism a National Disaster Risk Management Council (NDRMC) which leads disaster risk governance in Jamaica. Additionally, Section 20 (3) (a) of the Act speaks to the duties of the local authorities in coordinating the preparation, by the Parish Disaster Committee in consultation with ODPEM, of a Parish DRM Plan that is consistent with the National DRM Plan. These local authorities are required to guide the development zonal committees and community plans at the community level. Section 5 of this document elaborates on this institutional structure.

The Act highlights nine major functions of ODPEM, they are:

1. Developing and implementing policies and programmes to achieve and maintain an appropriate state of national and sectoral preparedness for coping with all emergency situations which may affect Jamaica.
2. Encouraging and supporting disaster preparedness and mitigation measures in all parishes in collaboration with local authorities, community-based organisations and non-governmental organizations respectively.
3. Providing appropriate training programmes and consulting services related to all aspects of disaster preparedness, disaster mitigation, loss reduction, disaster assessment and disaster management.

4. Planning and implementing programmes to enhance public awareness and understanding of disaster related issues, emergency management, hazard mitigation and other similar matters.
5. Identifying and analysing hazards or emergency situations and conducting related operational research into their effects.
6. Ensuring that agencies and organizations with functions under the National Disaster Risk Management Plan are made aware of those functions and are provided with adequate information for the purpose of understanding and carrying out those functions.
7. Monitoring the capacity of such agencies and organisations to properly carry out those functions.
8. Coordinating the development and implementation of strategies and policies relating to disaster management (including strategies and policies developed at the national level).
9. Establishing, maintaining and managing mutual assistance and cooperation agreements and arrangements with organisations within and outside of Jamaica.

The Disaster Risk Management Act, 2015 also establishes various policy tools for the implementation of national regulations on disaster risk management. These have been implemented and are presented below:

- a) Part I Establishes instruments for its implementation: “5.-(2)(c)(i) National Disaster Risk Management Plan.
- b) Part III. Establishes the National Disaster Risk Management Council, National Disaster Response Coordination Plan, Parish Disaster Committees and Zonal Committees.
- c) Part VIII. National Alert System, and
- d) Part IX. National Disaster Fund.

This Act is supported by several policies and plans elaborated on in Sections 4.2 and 4.3.

4.2.2 Disaster Risk Management Regulations

There are currently no disaster risk management regulations to facilitate the enforcement of aspects of the DRM Act. Disaster Risk Management Regulations are needed, *inter alia*, to give power to enforce “no build zones” at the national and local planning levels. Development Orders being prepared at the parish level do not zone highly vulnerable areas. Significant areas in various municipalities are plagued with informal settlements, many of which are highly vulnerable to multiple hazards and often experience recurring disasters during various hazard events. DRM Regulations should be developed to address the following needs:

- Conditions for the declaration of and compliance with ‘no build zones’.
- Regulatory guidelines to support the relocation of vulnerable settlements located in declared ‘no build zones’ or slated for relocation as part of the recovery process following hazardous events.
- Provide the legal support to the various agencies charged with DRM responsibilities. This is necessary to support the mainstreaming process. The NDRMP will outline the workplans, checklists, roles responsibilities and key performance indicators for various government agencies and ministries and the required legal support to enforce.
- The Meteorological Office needs a legal basis for operational procedures and capacity to relay timely warnings directly to the public. Currently information is relayed through OPDPEM and this process has caused delays in the past. In an emergency, such as a flash flood warning, time is of the essence in getting the message across to prevent loss of life.

- Considerations should be given to include regulations to incentivise individuals to reduce their respective disaster risk.
- Considerations should be given to include in the regulation taxes to shore up the National Disaster Fund and make it sustainable.

4.3 Draft National Disaster Risk Management Plan

The National Disaster Risk Management Plan being prepared is expected to present a detailed institutional framework for comprehensive disaster management in Jamaica taking into consideration best practice and recommendations that come out of a detailed document review process and a series of stakeholder consultations. The NDRMP will present the outcome of a SOAR analysis which will inform the purpose, strategic objectives and strategies outlined in the NDRMP. The SOAR Analysis focusses identifying on strengths opportunities, aspirations and results. The results from this analysis define the methods for identifying and tracking progress to ensure that progress is being made and the overall NDRMP is being implemented well. This approach incorporates a level of accountability by addressing the metrics in which results will be identified and tracked. As such, this approach will directly inform the implementation strategy and monitoring and evaluation plan of the NDRMP.

A summary of the country's disaster risk profile will also be presented, DRM arrangements and procedures for Risk Identification, Risk Reduction, Preparedness, Response and Recovery (relief, rehabilitation and reconstruction) will be elaborated in the plan. The plan will include the disaster response structure and coordination mechanism for emergency management and should among other things include the core members comprising the national response team, functions of National Disaster Office, National Emergency Operations Centre, role of sectors, communities, development partners and donors, international and local humanitarian partners as well as the media. Parish level operations will also be considered.

All major hazards will be considered in the plan including:

- Climatic hazards including tropical cyclones, wind, floods, storm surges.
- Lightening.
- Geological Hazards including landslides and earthquakes.
- Tsunamis.
- Manmade hazards including fires and chemical spills etc.
- Biological Hazards including pandemics etc.
- Civil unrest and local terrorism.
- Technological hazards e.g. Cyber terrorism.

The NDRMP will take into consideration the National Natural Disaster Risk Financing Policy⁴ which defines the strategic direction of the GOJ with regards to financial protection.

⁴ The National Natural Disaster Risk Financing Policy is currently being developed with draft expected November 2019.

The relationship with other policies plans, strategies relevant to disaster risk management will also be detailed in the plan. Cross cutting themes including climate change, environment, gender and vulnerable groups will all be taken into consideration in the NDRMP.

An implementation strategy and a monitoring and evaluation plan will also be included in the NDRMP.

4.4 Disaster Risk Management Policies and Plans

This Act described above is supported by several policies and plans. These are listed in the Table 4-1 below.

Table 4-1: DRM Related Plans and Policies for Jamaica

DRM Plans and Policies	Summary	Lead Agency Responsible
DRM Related Plans for Jamaica		
National Disaster Action Plan	This Plan details the terms of reference for committees, agencies and individuals with disaster related functions and the standing operating procedures for the national emergency operations centre.	ODPEM
Damage Assessment Plan, 2001	This is a sub-plan of the National Disaster Plan to guide the execution of the damage assessment exercise which is critical to the country's ability to restore all sectors to normality after a disaster.	ODPEM
Earthquake Response Plan, 1999	This is a Sub-Plan of the National Disaster Plan and outlines the intended actions to be taken by the Government of Jamaica in response to a damaging earthquake.	ODPEM
Fire Management Plan, 2002	This is a sub-plan of the National Disaster Plan, which provides the framework for institutions, government NGO's to meet the threat, which major fires may pose to various sectors of society. The plan outlines strategies, which will provide a coordinated effort to response, preparedness, and mitigation strategies.	Jamaica Fire Brigade
National Chemical Emergency Risk Management Plan/ Chemical Response Plan, 2017	National Chemical Emergency Risk Management Plan guides the chemical emergency risk management in accordance with the four stages of the disaster risk management (DRM) cycle.	The National Chemical Review Committee (NCRC) and ODPEM
Oil Spill Plan	The purpose of this Plan is to emphasize the need for mitigation measures before and during oil spill incidents. To provide	ODPEM

DRM Plans and Policies	Summary	Lead Agency Responsible
	timely, coordinated, and integrated response action to pollution incidents by agencies of the Government of Jamaica and other related interests and to reduce the impact of land and marine pollution.	
Vision 2030 – National Development Plan	Goal 4 of the Vision 2030 is “Jamaica has a Healthy Natural Environment”. Outcome #14 is directly related to this goal “Hazard Risk Reduction and Adaptation to Climate Change”. Four strategies are outlined in this plan, two of which are: improve resilience to all forms of hazards and improve emergency response capability.	Planning Institute of Jamaica (PIOJ)
Local Sustainable Development Plans (LSDP)	Each Municipal Corporation is required to develop their Local Sustainable Development Plans. To date, five of the fourteen Municipal Corporations (Clarendon, Manchester, St. Catherine, St. Elizabeth, Trelawny) are already prepared and in use. These plans provide a platform to improve the 2030 agenda implementation at local levels.	Local Municipal Corporations
DRM Related Policies		
Disaster Relief Policy	This policy serves to determine the agency responsible for dispensing Emergency Relief, Welfare, Response/Recovery and Rehabilitation to impacted persons, determine type and range of assistance to be given to impacted persons, develop guidelines on how the impacted will access short and long term assistance, develop guidelines for the production of the “One list” for assessment purposes, and develop guidelines for needs assessment of victims. Within this Policy is the emergency shelter/welfare action plan for Jamaica which is an annex to the National Disaster Plan and seek to address the operational procedures to be taken by	Ministry of Labour and Social Security (MLSS)

DRM Plans and Policies	Summary	Lead Agency Responsible
	the Government, Private Sector organizations and voluntary Agencies in the event of a disaster and will clearly identify the National and Parish Welfare Response Teams. Within this policy is also the Relief Clearance Policy which guides the process of receiving assistance from overseas, for persons displaced by emergencies or disasters.	
Comprehensive Disaster Risk Management Policy, 2020	Jamaica's Comprehensive Disaster Risk Management (CDRM) Policy 2020 – 2040 is the country's first long-term national disaster risk management policy and is consistent with national, regional and global commitments. The CDRM Policy is grounded in the Sendai Framework and guided by the principles and priorities established in the Enhanced Comprehensive Disaster Management Strategy and Programming Framework 2014 to 2024 promulgated by the Caribbean Disaster Emergency Management Agency. This CDRM national policy framework places emphasis on risk identification, disaster risk preparedness and reduction, disaster recovery and reconstruction, disaster risk financing, financial protection and risk transfer, modern and innovative legal and institutional frameworks for CDRM and social protection and will be designed to ensure that by 2040, Jamaica achieves the vision of a resilient and safe country.	ODPEM
Disaster Risk Financing Policy	This policy aims to position the Government and wider society to better plan for and finance damage and losses resulting from natural disasters such as hurricanes and drought.	Ministry of Finance and Public Service
Climate Change Adaptation Policy Framework	The Climate Change Policy Framework for Jamaica is intended primarily to support the goals of Vision 2030 by reducing the risks posed by climate	Climate Change Division (CCD)

DRM Plans and Policies	Summary	Lead Agency Responsible
	change to all of Jamaica's sectors and development goals.	
Hazardous Material Policy (National Policy for the Environmentally Sound Management of Hazardous Wastes (Green Paper) December 2017) *Submitted to Cabinet for approval as a white paper by MHURECC	The goal of the policy is the environmentally sound management of hazardous wastes in Jamaica in keeping with international and regional best practices, to ensure the protection of human health and the environment. The key policy objectives are: 1. Objective 1: To institute effective hazardous waste management frameworks at the national and local levels. 2. Objective 2: To improve information sharing, education and awareness raising at all levels of society to support and facilitate active participation in the decision-making process for the environmentally sound management of hazardous waste. 3. Objective 3: To promote sustainable financing mechanisms for hazardous wastes Management.	Ministry of Housing, Urban Renewal, Environment & Climate Change (MHURECC)

5 Institutional Framework for Disaster Risk Management

Regionally, this DRM framework guides Jamaica's regional responsibility within the CARICOM Comprehensive Disaster Management (CDM) framework under the Caribbean Disaster Emergency Management Agency (CDEMA) Agreement. This is in line with CDEMA's CDM Strategy 2014-2024. CDM entails management of all hazards through all phases of the disaster management cycle – risk identification, risk mitigation, preparedness, response, recovery and rehabilitation - by all peoples- public and private sectors, all segments of civil society and the general population in hazard prone areas (CDEMA, 2010).

Figure 5-2 below illustrates the three-tiered framework for managing disaster risk – national, parish and community. Each tier has an organisational structure that is deemed necessary for the effective management of disaster risk. This structure is elaborated on in Sections 5.1 to 5.3.

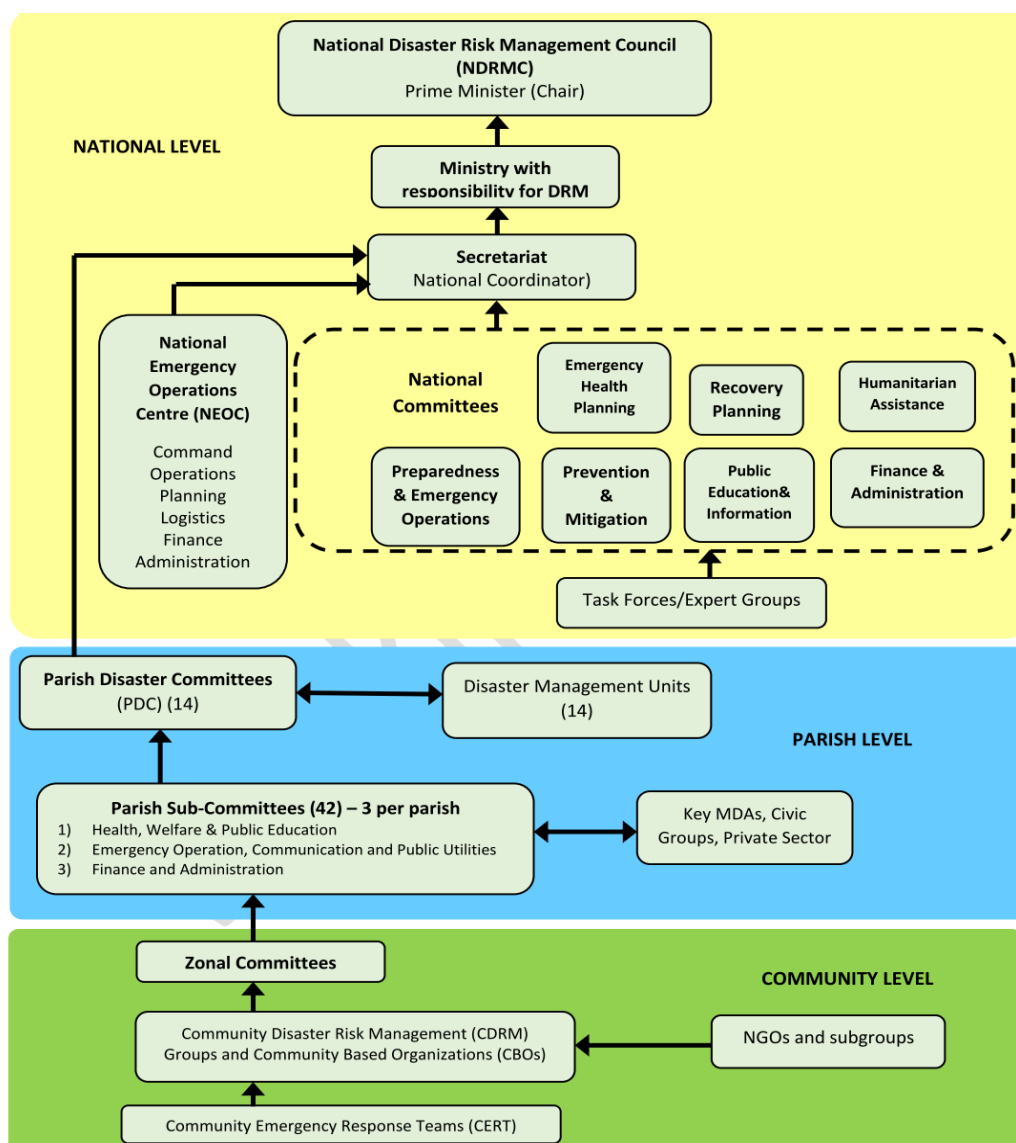


Figure 5-1: Draft National Disaster Risk Management Framework (Source: Comprehensive Disaster Risk Management Policy for Jamaica 2020, ODPEM)

5.1 National Level

At the national level DRM responsibilities are primarily a central government function led by the National Disaster Risk Management Council. (NDRMC). This is chaired by the Prime Minister of Jamaica and comprises a wide range of stakeholders from the public (national and local), private, non-governmental and civil sectors of the society. The Bureau of Gender Affairs should also be represented on the NDRMC to facilitate a top-down approach to gender mainstreaming ensuring that gender-based differences and issues are considered in DRM as well as issues related to vulnerable groups such as the elderly, persons with disabilities, the homeless and youth. *The mandate of the NDRMC* is to provide policy direction and oversight for DRM in Jamaica. It is the NDRMC, through the Hon Prime Minister (HPM), that has the power to activate the national disaster plan. The NDRMC includes several agencies that work alongside ODPEM to fulfil the mandate for disaster management (Jones, 2011).

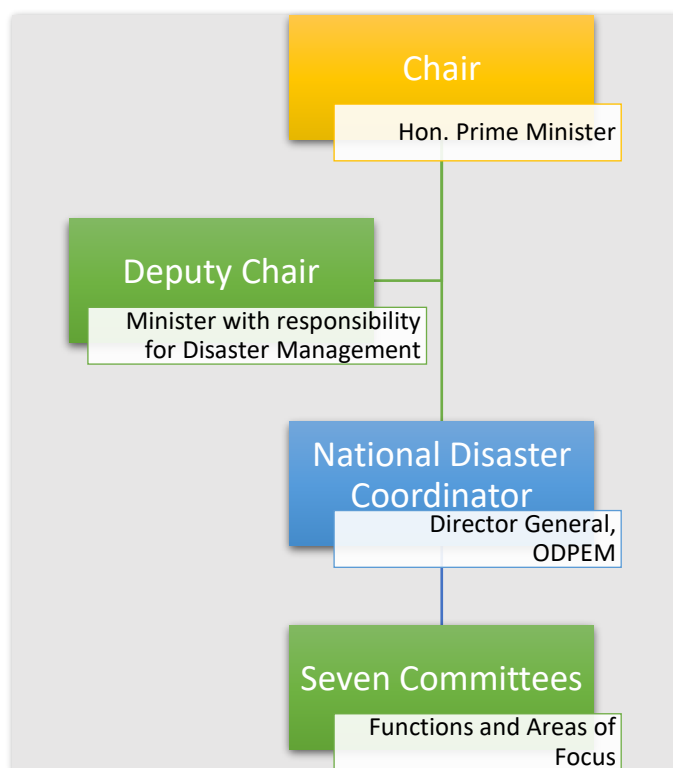


Figure 5-2: Structure of the National Disaster Risk Management Council

ODPEM is the executing agency for the NDRMC and currently operates out of the Ministry of Local Government and Rural Development, with the Permanent Secretary playing a major role. The role of National Disaster Executive (NDE) and Permanent Secretaries are to be outlined in the NDRMP being developed. This includes the activation process and steps to be followed.

The structure of the NDRMC is illustrated in Figure 5-2 which shows the chairperson, the deputy chair and the National Disaster Coordinator who have oversight of seven committees which are ostensibly linked to the respective portfolio divisions of ODPEM and the National Emergency Operations Centre, (NEOC) (Jones, 2011). These council committees were revised in 2017 and are listed below.

1. Finance Planning and Administration
2. Recovery Planning
3. Preparedness and Emergency Operations
4. Emergency Health and Planning
5. Public Information and Education
6. Humanitarian
7. Prevention and Mitigation

These seven committees have been established to operationalize the DRM Act, 2015, towards advancing disaster preparedness and emergency management measures in Jamaica by facilitating, coordinating,

development and implementation of integrated disaster management systems and institute measures necessary for mitigation disasters. This structure is also aligned to the outcomes of the Vision 2030 Jamaica - National Development Plan (National Committees of the National Disaster Risk Management Council, 2017). Table 5-1 below details their purpose and area of focus. The 2017 Terms of Reference outlined for the National Committees of the National Disaster Risk Management Council provides detailed guidance on roles and functions. The NDRMP will further outline activities and key performance indicators to be included in the implementation strategy and monitoring and evaluation plan, which are to be developed. Capacity building is essential for each team, and training should be conducted to ensure that the respective roles and responsibilities are fully understood. ODPEM as the Secretariat and driver for the NDRMC must provide strong leadership and ensure that all committees are active. A culture of quality that aligns performance management practices to achieve the vision for comprehensive disaster risk management, which is *A Resilient and Safe Jamaica* should be inculcated.

Table 5-1: Committees of the NDRMC

COMMITTEE OF THE NDRMC	PURPOSE	AREA OF FOCUS	MEMBERSHIP
FINANCE PLANNING AND ADMINISTRATION Chairperson: Ministry of Finance	Identification and mobilization of financial and other resources to impact disaster risk management	Financial Risk Identification Risk Transfer Bilateral Agreements Mutual Aid Agreements Memorandum of Understanding Technical Cooperation	MoFAFT, PSQJ, ODPEM, Local Government, Jamaica Chamber of Commerce, Chairpersons from each committee
RECOVERY PLANNING Chairperson: Planning Institute of Jamaica	To ensure mechanisms are in place for effective restoration and improvement of livelihoods, infrastructure and organizational capacities to withstand future hazards.	Livelihood protection Rehabilitation Reconstruction	Ministries with portfolio for Agriculture, Housing, Works, Environment, Academia (UWI, UTECH, NCU), MOF, ODPEM, NWA, Local Government, JRC, MLSS, PSQJ, JIE, Add Jamaica Council for Persons with Disabilities and Bureau of Gender Affairs
PREPAREDNESS AND EMERGENCY OPERATIONS Chairperson: Jamaica Fire Brigade	To plan for the effective coordination or resources to save lives, reduce suffering and minimize damage to property and environment during adverse events.	Early Warning System (EWS) Search and Rescue (SAR) Damage Assessment Disaster Declaration Transportation Telecommunications Logistics Simulation Exercises Evacuation Planning	JCF, JDF, NWA, PAJ, JPS, NWC, NSWMA, AAJ, MAJ, PICA, JUTC, Customs, ODPEM, RADA, PCJ, MSJ, Telecoms Providers, Earthquake Unit, JARA, JRC, Shipping Association

COMMITTEE OF THE NDRMC	PURPOSE	AREA OF FOCUS	MEMBERSHIP
		Relief Clearance Debris Management Donation Management (This is heavily tied to distribution however the admin group will still have to deal with donor support.)	Ministry with responsibility for Transportation
EMERGENCY HEALTH AND PLANNING Chairperson: Ministry with responsibility for Health	To develop systems and procedures to effectively respond to national health issues and crises	Emerging hazards Mass Casualty Disaster Forensics Mortuary Management Psychosocial Impacts Early Warning System (EWS)	Ministry with portfolio for Agriculture, Jamaica Red Cross, PAHO, JCF, JFB, JDF, ODPEM, MAJ, BSJ, St. John's Ambulance private sector ambulance service, Jamaica Medical Doctors Association
PUBLIC INFORMATION AND EDUCATION Chairperson: Jamaica Information Service	To disseminate accurate public education information and ensure speedy alert on all hazards through timely efficient and coordinated information utilizing all available medium of communication	Social Media Emergency Alert System (message dissemination) Traditional Media	Telecoms Providers, MOH, MSJ, MOE, MOT, MoFAFT, Broadcasting Commission, Press Association, ODPEM, Earthquake Unit, PICA, JCF, CUSTOMS, Min. of Technology
HUMANITARIAN Chairperson: Ministry Labour Social Security	To ensure provision of adequate humanitarian assistance to persons impacted by adverse events.	Shelter Welfare Relief Distribution Irregular Migrants Planning	ADRA, Jamaica Red Cross, Local Government, Food for the Poor, MOH, MOE, SDC, ODPEM, PSOJ, Jamaica Chambers Commerce, Add Jamaica Council for Persons with Disabilities and Bureau of Gender Affairs
PREVENTION AND MITIGATION Chairperson: Office of Disaster Preparedness and Emergency Management	To develop strategies and plans to avoid hazards, mitigating impacts, reducing vulnerabilities and disaster resilience.	Disaster Risk Identification Community Resilience Planning Border Security Specially Vulnerable Areas Development Planning Food Security	NEPA, CCD, RADA, PIOJ, Forestry Department, WRA, MGD, NSDMD, MSJ NGOs, CBOs, JNHT, MOT, MOE, Ministries with responsibility for

COMMITTEE OF THE NDRMC	PURPOSE	AREA OF FOCUS	MEMBERSHIP
		Business Continuity Sector Mainstreaming	Housing, Environment, PSOJ, ODPEM, Academia (UWI, UTECH, MCU), JCF/Customs, PICA, MOA

The NDRMP being developed will outline and clearly define the national disaster risk reduction strategies and plans to meet the objective for each respective committee. These activities will have clearly defined responsibilities and tasks to be achieved within given timelines. This is aimed at preventing the creation of risk, the reduction of existing risk and the strengthening of economic, social, health and environmental resilience. The NDRMP being developed will be implemented, monitored and evaluated by each committee.

5.2 Parish Level

Regional and parish committees represent the second tier of the framework. Parishes are allocated to four regions (north, south, east and west), and each region is managed by a Regional Coordinator who acts as liaisons with the Parish Disaster Committees (PDCs) (Figure 5-3). The Parish Disaster Coordinators and the PDCs report to the Regional Coordinators who sit on the National DRM Council at the national level. The primary functions of the Regional Disaster Coordinators are:

1. Chief liaison officers of the ODPEM to Parish Disaster Committees and other local disaster risk management (DRM) structures
2. Provide technical advice and support to Municipal Corporations, and all local actors (public, private, civil society) in DRM
3. Conduit and first point of advice to access services of the ODPEM to local/parish actors
4. Designated DRM Specialist support to response coordination actions in parishes
5. Main ODPEM facilitators for implementation of programmes, projects and training at local/parish levels



Figure 5-3: Regional Disaster Coordinator Map (Source: ODPEM, 2021)

The PDCs operate out of the offices of the Municipal Corporations. These committees respond at the parish level whenever there is a disaster. They also forge links with the response agencies, community groups and community-based organizations (CBOs). The Custos and Mayor of the parish, with the Mayor being the working member of the committee, chair the PDC jointly. Other sitting members of the committee include all Parish Councillors and local representatives of the various agencies and interested groups.

Each Parish and Municipality has a Parish Disaster Coordinator who is responsible for coordinating all activities geared towards awareness, prevention, and response. Each Parish Disaster Coordinator has the responsibility of formulating its own plan to meet with local emergencies in keeping with the guidelines set out by the ODPEM.

Members of the PDC are grouped into seven subcommittees mirroring that of the national level. For ease of implementation at the parish level, the subcommittees have been merged to make three working subcommittees instead of seven. The structure relies on the resources of the Municipal Corporations and various government agencies. It is recommended that a fourth subcommittee be added at the parish level, which will involve the Planners within the Municipal Corporations. This existing and recommended subcommittees at the parish level are as follows:

1. Emergency Operations, Telecommunication and Public Utilities (Chaired by: the Jamaica Fire Brigade)
2. Health and Welfare (Chaired by: Ministry of Health or Ministry of Labour and Social Security)
3. Public Education – (Proposed to be Chaired by: Public Relations designate at the Municipal Corporation)
4. Finance and Administration – (Chaired by: Municipal Corporation)
5. Risk Reduction and Recovery – (Proposed to be Chaired by: Local Planner)

At the parish level, these subcommittees report on a monthly basis. In an emergency, the parish Emergency Operation Centres (EOCs) are activated and these EOCs are located at the Municipal Buildings in each parish with a designated alternative location should there be any challenge.

Public education at the national level has its own committee led by the Jamaica Information Service (JIS). At the parish level, this role is joined with health and welfare. It is recommended that public education be separated from health and welfare at the parish level to allow for greater focus on building awareness on disaster risk at the parish and community level. In addition, it has been noted that previously, JIS employed regional officers who carried out the disaster risk communication responsibility at the parish level. With the downsizing of JIS, these officers no longer exist, and it is recommended that these activities be integrated within the work plan of the Public Relations Officer of the Municipal Corporation. To garner support to operate in a more all-inclusive manner, it is recommended that key members of civil society such as local correspondence (e.g. Freelance Journalists), local NGO groups, parish representatives for the Jamaica Hotel and Tourism Association (and TPDCO if one exists) as well as the parish representative from the all-island chamber of commerce be incorporated into the Public Education subcommittee so that a variety of existing mechanisms can be taken advantage of to reach private sector businesses and the general public. The NDRMP will need to make clear distinctions between the responsibilities of the lead and supporting roles.

It is also recommended that the role of risk reduction and recovery be separated from the Emergency Operations, Telecommunication and Public Utilities subcommittee. The latter is very focused on preparedness and response. It is proposed that the Risk Reduction and Recovery committee be developed with consideration being given to leadership held by the Local Planner.

It is also recommended that local NGO and CBO groups that have direct linkages with the Jamaica Council for Persons with Disabilities, National Council for Senior Citizens (parish office representatives), Local Disability Groups/Association, Local HIV Groupings, incorporated into the Health and Welfare subcommittee at the local level.

The Parish Disaster Coordinator as well as each member of the existing and proposed subcommittees needs to have a defined job description, clearly defined tasks and a workplan of activities and checklists, key performance indicators and targets for proper monitoring and evaluation of activities. The PDRMP guideline for the parish should guide the development of this process. Each subcommittee should be provided with a clearly stated terms of reference to guide work programmes and activities on an annual basis. The key performance indicators and targets should drive the achievement of the objectives for each subcommittee as well as the Parish Disaster Committee; facilitate the proper monitoring and evaluation of the local activities; as well as eliminate any inertia exhibited by responsible parties. These activities should take into consideration comprehensive disaster risk management: risk identification, risk reduction, preparedness, response and recovery activities. The private sector through the Jamaica Chamber of Commerce's All-Island Network and the Private Sector Organisation of Jamaica (PSOJ), as well as a key member of civil society should be invited to sit on the subcommittees for a better public-private partnership at the municipal level.

5.3 Community Level

5.3.1 Community Disaster Risk Management Committee

The DRM Act (2015) makes provision for the community level focus, the third tier, to be engaged through zonal groupings which are groups of community disaster risk management committees/groups. However, over the years, it has been observed that the community culture within the country does not foster the implementation of zonal groupings.

Community disaster risk management committees currently liaise and report directly to the Parish Disaster Coordinator, which works well. However, there is need for more streamlining of functions between the Social Development Commission (SDC) & the Municipal Corporations (MCs) to establish and sustain disaster groupings. There is need for the SDC to increase its focus to incorporate and streamline Disaster Risk Governance to build resilience at the community level. These Community DRM committees are not established in every community but are more evident in rural areas that are often impacted by natural hazards. The geospatial boundaries for disaster zones at the parish and community levels should be directly aligned with the community boundaries as demarcated by the Social Development Commission (SDC).

The community disaster committees absorb the function of the zonal committees and is responsible for working with the Parish Disaster Coordinator execute the following for the within the boundaries of the demarcated community:

1. Develop a community disaster risk management plan (CDRMP)
2. Monitor all aspects of the CDRMP
3. Plan and execute public education activities in accordance with the CDRMP
4. Arrange fundraising programmes
5. Develop the sub-committees which will act throughout the various phases of Comprehensive DRM

Under the leadership of the Parish Disaster Coordinator, the community disaster committees are also supported by the Parish Disaster Committee and is closely integrated with the Parish Emergency Operations Centre (PEOC). It is recommended that the SDC be included to give support to the Disaster Coordinators to ensure sustainability of Community DRM groups. The community disaster risk management plan will draw on other existing parish plans and national plans, where necessary, for the mounting of an efficient response and preparedness programme. Figure 5-4 illustrates this relationship. ODPEM collaborates with the Municipal Corporation on DRM matters through the Parish Disaster Committee, the Parish Disaster Coordinator and the Community Disaster Management Committees.

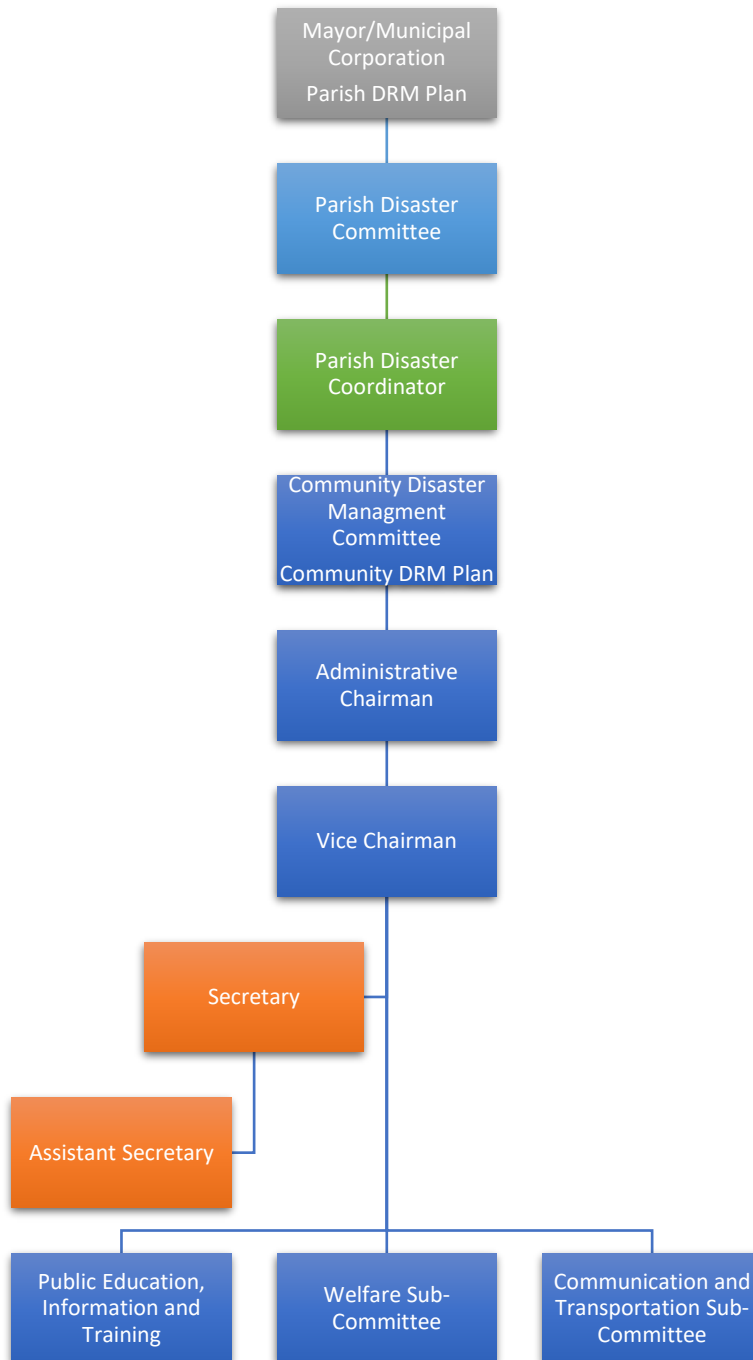


Figure 5-4: DRM at the Parish Level

5.3.2 Community Disaster Risk Management Plan

As indicated in Section 5.3.1 above, the Community DRM Committee prepares a Community Disaster Risk Management Plan with the assistance of the Parish Disaster Committee. The Community DRM Plan provides:

1. An overall framework for reducing risks in the community including prevention, mitigation, preparedness, response, and climate change adaptation;
2. The residents with a workable, comprehensive system to prevent, mitigate, plan for and respond to emergencies and disasters to minimize loss of life and property;
3. A basic guideline for the community regarding who is responsible for what, and who is in charge of critical functions in preventing, mitigating, preparing for, responding to and recovering from a hazard event;
4. A basic outline of shelters, welfare and relief system as well as some focus on evacuation planning that will make preparation, response and recovery from a disaster more effective;
5. An emergency contact list and identification of vulnerable populations living in specified communities;
6. A five-year climate change action plan outlining outcomes, objectives, activities, timelines and responsibilities.

Strengthening of the parish level subcommittees will help to drive the assistance that community groups need to implement activities for their specific locations.

5.4 Mainstreaming Disaster Risk Management and Coordinating Mechanisms

Mainstreaming DRM within each Ministry is necessary. In order to significantly change the focus of the Government of Jamaica from responding to disasters rather than preventing or minimizing their impacts, it is important for its incorporation into the corporate plans of each Ministry. Recognizing that disasters are as a result of failures in development or unsustainable development, this means that our decisions can create the social, economic and political conditions that lead to disasters. It is therefore critical that DRM is properly incorporated into the work programmes of each ministry to prevent and mitigate the negative impacts that disasters have on the country's growth and development agenda. Disasters can pose serious obstacles to socio-economic development. Figure 5-5 below illustrates the structure.

To achieve this mainstreaming, an analysis of how potential hazard events could affect the performance of policies, programs and projects, as well as the impact of the same policies, programs and projects on vulnerability to hazards. The results from the analyses should be incorporated into the corporate plans of each ministry which will further guide the revision of job descriptions who play a major role resulting in a change in the day-to-day operations of national and local organizations in various sectors. This will eliminate any level of inertia that exists in carrying out DRM related tasks. This will lead to risk sensitive development and effective mainstreaming. Further sufficient resources – human, financial, technical, material, information – need to be allocated to managing the risks.

Implementation of the relevant activities for DRM as laid out in the corporate plans can be driven by the established focal points within the government ministries and agencies as established by the Climate Change Focal Point Network (CCFPN). This can be done through the development of terms of reference for these focal points outlining the linkages between DRM and CCA. This may also involve preparation of guidelines to assist focal points in mainstreaming DRM into policies, plans etc. Capacity building will be critical for ensuring that focal points are able to undertake their assignments.

The use of the existing coordination forum, in particular the Vision 2030 Jamaica Hazard Risk Reduction and Adaptation to Climate Change (HRRACC) Thematic Working Group, composed of relevant stakeholders at the national and local levels as well as the private sector should also be more intensively

utilised. This is important to achieve complimentary benefits from the strong linkages shared by disaster risk reduction (DRR) and climate change adaptation (CCA).

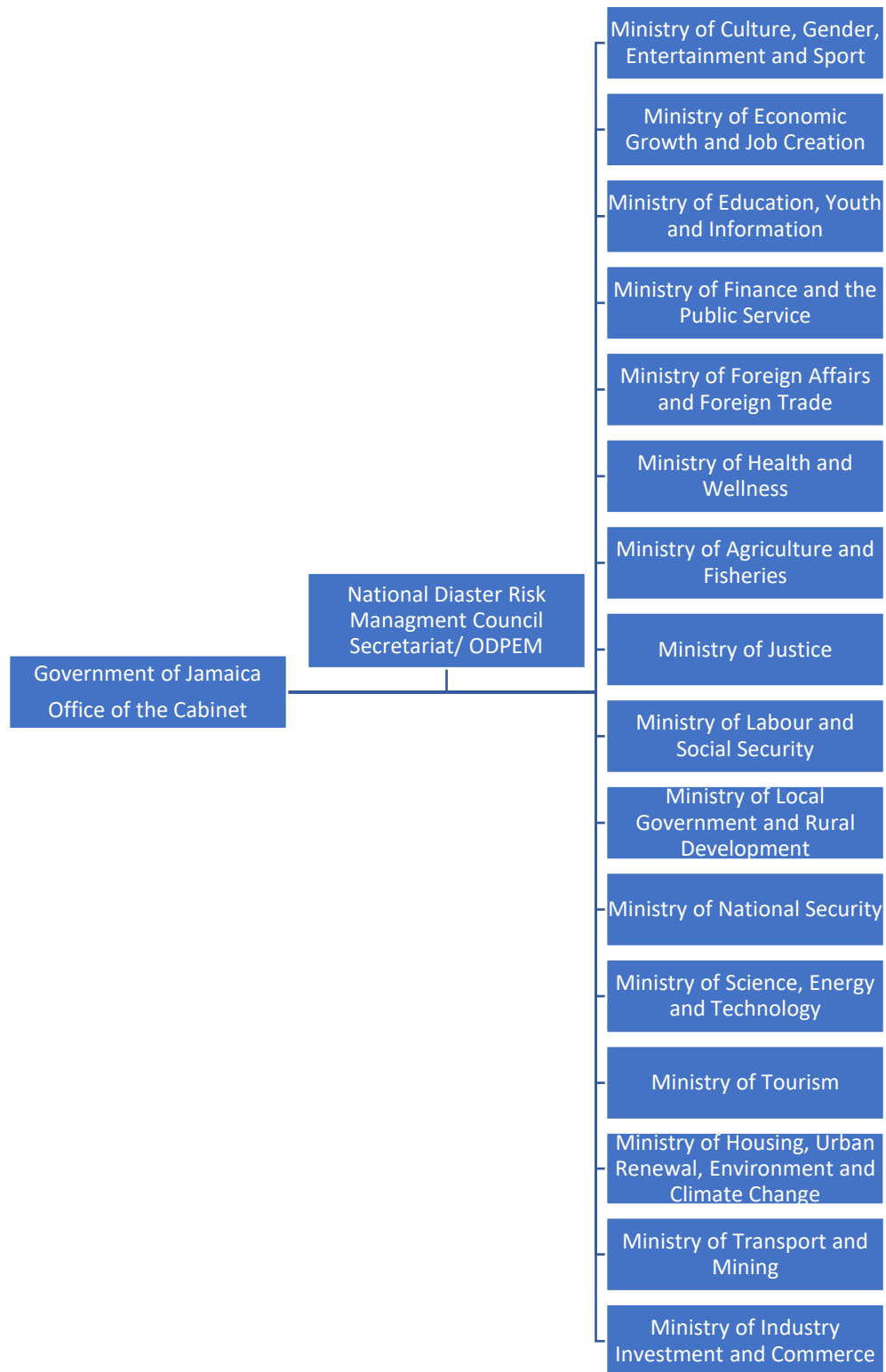


Figure 5-5: Mainstreaming DRM in the Government of Jamaica

Already, to support the cohesive activities geared to achieving both DRR and CCA, the role of climate change adaptation at the parish level is now in the purview of the Parish Disaster Coordinators. A key gap which exists now is the need for a detailed job description of the Parish Disaster Coordinator along with Key Performance indicators for better monitoring and evaluation (M&E) of the operation work being done. An improved M&E system can easily identify gaps, guide the allocation of resources and will serve as a foundation for decision-making.

Activities to be incorporated into the various ministries include but are not limited to:

- Education
 - Introducing DRM modules into the school curriculum
 - Promoting hazard resilient construction of new schools
 - Introducing features into schools for their use as emergency shelters
- Environment and Natural Resources
 - Including Disaster Risk Impact Assessment into Environmental Impact Assessments for new development projects
 - Integrate DRM into templates and/or instruments for development planning and approval process at the municipal corporations and the National Environment Planning Agency
 - Linking with the National Adaptation Plan of Action under the UN Framework Convention for Climate Change
 - Action on other environmental hazards and links between environmental degradation and disaster risks
- Financial Services
 - Incorporating flexible repayment schedules into microfinance schemes
 - Encouraging financial services and local capital markets to finance DRM measures
 - Establish standards to guide the use of the Disaster Fund i.e. Constituency Development Fund and Catastrophe Bond, monitor and evaluate its expenditure and how it is replenished.
 - Develop and implement Disaster Risk Financing Policy
- Health
 - Vulnerability assessment of health care facilities in hazard prone areas
 - Promoting hazard resilient construction of new health care facilities Implementing of disaster preparedness plans for health care facilities
- Agriculture
 - Vulnerability assessment of agricultural sector
 - Promoting the implementation of proper land use practices, hazard identification and reduction, climate smart agricultural practices, good agricultural practices
 - Development of disaster risk management plans for agricultural sector
- Tourism
 - Vulnerability assessment of the tourism sector
 - Development of disaster risk management plans for tourism facilities
- Urban Planning and Infrastructure

- Introducing Disaster Risk Impact Assessments into the construction of new roads, bridges, housing developments, commercial developments, industrial developments, utility infrastructure
- Promoting the use of hazard risk information in land-use planning, town-centre planning, and zoning programs. This is critical for guiding the development orders prepared at the local level.
- Promoting the increased use of hazard resilient designs in rural and urban housing in hazard prone areas
- Utilization of national building codes; and the compliance and enforcement of local building laws in urban hazard prone areas
- Social
 - Strengthen the design and implementation of inclusive policies and social safety net mechanisms, including mechanisms that foster community involvement.

National and local-level mainstreaming in sectors will not be limited to the above areas but all sectors, agencies and themes. All disaster-prone sectors are also required to mainstream enhanced disaster resilience in post-disaster recovery programs.

Capacity building will be a key need to support mainstreaming. Skills, capacities, and tools need to be developed by government agencies for incorporating risk considerations in their day-today operations.

To facilitate implementation of comprehensive disaster management, ensure key ministries and agencies playing major roles are accountable, improve efficiency and effectiveness in carrying out processes and mechanism with an all-inclusive approach, the following measures elaborated on in Section 5.4.1 to 5.4.6 should be implemented.

5.4.1 Risk Identification and Reduction

The responsibility of risk identification rests with various government ministries and agencies. Risk identification at the national level requires mainstreaming within key sectors and would need to be informed by sectoral identification of natural and human-induced risk. The Mitigation, Research and Planning Unit within the ODPEM has engaged in some limited and site-specific risk identification exercises, and recommended mitigation measures have been proposed. However, there is at present no structured approach at a national level and the resources within ODPEM are woefully inadequate to design and implement the national program of intervention that is required and establish the stakeholder partnerships necessary to effect integrated sectoral programmes. The current fragmented approach to risk identification will need to be consolidated. Mines and Geology Division (MGD) and the Water Resources Authority (WRA) are some of the key government agencies with responsibility for risk identification.

The integration of the local planners in achieving DRR and CCA is needed. This arm of the Municipal Corporation is needed for effective risk identification and reduction. Building resilience of urban centres (natural and built) is also within the purview of the Municipal Corporations and so oversight of the existing and fragmented projects that take place in silos need to be made accessible. ODPEM through the Parish Disaster Coordinator should be able to compile and share the documentation and outputs from these siloed projects as in most cases they have been rightly engaged as key stakeholders. The documents

should be shared with the planners in the Municipal Corporations to facilitate the use of hazard risk information. This reporting would need to be written into their work plans and reporting.

In Jamaica, the land available for development and settlement is limited, based on the island's topography. This has resulted in extensively developed coastal region with urban centres and industries with competition for land by various sectors including: tourism, mining and agriculture. Inappropriate land use, conflicts and the proliferation of illegal informal settlements that are often vulnerable to multiple hazards. This land related issue emphasises the need for disaster risk reduction to be fully integrated into planning. National Environment and Planning Agency and the Municipal Corporations need to fully integrate disaster risk reduction in activities such as the preparation of development orders, and during the development approval process. Risk Identification and Mapping results need to be used by planners at the national and local level. For example, there are existing landslide susceptibility maps for St. Mary, St. Thomas, Portland and St. Catherine; landslide inventory for Clarendon; a Rio Minho Landslide Inventory Mapping Project (Upper) which targets most of the priority areas and more at-risk areas. Now this needs to be translated across the island for each parish and hazard.

The following specific measures are needed for integration:

- DRM needs to be written into corporate and operational plans and budgets allocated for the Ministries and Government Agencies with risk identification responsibilities. Resource allocation is needed to improve hazard risk mapping, location specific modelling and climate change risk analysis as well as location specific and sector-specific vulnerability assessments etc.
- Design and implement a national programme of intervention that is required, and establish the stakeholder partnerships necessary to effect integrated sectoral programmes for natural and human-induced risk identification.
- Consistent historical hazard data and their impact forms the basis of a robust disaster management system. Efficient data collection systems through the application of relevant technology is needed for many organizations. This can save time and human resources. The technical capacity for electronic parish-wide data collection is needed to support more efficient data transfer, risk mapping and analysis and reduce information gaps.
- An ongoing review of vulnerable populations is necessary for an effective risk management system, however, general trends observed in historical data provide an overall picture of those most at risk to hazards.
- Culture change related to where people choose to build as often times the most vulnerable persons live in disaster-prone areas which increases risk.
- There needs to be an integration of natural resources restoration guidelines into the NDRMP as this is not heavily pushed and a mitigation strategy. Reforestation, coral restoration, mangrove restoration can help to reduce risk but will require liaising with NEPA to ensure preventative measures like enforcing sanctions on persons who actively engage in environmental degradation.
- Developing a Strategy for Preventative Resettlement
- Development of a real-time data collection system which is effectively monitored and maintained, inclusive of the related software to do modelling for meaningful information. Followed by the increase in the number of stations/sites which will help to expand the reach of data collected. This will improve the current database and facilitate a faster turn-around time for graphs and reports. More rigorous scientific methodologies to map hazards and spatially identify risk. There

are areas for improvement. Expand the mapping to different hazards, not just floods and landslides because they are more frequent, e.g. seismic hazards which are less frequent but also important.

- Greater appreciation for geological research to guide developments by having MGD involved in early stages of infrastructure works to identify issues ahead of time.
- Must be willing to relocate where necessary and realign roads where needed and get public to know the role they play in disasters and how they can be more resilient in their own way.
- Establishment of 'No-Build Zones' and 'Specially Vulnerable Areas' – delineated and prepared at the parish scale based on prone to various hazards. It will take a multisectoral and multiagency approach. MGD, WRA should advise on areas where little or no engineering measure can assist confidently and marked as extremely high-risk areas.
- Already completed hazard risk assessments and maps should be used by planners as a guide in the development approval process. All Hazard Risk Assessment and Plans resting with ODPEM should be shared with NEPA and the local municipal planners. This could be supported by the National Risk Information Platform.
- Development planning is needed for town centres and this should include the integration of various hazard prone areas, and 'no build zones' is applicable.
- Risk transfer can be integrated into guidelines for building within 'no build zones' 'specially vulnerable areas'. It should require asset insurance so that in the event of a disaster investors would have the resources to recover.
- Town centre planning should also include designated areas for vendors and clear evacuation routes; it should address parking issues to always ensure easy flow of traffic.

5.4.2 Preparedness and Response

Ministries and agencies of government need to incorporate their disaster preparedness and response functions in their respective corporate plans, work programmes and budget. The proper identification of roles and responsibilities and finance are needed to address weaknesses in this area.

Preparedness should be an additional step in the on-going institutionalized measures in place for disaster risk management, rather than the main or in some cases the only step in DRM. i.e. year-round drain cleaning, linkages between improper garbage disposal and flooding highlighted to the public, putting in place retaining walls before a landslide, building houses in suitable areas and with the right building materials. DRM therefore should be a lifestyle and preparedness during the disaster season should be a means to reinforce what already exists.

The Meteorological Office (which has responsibility for monitoring weather and climate, making forecasts and providing warnings) does not directly relay information to the public, as all information is sent through ODPEM to the media. Whilst this is sufficient for large-scale disasters, there is a shortfall in information related to less severe events like, flash floods or small craft warnings and thunderstorms. Neither the urgency nor the appropriate response to some of these threats are effectively communicated and so are taken lightly. In other cases, like that of a thunderstorm, where the onset is quick, but the event is short lived, it is believed that direct communication between the Meteorological Office and the public is important. This communication gap is also linked in part to a lack of public understanding. A public

education and awareness campaign as well as integration into education curriculum may be beneficial to educating the populous.

Entities that are responsible for one aspect of the hazard measuring process but are limited in their capacity to communicate warnings to the members of the public at risk, causes further breakdowns in the flow of relevant information. For example, the WRA is responsible for measuring riverine flooding but there is no organization responsible for issuing these warnings, thus the delay or lack of knowledge transfer to the wider public. The NDRMP needs to specifically outline how information should be collected, the correct protocols and the agencies involved and their responsibilities to improve coordination.

5.4.3 Recovery

Although there is a committee of the NDRMC responsible for recovery, there is no focus given to recovery at ODPEM. This lends to the limited leadership and drive required to execute recovery, wholistically in Jamaica.

The following are specific measures recommended for Implementation:

- A Department within ODPEM is needed to reflect the Recovery Phase for CDRM to provide leadership and drive these activities. This department should provide guidance to the PIOJ, who is the named lead for that committee of the DRM Council. It should also lead in the integration of recovery activities in other line ministers and agencies.
- Recovery needs to be reflected at the parish level, within the municipal corporations, and in the various sectors.
- Clear terms of reference and monitoring, evaluation and reporting directives are needed to drive action.
- Legislative guidelines to govern successful relocation planning for vulnerable settlements in 'no build zones' or during the recovery phase of a disaster that occurred.
- Risk Reduction and Recovery should be included as a fourth committee at the local level to address the existing gap.
- A responsibility matrix is needed at the parish level along with the key performance indicators and monitoring, evaluation and reporting (MER) directives for all the key players.
- Development of DRM regulations to support the process of integrating DRM responsibilities and activities in all ministries and agencies.
- Social protection measures and livelihood restoration strategies are important to reduce poverty and need to be integrated into the recovery planning work plans. All necessary players need to be engaged formally into the recovery planning process (e.g. Tourism and Agriculture sector, MLSS, Bureau of Gender Affairs, Jamaica Council for Persons with Disabilities, Social Development Commission, National Council for Senior Citizens, Child Development Agency, Jamaica Social Investment Fund, HEART Trust NTA, HIV Groupings etc.)

5.5 Public-Private Partnership and Civil Society

To mainstream DRM fully, establishing strong linkages between the public and private sector as well as between the government and civil society are necessary. This can be achieved through various coordinating mechanism as outlined below.

1. The private sector is a part of this HRRACC Thematic Working Group, which will facilitate coordination between the public and private sector and civil society.
2. The private sector needs to be formally invited to participate in the subcommittees at the local level. This will better foster a mutually beneficial relationship as well as build awareness, which is currently identified as a weak area at the local level. The all-island chamber of commerce network is already active in every parish. Taking advantage of this existing network can play a pivotal role in being able to change the behaviour and mindset of persons towards DRM and its importance to business longevity and overall safety. The Chamber serves as a link between DRM planners and local business operators to improve access to information since DRM communication is often lacking. Micro and small sized enterprises are a major driver of the local economy in Jamaica and many of these smaller businesses have not placed much focus on disaster risk reduction although ironically, they are often most impacted by disasters. The formal incorporation of the all-island chamber on the local sub-committees as outlined in Section 5.2 above is necessary. Public understanding of disaster risk, its impacts and how these can be reduced is not fully understood at all levels. With this arrangement, once these businesses recognize how vital mitigation is, it will translate into how they carry out their business operations and even be reflected in decision-making within their personal lives. Mechanisms of the all-island chamber can also be taken advantage of to reach the public at the community level. Members of civil society should also be incorporated into subcommittees at the parish level in a similar manner.
3. A partnership with the Heart Trust NTA can also be forged to improve awareness of disaster risk reduction to help in the development of skilled workers available to micro and small businesses.
4. Training sessions and the development of synthesized information, in digital format (on disaster risks including, risk mapping and hazard zonation, statistics on disasters, data on losses etc.) are integral to the formation of the above-mentioned partnerships.
5. Develop periodically publicly accessible reports on the progress on national and local plans; and promote public scrutiny and encourage institutional debates, by parliamentarians and parliamentary committees and others on progress reports of local and national plans for disaster risk reduction.
6. It is recommended that the public education subcommittee at the parish level be more inclusive adding at the table: key members of civil society such as local correspondence (e.g. Freelance Journalists), local NGO groups, parish representatives for the Jamaica Hotel and Tourism Association (and TPDCO if one exists) as well as the parish representative from the all-island chamber of commerce
7. It is recommended that the health and welfare subcommittee at the parish level be more inclusive adding at the table: NGO and CBO groups that have direct linkages with the Jamaica Council for Persons with Disabilities , National Social Protection Committee, National Council for Senior Citizens (parish office representatives), Persons with disabilities groupings local HIV Groupings. Expanding the groups will result in more all-inclusive planning and can foster the integration of social protection in the DRM framework.

5.6 Disaster Risk Financing

The Ministry of Finance has been identified as a champion in risk financing. Jamaica has now been able to increase the ceiling on the National Contingency Fund and is putting in place a Catastrophe Bond in advance of the Disaster Risk Financing Policy.

Jamaica now has access to ex-ante finance, and the Ministry of Finance is now in the process of negotiating with the IDB a policy-based loan. This policy-based loan includes a matrix, which commits the country to certain reforms in order to access the loan. This will require a proper institutional framework to ensure management of resources and implementation of plans at the local level. The interface with the Ministry of Finance and the Ministry of Local Government and Rural Development is therefore a very important operational link. Clear guidelines for use of the funds accessed will be very important. Clear roles and responsibilities are needed to manage these funds in an event.

DRM needs to be mainstreamed into the public investment management systems (PIMS) to facilitate the provision of adequate resources for reducing risk at all levels in all ministries. PIMS streamlines the preparation, appraisal, approval and management of all Government projects in Jamaica, regardless of the source of funding, the type of procurement or implementation method used. Mainstreaming can be done through collaboration with the Public Investment Management Secretariat (PIMSEC), which is an institution within the Ministry of Finance and Public Service, established to manage and administer the PIMS in Jamaica.

Create mechanisms within the national budget (such as specific budget lines for DRM) and corporate planning processes to allow ministries to highlight in their annual budget requests those activities that will contribute to disaster risk reduction and other vulnerabilities linked to DRM whether natural or man-made. The Whole of Government Business Plan should be amended to provide a fulsome picture of the allocation of resources – technical and financial for DRM and the performance related to the entities implementing these DRM activities. This will require the call for budgets by the Ministry of Finance to MDAs to include a directive indicating that this information is to be included and clear guidelines should be provided for doing same. Budget tagging also will be critical within the national budget as a mean of tracking planned and actual expenditure and resources within the context of resources for response, preparedness, mitigation, recovery/rehabilitation/reconstruction, financial protection etc.

Parliamentarians should be encouraged to support the implementation of disaster risk reduction by developing new or amending relevant legislation and setting budget allocations for DRR within the Constituency Development Fund.

6 DRM Results Framework

The 2020 strategic policy framework charts the direction for comprehensive disaster risk management in Jamaica. The DRM Results Framework presented below has been aligned to the vision and cross-cutting themes of existing Draft CDRM Policy 2020 for Jamaica. The Framework outlines the strategic outcomes and strategic objectives and outputs that have been developed based on the analysis of the results from the literature review and the stakeholder consultation process along with key international frameworks such as the Sendai Framework.

“Jamaica, the place of choice to live, work, raise families and do business”
Jamaica’s National Vision Statement

A Resilient and Safe Jamaica

Vision of Jamaica’s Comprehensive Disaster Risk Management Policy on the “Road to Resilience”

Guiding Principles and Cross-Cutting Themes:

Sustainable development • gender equity and social inclusion • good governance • stakeholder engagement and partnership • consultation, participation and cooperation • ecosystem-based management • technology, innovation, adaptability and continuous improvement • adequacy of resources • all-hazards approach

Outcomes

All-inclusive, gender sensitive governance, institutional, legal and regulatory framework for comprehensive DRM that facilitates thorough, stakeholder involvement and engagement established .	DRR principles and practices mainstreamed in all sectors, through Cabinet Office, Ministries, Municipal Corporations and agencies of the GOJ at the central and local levels.	DRM recognized by all policy-makers, technocrats and the general public as a development issue given the multi-hazard vulnerability and heightened risk faced by the country.
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Strategic Objectives

1. To develop up-to-date legislative and regulatory framework that incorporates the principles of the Sendai Framework, the Regional CDM Strategy 2014-2024.	2. To clearly define the institutional framework, roles, responsibility and MER framework executing DRR strategies and plans at the national, parish and community levels.	3. To establish a well-defined mechanism for Risk Identification, Risk Reduction and Climate change adaption integrated in all Ministries, Departments and Agencies (MDAs), Private Sector	4. To clearly define preparedness and response leadership and responsibilities in the Corporate Plans and Budgets of all MDAs incorporating a gender sensitive and all-inclusive approach.	5. To establish institutional leadership for Recovery and mainstream recovery activities that integrate climate change resilience into the Corporate Plans and Budgets of Ministries, Departments and Agencies	6. To establish a well-defined framework for disaster risk financing to safeguard future development prospects	7. Strategic Partnerships established (public, private, civil society) to drive DRM as development issue and improve awareness of the population on disaster risk.	8. To establish a social protection system that is inclusive, gender sensitive and integrates CDRM.
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		and Civil Society.		at the national and local level.			
Outputs							
Revised DRM Act, which is aligned to the Jamaica's Draft CDRM Policy, principles of the Sendai framework, Regional CDM Strategy 2014-2024, Climate Change Policy Framework and the SDGs	Structured series of Cabinet sensitisation sessions on DRM and governance.	Sensitisation and buy-in at the policy-maker level.	Supporting regulations established and compliance included in job descriptions.	A Recovery Department set up within ODPEM that supports leadership in the mainstreaming activities.	Sensitisation and buy-in at the policy-maker level.	Sensitisation and buy-in at the policy-maker level to improve the understanding of DRM as a development issue.	Shock-responsive social protection system established for alleviating poverty during the response and recovery phases.
Finalized and established all-hazards policy framework governing CDRM in Jamaica.	Sensitization Sessions held on incorporation of gender in DR activities.	Risk identification and reduction integrated into the Corporate Plans and budgets for all Ministries and Agencies of government.	Preparedness and response measures written into corporate plans of the Ministry of Local Government and Rural Development and the work plans for its various Departments.	PIOJ has clear terms of reference and monitoring, evaluation and reporting directives to drive action.	Development of Disaster Risk Financing Policy to improve the understanding of fiscal risks of natural disasters and recommend appropriate public financial management for natural disaster risk including the implementation of various financing strategies.	DRM integrated into the agenda of private sector groups such as the Jamaica Chamber of Commerce's (JCC's) All-Island Network and the Private Sector Organisation of Jamaica (PSOJ).	Incorporation of The Bureau of Gender Affairs to sit on the NDRMC.
Develop disaster risk management regulations to facilitate the	Institutional Framework clearly outlined governing all	The conduct of wholistic multi-hazard risk assessments and	A responsibility matrix established at the parish level along with the key	Corporate Plans and Budgets of MDAs include the development of	Integration of DRM in the Public Investment	JCC's All-Island Network and the PSOJ, as well as a key member of	Incorporation of local NGO and CBO groups linked

enforcement of aspects of the DRM Act. e.g. give power to enforce “no build zones” at the national and local planning levels.	phases of CDRM and incorporating all guiding principles and cross-cutting issues.	vulnerability mapping.	performance indicators and monitoring, evaluation and reporting (MER) directives for all the key players.	recovery mechanism in the event of a disaster.	Management System (PIMS).	civil society incorporated into subcommittees for a better public-private partnership at the municipal level.	to the Jamaica Disabilities Association, National Council for Senior Citizens (parish offices), Jamaica Council for Persons with Disabilities, HIV Groups in the Health and/ Welfare subcommittee at the local level and on Parish Disaster Committee.
	Strengthening of the seven committees of the NDRMC (increase meeting frequency, clear terms of reference and work plan written to guide the activities of the committee and Job descriptions written for key roles. MER Framework outlined for the	Gender sensitive data collection, as well as vulnerability and risk assessments and planning during risk identification and reduction process.	Corporate Plans and Budgets of MDAs include responsibilities for preparedness and response along with monitoring, evaluating and reporting systems implemented.	Gender sensitive data collection, assessment and planning during the pre-disaster recovery phase as well as the post-disaster recovery phase.	DRM activities are within the budget of key ministries and agencies to carry out the necessary risk identification and risk reduction activities and improve preparedness and response as well as recovery tasks. DRM checklist created and integrated into PIMS.	Streamlined functions between the SDC & the Municipal Corporations (MCs) to establish and sustain disaster groupings at the community level.	

	designated function/person(s). in all committees and subcommittees of the NDRMC at the national, parish and community level.						
	At the parish level the subcommittee should mirror all seven committees of the NDRMC.		Corporate Plans and budget of MDAs include the development of preparedness and response plans in the event of a disaster	Incorporation Nature-based solutions including rehabilitation of degraded areas as well as conservation of ecological assets as an environmental rehabilitation measure post disaster.	Increase in dedicated budgetary allocation at the local level or by sectors to expedite risk reduction programme.	Incorporation of local writers, reporters e.g. freelance journalists and columnists that are usually involved in Municipal activities to sit on the public education subcommittee at the parish level. and on the Parish Disaster Committee.	
	Strengthened institutional capacity of ODPEM which is responsible for national disaster coordination to reflect all the stages of CDRM. ODPEM Departments should reflect:	Incorporation Nature-based solutions including rehabilitation of degraded areas as well as conservation of ecological assets as a risk reduction measure.			Increase in annual allocation to the National Disaster Fund.		

	Risk Identification, Risk reduction, Preparedness and Response and Recovery. (Including Financial and human resources improvements and leadership to drive coordination with various stakeholders.						
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8 Appendix 1 - Stakeholder Consultations Completed

Item	Stakeholder	Contact Information	Status of Invitation	Status of Meeting
1	ODPEM – Director General and Team	Mr. Leslie Harrow Director General Office of Disaster Preparedness and Emergency Management 2-4 Haining Road Kingston 5, Jamaica Tel: 1 (876) 906-9674 Email: lharrow@odpem.org.jm Mr. Richard Thompson Deputy Director General rthompson@odpem.org.jm & Mr. Horace Glaze Senior Director of Preparedness and Emergency Operations hglaze@odpem.org.jm Participants included: 1. Mr. Leslie Harrow Director General (ODPEM) 2. Mr. Richard Thompson Deputy Director General (ODPEM) 3. Mr. Horace Glaze 4. Senior Director of Preparedness and Emergency Operations (ODPEM) 5. Mrs. Paul Brown (ODPEM) 6. Patrick Watson (MLGRD) 7. Phillipa Ricketts-Edmund (MLGRD)	Invitation Sent	Meeting held December 4, 2020
2	Regional Coordinator and Municipal Corporations – North	Mrs. Allison Gordon NORTHERN Portland St. Ann St. Mary (876) 906-9674-5 (876) 350-43982-4 2-4 Haining Road, Kingston 5 agordon@odpem.org.jm odpemnorth@yahoo.com	Invitation Sent	Date of group meeting to be scheduled

Item	Stakeholder	Contact Information	Status of Invitation	Status of Meeting
3	Regional Coordinator and Municipal Corporations – South	Mrs. Camille Palmer SOUTHERN Clarendon Manchester St. Elizabeth 2-4 Haining Road, Kingston 5 (876) 906-9674-5 (876) 360-7388 (876) 449-8579 cbeckford@odpem.org.jm	Invitation Sent	Date of group meeting to be scheduled
4	Regional Coordinator and Municipal Corporations – East	Ms. Sophia Mitchell EASTERN Kingston & St. Andrew St. Catherine St. Thomas 2-4 Haining Road, Kingston 5 (876) 906-9674-5 (876) 430-5585 (876) 430-5585 smitchell@odpem.org.jm Nine participants attended the meeting. The following were represented. • Regional Coordinator • Parish Disaster Coordinators • Social Development Commission • Ministry of Health • Jamaica Constabulary Force	Invitation Sent	Meeting held on December 16, 2020
5	Regional Coordinator and Municipal Corporations – West	Mr. Roland Haye WESTERN Hanover St. James Trelawny Westmoreland (876) 906-9674-5 (876) 844-4792 (876) 844-4792 rhay@odpem.org.jm rashaye_1@yahoo.com	Invitation Sent	Date of group meeting to be scheduled
6	Permanent Secretaries Meeting		Invitation not yet sent	Meeting to be held in 2021.
7	Meteorological Service of Jamaica Director	Mr. Evan Thompson (876) 577-3611 (876) 929-3700 e.thompson@metservice.gov.jm 65 ¾ Halfway Tree Rd, Kingston	Invitation Sent	Meeting held on December 8, 2020
8	National Works Agency	Mr. Everton Hunter (876) 733-4265 (876) 926-3210	Invitation Sent	

Item	Stakeholder	Contact Information	Status of Invitation	Status of Meeting
	Chief Executive Officer	evertonhunter@nwa.gov.jm 140 Maxfield Ave, Kingston		
9	Planning Institute of Jamaica Deputy Director General of the Sustainable Development and Social Plan at PIOJ	Ms. Claire Bernard (876) 935- 5054 876 (960 – 9339 pclarke@pioj.gov.jm cbernard@pioj.gov.jm info@pioj.gov.jm 16 Oxford Road, Kingston 5	Invitation Sent	Meeting held on December 9, 2020
10	Water Resources Authority Chief Hydrologist Managing Director	Mr. Geoffrey Marshall (876) 402-3642 (876) 927- 0077 gmarshall@wra.gov.jm Hope Gardens, Kingston 7, PO Box 91 Peter Clarke pclarke@wra.gov.jm	Invitation Sent	Meeting date to be set
11	Social Development Commission Executive Director	Dr. Dwayne Vernon vernond@sd.gov.jm dorahj@sd.gov.jm (876) 838-7783 22 Camp Road, Kingston 4 Contact for Dr. Vernon (876) 342-2892 Key personnel - Mr. Terrence Richards trichards@sd.gov.jm .	Invitation Sent	Meeting held on December 15, 2020
12	Mines and Geology Division Director of Research and Mapping	Mr. Canute Ricketts (876) 344-4306 (876) 927-1936 cricketts@mgd.gov.jm Hope Gardens, Kingston 6	Invitation Sent	Meeting held on November 30, 2020
13	Jamaica Defence Force Chief Communication Strategist	Email Major. Basil Jarrett for information (876) 926-8121 j9staff.jdf.mil@gmail.com	Invitation Sent	Meeting date to be set
14	Jamaica Constabulary Force	DCP Clifford Blake clifford.blake@jcf.gov.jm strategicopsportfolio@jcf.gov.jm (876) 754-0600 (switch board) 101-105 Old Hope Road, Kingston 6	Invitation Sent	Meeting date to be set

Item	Stakeholder	Contact Information	Status of Invitation	Status of Meeting
	Deputy Commissioner of Police for Strategic Operations			
15	Ministry of Health	Phones do not work.	No email address provided.	Will make contact again
16	Fire Brigade Assistant Commissioner – Chief Fire Prevention Officer responsible for Fire Prevention and Public Relation	Mr. Emeleo Ebanks oiicfp.jfb@cwjamaica.com (876) 922- 0007 85 Domes Plaza, 10 Hagley Park Road, Kingston	Invitation Sent	Meeting date to be set
17	Jamaica Public Service	No answers on corporate office lines. Customer service unable to assist.	No email address provided.	Will make contact
18	National Water Commission and other Water Service Providers	(876) 929-5430 Timesha Williams Will call back with information.	No email address provided.	Will make contact
19	Prime Minister	The Most Hon. Andrew Holness Secretary, Ms. Anderson engagement@opm.gov.jm 1 Devon Road, Kingston	Invitation to be sent	Meeting date to be set
20	Minister of MLGRD and Permanent Secretary	Min. Desmond McKenzie Ms. Tricia Fletcher (Secretary) (876) 618-7360 ministersecretaries@mlgcd.gov.jm 85 Hagley Park Road Kingston	Invitation sent	Meeting date to be set
21	Hazard Risk Reduction and Adaptation to Climate Change Working group	To be Set Up with the help of PIOJ.	Invitation to be sent	Meeting date to be set
22	National Disaster Risk	Chaired by The Most Hon. Prime Minister Andrew Holness Deputy	Invitation to be sent	Meeting date to be set

Item	Stakeholder	Contact Information	Status of Invitation	Status of Meeting
	Management (DRM) Council Meeting and 7 committees	chaired by Min. Desmond McKenzie Secretariat by ODPEM's Mr. Leslie Harrow lharrow@odpem.org.jm Mr. Harrow's secretary is Ms Inzeia Reid ireid@odpem.org.jm Ms. Reid's CUG (876) 275-3141 2-4 Haining Rd, Kingston 5		
23	National Environment and Planning Authority Director of Environmental Management	Mr. Anthony McKenzie a.mckenzie@nepa.gov.jm dmclarke@nepa.gov.jm (876) 754-7540 (switch board) 10-11 Caledonia Ave, Kingston 5	Invitation Sent	Meeting date to be set
24	Ministry of Agriculture and Fisheries - RADA	Ms. Camille Beckford PR personnel (876) 833-9415 camille.beckford@rada.gov.jm 197 Old Hope Road, Kingston	Invitation Sent	Meeting date to be set
25	Forestry Department On the board for Disaster Risk Management Planning	Mr. Marcus Gordon mgordon@forestry.gov.jm (876) 381-4563 173 Constant Spring Road, Kingston 8	Invitation Sent	Meeting date to be set
26	Climate Change Division Principal Director of Climate Change	Ms. Unamay Gordon unamay.gordon@megjc.gov.jm cc: climate.change@megjc.gov.jm Shanique.rhoden@megjc.gov.jm (876) 633-7354 16A Halfway Road, Kingston 5	Invitation Sent	Meeting date to be set
27	Ministry of Tourism – TPDco Office Manager	Ms. Karen Fisher karen.fisher@tpdco.org karenf@tpdco.org (876) 457-6777 64-70 Knutsford Blvd, Kingston	Invitation Sent	Meeting date to be set
28	Ministry of Tourism – JHTA Executive Director	Mrs. Camille Needham cneedham@jhta.org (876) 926-3635 - 6 2 Ardenne Road, Kingston 10	Invitation Sent	Meeting date to be set
29	Bureau of Gender Affairs	Mrs. Sharon Coburn-Robinson srobinson@mcges.gov.jm (876) 929-6660	Invitation Sent	Meeting date to be set

Item	Stakeholder	Contact Information	Status of Invitation	Status of Meeting
	Principal Director	5-9 Odeon Ave, Kingston		
30	JMEA Executive Assistant	Ms. Andrea Johnson ajohnson@jmea.org (876) 583-3524 85a Duke Street, Kingston	Invitation Sent	Meeting date to be set
31	JCC Executive Assistant	Note: They are in the process of electing a new President however she will be the assistant despite the outcome. Mellisa Leslie mellisa.leslie@jamaicachamber.org.jm (876) 322- 6323 58 Halfway Tree Road, Kingston	Invitation Sent	Meeting held on December 15, 2020
		All-Island Chamber Network Representatives from various parishes		Meeting held on January 12, 2021
32	PSOJ Human Resources Manager	Mrs. Cheryl Neil-Barnes cherylb@psoj.org (876) 927- 6957 39 Old Hope Road, Kingston 10	Invitation Sent	Meeting date to be set
33	Grace Kennedy General Council and Chief Corporate Secretary	Mrs. Gail Moss-Solomon gail.moss-solomon@gkco.com (876) 922-3440 47-52 Harbour Street Kingston Assistant Arlene Davis arlene.davis@gkco.com	Invitation Sent	Meeting date to be set
34	JN General Insurance Executive Assistant	Mrs. Julett Nugent- Powell jnugent@jngijamaica.com (876) 922-1460 9 King Street, Kingston	Invitation Sent	Meeting date to be set
35	JSIF Manager of Systems Operation and Environment	Dr. Milton Clarke milton.clarke@jsif.org (876) 968-4545 11 Oxford Road, Kingston	Invitation Sent	Meeting date to be set
36	Gender Affairs-UWI	No response	No email address provided.	To make contact

Item	Stakeholder	Contact Information	Status of Invitation	Status of Meeting
37	Dr. Barbara E. Carby CD, ONM PhD	Director of the Disaster Risk Reduction Centre (DRRC), Institute of Sustainable development The University of the West Indies Office of the Vice Chancellor The University of the West Indies Regional Headquarters Kingston 7, Jamaica, W.I. Tel: (876) 927-1660-9 Exts. 2336/2339	Invitation not yet sent	To make contact
38	UTECH- Planning, Architecture Lecturer	Dr. Earl Bailey (876) 970- 5338 earl.bailey@utech.edu.jm 237 W.I, 6 Old Hope Road, Kingston	Invitation Sent	Meeting date to be set
39	CCRIF	No contact	No email address provided.	Will make contact
40	Minister of Finance	Financial Secretary		

9 Appendix 2 - Disaster Risk Management Related Policies and Plans

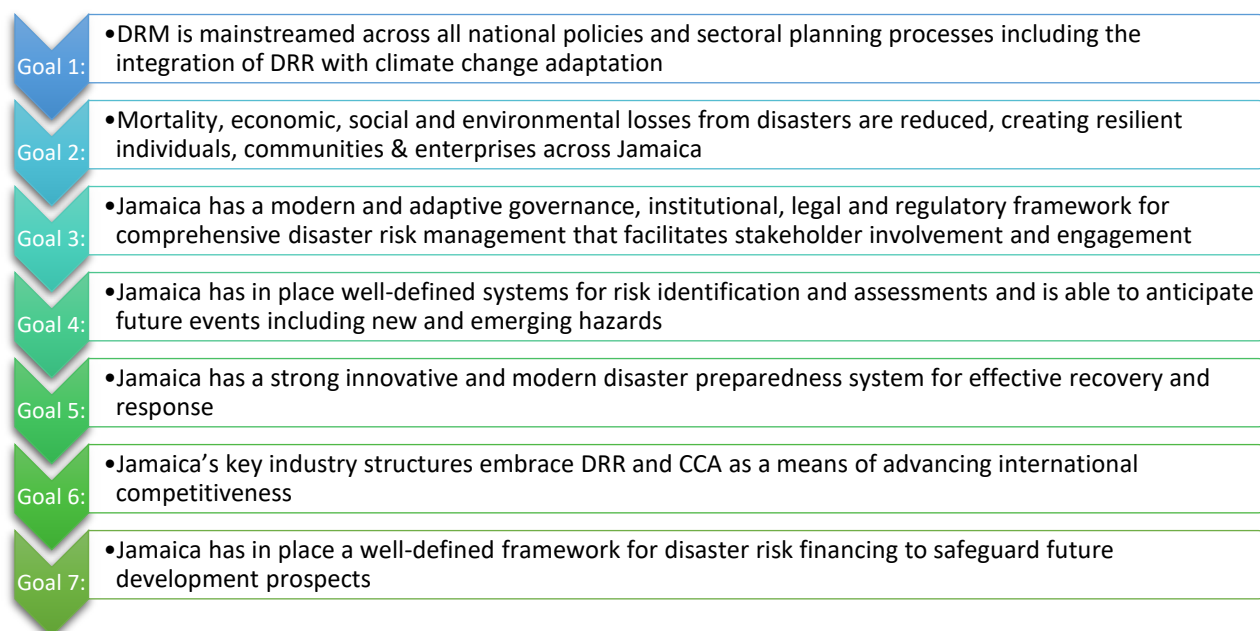
Comprehensive Disaster Risk Management Policy, 2020

Jamaica's Comprehensive Disaster Risk Management (CDRM) Policy 2020 – 2040 is the country's first long-term national disaster risk management policy and is consistent with national, regional and global commitments. The CDRM Policy is grounded in the Sendai Framework and guided by the principles and priorities established in the Enhanced Comprehensive Disaster Management Strategy and Programming Framework 2014 to 2024 promulgated by the Caribbean Disaster Emergency Management Agency.

This CDRM national policy framework places emphasis on risk identification, disaster risk preparedness and reduction, disaster recovery and reconstruction, disaster risk financing, financial protection and risk transfer, modern and innovative legal and institutional frameworks for CDRM and social protection. The Policy intends that by 2040, Jamaica will achieve the vision of a resilient and safe country.

The CDRM Policy goals are outlined below.

CDRM POLICY GOALS



Draft Disaster Risk Financing Policy

This policy aims to position the Government and wider society to better plan for and finance damage and losses resulting from natural disasters such as hurricanes and drought.

The Government of Jamaica recently approved, in 2020, the development of the Policy on National Disaster Risk Financing, which is in alignment with the VISION 2030 Jamaica National Development Plan, the medium-Term Socio-economic Policy Framework (MTF) and the fiscal management strategy of the Government of Jamaica. This policy is now being drafted.

The Policy is set against the backdrop that Jamaica between 1993 and 2003 suffered from 26 natural disasters which resulted in total losses and damage of USD 2.22 billion (JMD 285.91 billion). The drafting

of this policy will see Jamaica being more independent and responsive when disasters strike. The Policy is expected to create greater transparency and efficiencies in the mobilisation and execution of public expenditure in disaster risk management. Critical components of which include developing fiscal resilience to natural disasters through designation of the Contingency Fund as the National Catastrophic Disaster Reserve Fund and build-up of a strong fiscal buffer; improve insurance of public assets and incorporate disaster risk analysis in public sector investments and planning from a physical planning perspective (Ministry of Finance & Public Service, 2021).

Although not a policy, it is important to note that Jamaica is a member of the Caribbean Catastrophe Risk Insurance Facility segregated portfolio company (CCRIF SPC), which is owned, operated, and registered in the Caribbean. CCRIF came into being in 2007 but was revamped in 2015. It limits the financial impact of catastrophic hurricanes, earthquakes and excess rainfall events to Caribbean and Central American governments by quickly providing short-term liquidity when a parametric insurance policy is triggered. It is the world's first regional fund utilizing parametric insurance, giving member governments the unique opportunity to purchase earthquake, tropical storm and excess rainfall catastrophe coverage with lowest-possible pricing. CCRIF also has a new feature, the Aggregated Deductible Cover (ADC). The ADC is a new policy feature for tropical cyclone and earthquake policies introduced in the 2017/2018 policy year. The ADC was designed to be akin to a dedicated reserve fund providing a minimum payment for events that are objectively not sufficient to trigger a CCRIF policy, because the modelled loss is below the attachment point. Jamaica was able to draw down on US\$3.5 million in October/November 2020 following the passing of Tropical Cyclones Zeta and Eta (CCRIF SPC, 2020).

Disaster Relief Policy

This policy serves to determine the agency responsible for dispensing Emergency Relief, Welfare, Response/Recovery and Rehabilitation to impacted persons, determine type and range of assistance to be given to impacted persons, develop guidelines on how the impacted will access short- and long-term assistance, develop guidelines to produce the "One list" for assessment purposes, and develop guidelines for needs assessment of victims.

Within this Policy is the emergency shelter/welfare action plan for Jamaica which is an annex to the National Disaster Plan and seek to address the operational procedures to be taken by the Government, Private Sector organizations and voluntary Agencies in the event of a disaster and will clearly identify the National and Parish Welfare Response Teams.

Within this policy is also the Relief Clearance Policy which guides the process of receiving assistance from overseas, for persons displaced by emergencies or disasters.

National Policy for the Environmentally Sound Management of Hazardous Wastes (Green Paper) (2017)

The goal of the policy is the environmentally sound management of hazardous wastes in Jamaica in keeping with international and regional best practices, to ensure the protection of human health and the environment.

The key policy objectives and strategies are:

Objective 1: To institute effective hazardous waste management frameworks at the national and local levels.

- i.Strategy 1.A. To encourage the environmentally sound management of hazardous wastes through strengthening of the regulatory framework using an integrated –life-cycle approach, that is, strictly regulating the storage, treatment, transportation, reuse, recycling, recovery, export and final disposal of hazardous wastes.
- ii.Strategy 1.B. To facilitate the treatment and disposal of hazardous wastes in an environmentally sound manner through the upgrade and institution of infrastructural works.

Objective 2: To improve information sharing, education and awareness raising at all levels of society to support and facilitate active participation in the decision-making process for the environmentally sound management of hazardous waste.

- i.Strategy 2.A. To minimize the generation of hazardous waste and risk of exposure to public and environmental health.

Objective 3: To promote sustainable financing mechanisms for hazardous wastes Management.

- i.Strategy 3.A. To encourage joint ventures and partnerships between or among the public and private sectors and public interest groups in financing national hazardous wastes management initiatives.

National Disaster Action Plan

The National Disaster Action Plan details the terms of reference for committees, agencies and individuals with disaster related functions and the standing operating procedures (SOPs) for the national emergency operations centre (NEOC).

Part 2 of the National Disaster Action Plan presents the terms of reference for committees, agencies and individuals with disaster related functions. The Plan elaborates on the National Emergency Organization, which comprises all members of the subcommittees, governmental, non-governmental and voluntary organizations, agencies, interest groups, donors, religious bodies and individuals, all of which must be coordinated to function as one organization in times of crisis and disorder. Importantly, this speaks to the terms of reference for the National Disaster Committee (NDC), which has now been renamed National Disaster Risk Management Council and new terms of reference prepared in 2017, which should supersede the specifics in this subsection of this Plan.

Annex A of Part 2 of this Plan presents a Recovery Plan which provides activities to be followed post an event in order to restore the fabric of the affected community to allow the return to normal social and economic activity as quickly as possible, at the same time taking additional action which may mitigate against future occurrences, and noting opportunities which may arise to make both qualitative and quantitative improvements within the community

Part 4 of the National Disaster Action Plan indicates that the NEOC is designed to provide adequate communication facilities, working areas, a central display system, resource data files and other necessary operational requirements. The National Disaster Action Plan also speaks to the designated parish emergency operations centre (PEOCs) which act as the coordinating and control facility for the Parish in the event of natural, man-made or impending disaster, and for the coordination of all Parish resources in times of emergency or disaster, and requests to or from higher levels of Government in times of emergency or disaster. Regional emergency operations centre (PEOCs) are also declared, which is a PEOC that has been appropriated by the Regional Coordinator in order to better manage the emergency or disaster occurring within the Region, the Regional Coordinator will take the necessary action to inform the Director General of the ODP and shall coordinate the emergency operation from that site in cooperation with members of the Parish Disaster Executive.

The SOPs are necessary to establish the procedures for operation during emergencies to fulfil responsibilities assigned by the Prime Minister to ODPEM; to mobilize the ODPEM organization for emergency operations and to specify duties and responsibilities for personnel in ODPEM and related organizations for emergency operations.

Part 4 of the National Disaster Action Plan also elaborates on the concept of the operations, the phases of disasters, warning and alerting systems, activating and organising the NEOC, job descriptions, NEOC resources, management of the NEOC, NEOC activities, disaster intelligence, reconnaissance, operational information, and prepositioned data and analytical aids.

Part 5 of the National Disaster Action Plan presents the glossary of abbreviations.

National Damage Assessment Plan (2001)

The National Damage Assessment Plan is a sub-plan of the National Disaster Plan to guide the execution of the damage assessment exercise which is critical to the country's ability to restore all sectors to normality after a disaster.

The objectives of the National Damage Assessment Plan are to:

- i. Identify areas that may be unfit for human habitation or where evacuation is necessary.
- ii. Enable the rapid collection of information pertaining to the damage incurred after any disaster event.
- iii. Standardize the instruments used to record and report damage sustained after an event.
- iv. Guide the process of assessing, estimating and reporting the damage.
- v. Define the time required to prepare detailed and accurate reports.
- vi. Facilitate the quick recovery of lifeline facilities in a timely and orderly manner by assessing the magnitude of the damage incurred and identify priorities and resources required for resumption of normal operations.

The National Damage Assessment Plan details the types and composition of damage assessment teams, training, the assessment process, reporting procedures, notification, activation, reporting, reporting relationship, deactivation, agencies and their responsibilities and activities according to the phases of disaster management.

National Earthquake Response Plan (1999)

The National Earthquake Response Plan is a Sub-Plan of the National Disaster Plan and outlines the intended actions to be taken by the Government of Jamaica in response to a damaging earthquake. It describes the response system in the event of a major Earthquake in Jamaica, and also describes the total response, which should be provided at the national level of government.

The plan serves to assign specific responsibilities for response to agencies, coordinate response and support activities island-wide and ensure timely response so as to save lives and minimize injuries and damage to property.

Part 1 of the plan identifies basic policies and concepts for response in the situation related to the Earthquake Hazard. Part 2 of the plan outlines the standard operation procedures for the Earthquake plan. Part 3 of the plan outlines the Emergency response Functions and the operational annexes for the specific Earthquake Response function within the authority of the government. The annexes outline the tasks to be accomplished by the respective ministries and agencies, and the support to be provided to them from the national level. Scope

This plan details the emergency response functions immediately following a damaging earthquake, providing the coordination of national resources and support as arranged by the government, from ministries, corporations, private sector and international assistance. Authority, roles and responsibilities of Ministries and Agencies and standard procedures remain the same as outlined in the National Disaster Plan and Matrix, except in those instances where actions specific to earthquake response are needed.

National Fire Management Plan (2002)

The National Fire Management Plan is a sub-plan of the National Disaster Plan, which provides the framework for institutions, government NGO's to meet the threat, which major fires may pose to various sectors of society. The plan outlines strategies, which will provide a coordinated effort to response, preparedness, and mitigation strategies.

The plan is to be activated and used in situations that may pose significant threat to national parks, forests, line facilities and government institutions, chemical and fuel spillage hazardous events, landfills, port facilities ship fires and any other situation which will require a coordinated multi-agency approach to fire response and management. The elements of the plan include administration, operational elements, the fire threat, fire management issues, recovery, and the appendices and annexes. The plan speaks to an integrated approach for response and management of fires to reduce the impact on life, property, and the environment from destructive fires.

The standard operating procedures remain the same as in the National Disaster Plan and matrix except in instances where actions specific to fire responses are needed. This plan describes the response system in the event of a major fire in the country, and highlights preparedness and mitigation activities related to Fire Management.

National Chemical Emergency Risk Management Plan/ Chemical Response Plan (2017)

National Chemical Emergency Risk Management Plan guides the chemical emergency risk management in accordance with the four stages of the disaster risk management (DRM) cycle (**Error! Reference source not found.**).

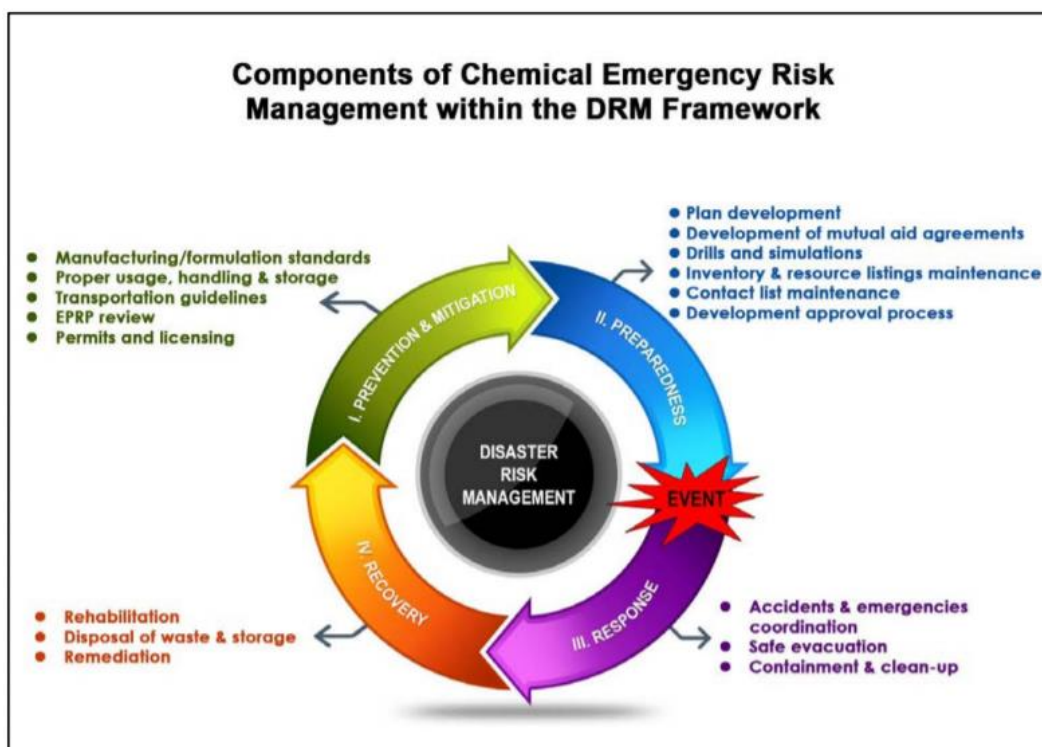


Figure: Components of Chemical Emergency Risk Management within the DRM Framework (Source: NCERMP, 2017)

This NCERMP will assist in providing a strategic approach to the sound management of hazardous chemicals in Jamaica and as such its primary objectives are to:

1. Outline the activities and procedures necessary at all jurisdictional levels to:
 - a. Prevent chemical accidents;
 - b. Respond to chemical accidents;
 - c. Follow-up incidents (accidents and near misses); and
 - d. Address specific matters related to transboundary/international movements, fixed installations, and transportation of hazardous chemicals.
2. Establish appropriate measures of mitigation, preparedness and recovery of hazardous material.
3. Identify adequate resources for responding to hazardous chemical materials incidents/accidents.
4. Establish procedures to be employed in containing, dispersing, recovering and disposing of contaminated materials during response and recovery activities.

Oil Spill Plan

The purpose of this Plan is to emphasize the need for mitigation measures before and during oil spill incidents. It also provides timely, coordinated, and integrated response action to pollution incidents by agencies of the Government of Jamaica and other related interests and to reduce the impact of land and marine pollution.

This Plan is effective for the territorial waters of Jamaica, its adjoining shoreline, the Contiguous Zone and Economic Exclusive Zone (E.E.Z.) where the pollution threat to Jamaica's waters, coastline, fish sanctuaries

and shelf bottom exists. This Plan is also effective for spills on land and any body of water that may migrate to or flow into the marine waters. It is intended to organize the activities of all the responsible agencies and to provide a command structure and an established method of operations for the forces engaged in dealing with any incident.

The Plan seeks to meet the following objectives:

1. To develop appropriate measures of preparedness and systems for the discovery and reporting of oil spill incidents;
2. To institute immediate countermeasures to restrict the further spread of pollution;
3. To protect public welfare and natural resources by minimizing the impact upon the environment and the island's economy;
4. To provide adequate resources to respond to spill incidents;
5. To assign duties and responsibilities among Jamaican agencies and organizations;
6. To establish procedures to be employed in containing, dispersing, recovering and disposing of contaminated materials;
7. To prescribe documentation procedures that would facilitate recovery costs;
8. To facilitate the application of relevant legislation, and to penalize guilty parties;
9. To outline procedures to obtain regional support, and outside assistance. (See copy of Regional Contingency Plan Annex. K. in National Disaster Plan).

Vision 2030 – National Development Plan

Goal 4 of the Vision 2030 is “Jamaica has a Healthy Natural Environment”. Outcome #14 is directly related to this goal “Hazard Risk Reduction and Adaptation to Climate Change”. Four strategies are outlined in this plan as follows:



ODPEM carries great responsibility for leadership of the first two outcomes. The third outcome, though led by the Climate Change Division, risk reduction and recovery mechanisms implemented through comprehensive disaster management initiatives must take into consideration climate change adaptation.

Vision 2030 presented selected sector strategies for achieving Outcome 14-1, these are outlined below:

- Create and strengthen national platforms and establish the foundation for hazard risk reduction by engaging in multi-stakeholder dialogue
- Use predictive tools for modelling, hazard data mapping and risk assessment
- Modernize the legal framework related to hazard risk reduction
- Create and introduce economic and financial market instruments for risk transfer
- Use knowledge, innovation and education to build a culture of safety and resilience at all levels by integrating hazard risk reduction in the early childhood, pre-primary, primary, secondary and tertiary education syllabuses and research community; and develop hazard risk reduction training for different groups of stakeholders
- Adopt a community-based approach to hazard risk reduction
- Expand early warning systems to reduce the risk of hazards
- Incorporate hazard risk reduction in environmental and natural resources management
- Establish mechanisms for increasing resilience of the poor and most vulnerable
- Establish measures to incorporate hazard risk reduction in land-use practices and human settlements
- Create opportunities for private sector involvement in hazard risk reduction, including business contingency planning
- Design housing settlements that are not vulnerable to hazards based on construction and rehabilitation techniques that enhance the long-term usability
- Regulate the importation, storage, distribution, use and disposal (the management cycle) of hazardous materials

Selected sector strategies for achieving Outcome 14-2 are outlined below:

- Build adequate emergency response capability and early warning systems
- Develop institutional capacity to respond to potential emergencies such as fires
- Develop a larger core of trained volunteers to effectively manage emergency response a
- Build capacity of state agencies and facilities (e.g. hospitals, fire services) to manage any potential disasters
- Increase capacity for search and rescue
- Develop mass casualty plans
- Develop procedures to cope with potential disasters (e.g. continuous education simulation exercises and drills)
- Strengthen the regional mechanisms for emergency response

Local Sustainable Development Plans (LSDP)

Each Municipal Corporation is required to develop their Local Sustainable Development Plans. These LSDPs seek to address the challenges experienced by the Parish as a whole in pertinent areas such as:

housing provision, traffic congestion, waste generation, water shortage, education and the creation of economic opportunities. The priority areas of action for each parish may vary.

To date, five of the fourteen Municipal Corporations (Clarendon, Manchester, St. Catherine, St. Elizabeth, Trelawny) have already prepared their LSDPs and these are in use. These plans provide a platform to improve the 2030 agenda implementation at local levels.