



MINISTRY OF LOCAL GOVERNMENT & RURAL DEVELOPMENT

Jamaica's Comprehensive Disaster Risk Management Policy and Strategy 2020 – 2040

Towards a Resilient and Safe Jamaica...

JULY 2022

Table of Contents

Acknowledgements	iii
Message from the Minister of Local Government and Rural Development.....	i
List of Acronyms and Abbreviations.....	iii
Executive Summary.....	v
Section 1: Introduction	1
Section 2: Situational Analysis	8
Section 3: Jamaica’s Comprehensive Disaster Risk Management Policy Framework.....	35
Section 4: Jamaica’s CDRM Policy Goals	41
Goal 1: DRM is mainstreamed across all national policies and sectoral planning processes including the integration of DRR with climate change adaptation.....	41
Goal 2: Mortality, economic, social, and environmental losses from disasters are reduced, creating resilient individuals, communities, and enterprises across Jamaica.....	46
Goal 3 – Jamaica has a modern and adaptive governance, institutional, legal, and regulatory framework for comprehensive disaster risk management that facilitates stakeholder involvement and engagement	52
Goal 4 – Jamaica has in place well-defined systems for risk identification and assessments and is able to anticipate future events, including new and emerging hazards.....	56
Goal 5 – Jamaica has a strong, innovative and modern disaster preparedness system for effective recovery and response capacity	59
Goal 6 – Jamaica’s key industry structures embrace DRR and CCA as a means of advancing international competitiveness	63
Goal 7 – Jamaica has in place a well-defined framework for disaster risk financing to safeguard future development prospects.....	65
Section 5: Implementation, Monitoring and Evaluation Framework.....	68
Glossary of Key Terms	111

Acknowledgements

The development of this policy was led by the Ministry of Local Government and Rural Development (MLGRD) and the Office of Disaster Preparedness and Emergency Management (ODPEM) with the input of a wide cross-section of stakeholders in the public and private sectors as well as the non-governmental organizations (NGOs), local authorities, and community-based organizations (CBOs). The work set out here has been accomplished by the willingness of many individuals and organizations to lend their time and expertise. The Ministry of Local Government and Rural Development wishes to acknowledge their contributions and to express its sincerest gratitude for all those who have helped this policy development process.

The involvement of stakeholders through consultations, meetings and workshops ensured that all current issues as well as potential developmental issues were effectively explored, and that the strategic direction outlined in the policy would ensure that Jamaica by 2040 becomes a country that is resilient to both natural and man-made hazards.

We thank all the various entities and members of the public who reviewed the JCDRM Policy Green Paper 2020 – 2040 and forwarded to us, ideas, comments, and suggestions; and those persons who participated in the national consultations, too many to list here. Your comments and suggestions were reviewed, and many have been incorporated in this current version of the policy document.

Special mention must be made of the following persons who spent many hours reviewing comments, researching, providing technical analysis, and writing this document.

Message from the Minister of Local Government and Rural Development



This document constitutes an overarching policy and strategic approach to achieving optimum levels of disaster risk reduction in Jamaica. Within it is subsumed the existing position of the Government, enunciated and put into action especially over the last two years, that effective policies, programmes and laws that focus on Disaster Risk Reduction will create and expand fiscal space, and help to finance the competing priorities that have to be addressed. Accordingly, the **Comprehensive Disaster Risk Management Policy and Strategy 2020-2040**, is a seminal, realistic, and thorough assessment of, and approach to the integration of Disaster Risk Reduction into national development, which goes beyond the implementation timeline of the National Development Goals, or Vision 2030.

It is an approach that will help our current and future populations to live confidently through disasters, rather than being buffeted by them initially, then suffering their after-effects, sometimes for years thereafter. This has been the traditional pattern in Small Island Developing States such as ours, located in the Caribbean and Latin America. *On average, natural disasters cause damage equivalent to 2.1% of Gross Domestic Product every year.*

When it comes to the effects of disasters, the **Regional Assessment Report on Disaster Risk in Latin America and the Caribbean 2021** reveals some sobering statistics. It states that **1 out of every 4 disasters registered in the world, occurred in this Region.**

- **277 million people in Latin America and the Caribbean have been directly or indirectly affected by disaster events.**
- **53% of global economic losses due to climate-related disasters, were produced in Latin America and the Caribbean.**

In Jamaica, the related destruction of physical infrastructure and social capital is well recognized, and this policy and strategic approach is, I believe, the best and most practical means of achieving the imperatives of **Risk Identification, Risk Reduction, Preparedness, Financial Protection and Resilient Reconstruction**. It combines all the policy and programme imperatives that drive the current activities of the Government, such as the implementation of climate smart technologies in public infrastructure and outlines the institutional

and societal changes that will be needed to further and fully integrate Disaster Risk Reduction into daily Jamaican life.

At the multilateral level, the drive to achieve these critical objectives will also ensure Jamaica's compliance with the requirements of the Sendai Framework on Disaster Risk Reduction, in keeping with the revisions that were agreed at the United Nations 7th Regional Platform on Disaster Risk Reduction, which was hosted by Jamaica in November 2021.

I therefore endorse the Comprehensive Disaster Risk Management Policy and Strategy 2020-2040, and eagerly anticipate its implementation as part of the development process that the Government of Jamaica continues to lead.

Desmond McKenzie CD, MP, JP

**Minister of Local Government and Rural
Development**

List of Acronyms and Abbreviations

AAL	Average Annual Losses
CAT	Catastrophe
CBO	Community-Based Organization
CCA	Climate Change Adaptation
CCF	Contingent Credit Facility for Natural Disaster Emergencies
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
COG	Continuity of Governance
COVID-19	Coronavirus Disease 2019
CRDM	Comprehensive Disaster Risk Management
DaLA	Damage and Loss Assessment
DRM	Disaster Risk Management
DRMA	Disaster Risk Management Act
DRR	Disaster Risk Reduction
EWS	Early Warning System(s)
GDFRR	Global Facility for Disaster Reduction and Recovery
GDP	Gross Domestic Product
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
IDP	International Development Partner
IGOPP	Index of Governance and Public Policy in Disaster Risk Management
JCF	Jamaica Constabulary Force
JDF	Jamaica Defence Force
JIS	Jamaica Information Service
JSIF	Jamaica Social Investment Fund
KMA	Kingston Metropolitan Area
M&E	Monitoring and Evaluation
MDAs	Ministries, Departments and Agencies
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
NERGIST	National Emergency Response Geographical Information Systems Team
NGO	Non-Governmental Organization
NRIP	National Risk Information Platform

NWA	National Works Agency
ODA	Overseas Development Assistance
ODPEM	Office of Disaster Preparedness and Emergency Management
PIOJ	Planning Institute of Jamaica
PWDs	Persons with Disabilities
SDGs	Sustainable Development Goals
SPCR	Strategic Programme for Climate Resilience
STATIN	Statistical Institute of Jamaica
SWOT	Strength, Weaknesses, Opportunities and Threats
USD	United States Dollar
UWI	University of the West Indies
WRA	Water Resources Authority

Executive Summary

This document presents Jamaica's Comprehensive Disaster Risk Management (JCDRM) Policy 2020 – 2040. It is the country's first long-term national disaster risk management policy and is consistent with national, regional, and global commitments. The JCDRM 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.

It seeks to ensure that by 2040, Jamaica has strengthened its social and economic resilience, significantly reducing and in some cases eliminating the negative effects of national disasters including those induced by natural hazards, climate change, biological/health hazards (e.g., disease outbreaks) and man-made hazards. Within this context, Jamaica's 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 JCDRM and social protection** and will be designed to ensure that by 2040, Jamaica achieves the vision of a resilient and safe country.

Accordingly, the vision of the Comprehensive Disaster Risk Management Policy is:

A Resilient and Safe Jamaica

The policy includes a results-based management framework consisting of a set of goals and outcomes to assess progress and enable corrective action when necessary as well as continuous improvement. Also, this Comprehensive Disaster Risk Management Policy for Jamaica effectively provides policy direction and defines the parameters and institutional arrangements required for the integration and implementation of disaster risk management and climate change adaptation in Jamaica, towards building national disaster resilience.

Rationale for a Comprehensive Disaster Risk Management Policy

The rationale for the development and promulgation of a comprehensive disaster risk management policy in Jamaica is rooted in the Jamaican Constitution, which calls for the right of all Jamaicans "to enjoy a healthy and productive environment free from the threat of injury..." and recognition that Jamaica has high vulnerability to hazards, which result in significant negative impacts on the economy as well as social sectors, physical and social infrastructure, property including housing stocks, ecosystems and other aspects of the natural environment and importantly people and their wellbeing.

State of Preparedness for DRM within the Jamaican Context

The country has a history of taking measures to reduce its vulnerability to both natural and man-made hazards through the implementation of various policies and programmes. Jamaica currently has in place a well-defined Disaster Risk Management Act, promulgated in 2015, which repeals the 1993 Disaster Preparedness and Emergency Act and places emphasis on the entire

disaster management cycle with specific focus on risk reduction. The Act has allowed the country to be able to advance the resilience agenda in the absence of a defined comprehensive disaster risk management policy as it specifies, *inter alia*, a host of new provisions to increase comprehensive disaster risk management capacity in the country. Also, Jamaica has incorporated disaster risk management within “Vision 2030 Jamaica”, the country’s national development plan, which provides a comprehensive planning framework in which the economic, social, environmental and governance aspects of national development are integrated. It calls for Jamaica to develop and implement strategies and actions towards “Hazard Risk Reduction and Adaptation to Climate Change” (National Outcome #14 of the Plan). Jamaica is signatory to a range of international and regional conventions and agendas, including the 2030 Agenda for Sustainable Development and the Sustainable Development Goals and the Sendai Framework for Disaster Risk Reduction 2015 – 2030. The Sendai Framework is a strong foundation upon which this policy has been formulated and the policy is structured to include key principles articulated in the Framework.

Situation Analysis

Jamaica’s vulnerability to hazards remains high with ODPEM indicating that of the 947 communities on the island, over 300 can be considered highly vulnerable. Disasters have impacts not only on the population but on almost all economic industries and sectors – tourism, agriculture, education, and health among others. The hazards to which Jamaica has been exposed over the years have had implications for public finance, increasing expenditure, reducing domestic revenue and in turn resulting in increased domestic and external borrowing. The hazards that are of greatest significance to Jamaica include: hurricanes and storms; rain; drought, and earthquakes (natural hazards); road, aviation, and nautical accidents – including oil spills; fire; and cybercrime (man-made hazards); and human epidemics and plant disease outbreaks (biological hazards).

In addition to Vision 2030 and the Disaster Risk Management Act, there are a number of policies and pieces of legislation that 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. Institutionally, the National Disaster Risk Management Council is responsible for overall coordination of disaster management activities in Jamaica. The Office of Disaster Preparedness and Emergency Management acts as the secretariat and is the agency with overarching responsibility for DRM.

Jamaica’s Comprehensive Disaster Risk Management Policy Framework

The Policy presents seven goals, the accomplishment of which will enable Jamaica to achieve the vision for comprehensive disaster risk management: **A Resilient and Safe Jamaica.**

The Policy Goals set out where Jamaica would like to be by 2040 and are presented below.

National Comprehensive Disaster Risk Management Policy Goals



Goal 1: DRM is mainstreamed across all national policies and sectoral planning processes including the integration of DRR with climate change adaptation

This goal focuses on operational and practical mainstreaming of disaster risk management across operations of all ministries, departments and agencies and the national financing and development processes they control. This goal seeks to effectively create the mechanism for integrating the core DRM/CCA agenda and address any issues related to the governance structures and systems for the effective implementation of DRM and CCA interventions. Infusing DRM considerations at the sectoral level will not only mean taking DRM considerations into account in industries such as tourism, agriculture, construction, and manufacturing but also ensuring that DRM considerations are included and infused in poverty policies and gender policies as well as social protection policies and strategies. In the case of gender, the policy framework will ensure that gender considerations are infused throughout all areas of disaster mitigation and financing as this would help lay a strong foundation for delivering a gender-sensitive response.

Goal 2: Mortality, economic, social, and environmental losses from disasters are reduced, creating resilient individuals, communities, and enterprises across Jamaica

This goal focuses on the development of strategies and actions that support strengthening resilience by incorporating physical, social, and economic measures that would enable communities to absorb losses, minimize impact and recover from disasters. Essentially, this goal

addresses the requirements for ensuring that activities related to ecosystems management, land use and spatial planning, infrastructural development, housing and shelter, community development, social protection – for the most vulnerable such as persons with disabilities and the elderly – are fully addressed and key programmes and projects implemented.

Goal 3 – Jamaica has a modern and adaptive governance, institutional, legal, and regulatory framework for comprehensive disaster risk management that facilitates stakeholder involvement and engagement

This goal focuses on undertaking required amendments to the DRM Act along with many other areas within the policy, legislative and institutional framework that require attention. Acknowledging the existence of the National Disaster Risk Management Council, this goal will focus on strengthening the ODPEM and parish-level DRM entities and building capacity of local authorities to undertake a range of functions and associated responsibilities within DRM. Engagement by a range of stakeholders, underpinned by participatory processes and coordination will be key to the achievement of this goal.

Goal 4 – Jamaica has in place well-defined systems for risk identification and assessments and is able to anticipate future events, including new and emerging hazards

This goal focuses on the development of an effective system for conducting comprehensive disaster risk assessments at all levels to be able to anticipate future risk to which the country may be exposed and develop relevant strategies and actions. Under this goal, the employment of geospatial technologies including geographic information systems (GIS) and remote sensing will be expanded and used much more extensively and early warning systems improved. New and emerging hazards such as technological hazards, terrorism and pandemics are included.

Goal 5 – Jamaica has a strong, innovative, and modern disaster preparedness system for effective recovery and response capacity

This goal focuses on strengthening the capacity for disaster preparedness and recovery planning to ensure rapid and effective response following a disaster, which will require the promotion of a culture of safety. Preparedness involves different types of activities such as the development and regular testing of contingency plans, ensuring the availability of emergency funds to support preparedness, response and recovery activities and the building of capacity of disaster risk management structures to respond to disasters. This goal recognizes that local governments and communities are in a good position to be the first responders in times of a disaster and to have a key responsibility for DRM.

Goal 6 – Jamaica's key industry structures embrace DRR and CCA as a means of advancing international competitiveness

This goal recognizes that disasters directly affect business performance and undermine longer-term competitiveness and sustainability of a country's key industry structures. It focuses on strategies to take advantage of the opportunities that could be leveraged from private sector participation in disaster risk management and in building resilience across a number of the country's industries – agriculture, tourism, manufacturing, mining, construction etc. as well as in the built environment.

Goal 7 – Jamaica has in place a well-defined framework for disaster risk financing to safeguard future development prospects

This goal focuses on the management of internal and external resources to finance post-disaster needs to enhance Jamaica's financial resilience to all types of disasters. Considering disaster risk in fiscal policy provides an efficient means for countries to financially protect themselves against events that cannot be prevented. Integrated disaster risk financing strategies allow countries to increase their financial response capacity in the aftermath of disasters and reduce their economic and fiscal burden. This goal is aligned to the Government's Financial Management Policy for Natural Disaster Risk and recognizes that natural disasters have significant impact on macroeconomic indicators and must be planned for as a key measure in advancing debt and fiscal sustainability

Implementation, Monitoring and Evaluation Framework

The Ministry of Local Government and Rural Development – and specifically the Office of Disaster Preparedness and Emergency Management – will be the main coordination mechanism for implementation, monitoring and evaluation of the JCDRM Policy. A number of MDAs – including local authorities – will have core responsibilities related to implementation of various strategies and actions aligned to specific goals within the policy. Outside of central and local governments, civil society organizations and other non-governmental organizations, the private sector, international development partners, the media, academia and other research institutions are some of the critical partners in a disaster risk management system and because they play important roles in the country's development processes.

Implementation of the policy will be accomplished through successive three-year work plans, aligned to the country's national development plans as well as the Whole of Government Business Plan. Programmes and projects to be included and implemented during these work plans will be based on specific priorities at the time, new and emerging challenges and also alignment with the country's overarching development agenda. Activities also will be pulled from the corporate and operational plans of key entities involved in DRM as well as the Jamaica country programmes of development partners.

Financial resources for the implementation of the policy will be an integral part of the corporate plans and budgets of ministries, departments and agencies as well as those of local authorities. The national budget will include a process of markers to be able to identify from corporate plans which activities are related to disaster risk management allowing for better identification of the allocation of resources to the policy.

The monitoring and evaluation framework defines how the vision will be achieved and is based on a results-based framework defining expected outputs, outcomes, and indicators for measuring progress. The evaluation of the policy and associated actions will be subject to the evaluation of the Office of the Auditor General in their undertaking of performance-based audits to which policies and programmes of the Government of Jamaica are subject to from time to time. In accordance with Government requirements, the CRDM policy will be reviewed every three years.

Section 1: Introduction

This document presents Jamaica's Comprehensive Disaster Risk Management Policy 2020 – 2040. It is the country's first long-term national disaster risk management policy and is consistent with global, regional, and national commitments. It seeks to ensure that by 2040, Jamaica has strengthened its social and economic resilience, significantly reducing and in some cases eliminating the negative effects of national disasters including those induced by natural hazards, climate change, biological/health hazards (e.g., disease outbreaks) and man-made hazards. The development and promulgation of this policy is a major step towards achieving sustainable development by:

- ensuring that disaster risk management is mainstreamed in development planning across all sectors in the country
- facilitating the effective coordination of disaster risk management programmes in the country towards a resilient Jamaica
- providing a common direction based on consensus of all – government, non-governmental and private sector organizations, as well as media and development partners at the national and local levels – on how to effectively implement disaster risk management programmes and activities.

Rationale for a Comprehensive Disaster Risk Management Policy

Disaster Risk Management (DRM) rooted in Jamaican constitution

The rationale for the development and promulgation of a comprehensive disaster risk management policy in Jamaica is rooted in the Jamaican Constitution. Chapter III of the Jamaican Constitution, "Charter of Fundamental Rights and Freedoms", subsection 3 I, calls for the right of everyone "to enjoy a healthy and productive environment free from the threat of injury..." Disasters not only result in significant negative impacts on the economy but also negatively affect social sectors, physical and social infrastructure, property including housing stocks, ecosystems and other aspects of the natural environment and importantly people and their wellbeing.

Comprehensive Disaster Risk Management (JCDRM)

JCDRM is an all-hazards approach to disaster risk management that focuses on all phases of the DRM cycle (preparedness, response, risk reduction, recovery, and financial protection).

CRDM emphasizes taking a holistic, integrated and participatory approach to addressing disaster risk, by the public and private sectors, all segments of civil society and the general population for the purpose of building resilient, safer societies.

Jamaica's high vulnerability to hazards

Another rationale for the development of this policy is Jamaica's high vulnerability to natural, man-made and health/biological hazards. Jamaica's location, geology and geography make the island highly exposed to several natural hazards – tropical cyclones, landslides, earthquakes, drought, floods, storm surges and tsunamis. The country's exposure is attributed to its location

in the Atlantic Hurricane Belt, the geophysical orientation of its low-lying coastal zones, and its mountainous topography. The Jamaican territory is also crossed by five major fault lines, including the Plantain Garden Fault Zone, which triggered the 2010 earthquake in Haiti. Jamaica also is affected by man-made hazards such as fires and oil spills. Jamaica is also vulnerable to health-related hazards, which has been vividly demonstrated by the current COVID-19 crisis.

These hazards, when combined with situations of high vulnerability, usually result in disasters of varying severity. Some segments of the population are particularly vulnerable to disasters. These vulnerable groups include children, youth-at-risk, the elderly, persons with disabilities (PWDs), women, and persons and families living below the poverty line. Additionally, persons living in some rural communities, coastal zones and low-lying areas, people with poor housing and the homeless are also considered vulnerable and at risk¹. These persons at risk make up an estimated 60 per cent of the country's total population and are generally vulnerable to storm surges, hurricanes and flooding, among other hazards².

Thus, social inequity and vulnerability are inextricably linked. The concept of social vulnerability recognizes that these individual risks are not equally distributed within society, and that this risk difference is not solely attributed to a given hazard, but to inequalities and conditions that exist prior to the occurrence of a hazard event. Jamaica's poverty rate can be used as one indicator of inequality. The individual poverty rate in 2017 was 19.3 per cent, with 17.0 per cent of persons living in the Kingston Metropolitan Region being classified as poor and 20.1 per cent in rural areas and in other towns being classified as poor³. Inequities in income level and employment, and access to high quality education, health care, and housing all contribute to increased vulnerability of underserved segments of society, which has implications for disaster preparedness, prevention and response.

Various technical reports and analyses undertaken on the country disaster risk governance framework support the need for the development of a JCDRM policy. The Inter-American Development Bank (IDB) Index of Governance and Public Policy in Disaster Risk Management (iGOPP), Jamaica National Report (2018, draft), for example, gives the country an overall score of 26 per cent with respect to its current overall framework for risk identification, risk reduction, preparedness, recovery planning and financial protection. The iGOPP is a composite or synthetic indicator that allows for verifying whether a country possesses the appropriate governance conditions for implementing a public policy for comprehensive disaster risk management. The index makes it possible to quantify to what extent the actions, policies and reforms of the Government and its institutions are consistent with the internationally accepted objectives, results and processes of disaster risk management. The iGOPP has been designed to evaluate the formal and 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

¹ GOJ, 2014. Country Document on Disaster Risk Reduction.

² Senior and Dunn 2009. Enhancing Gender Visibility in Disaster Risk Management and Climate Change in the Caribbean: Country Assessment Report for Jamaica as reported in GOJ, 2014. Country Document on Disaster Risk Reduction

³ Jamaica Survey of Living Conditions, 2018

country. Application of the iGOPP and increases in the score would signify or constitute subsequent public policy improvements in an overarching JCDRM framework and improved performance across all risk categories leading to an overall reduction in vulnerability. Other indices and reports paint a similar picture of Jamaica's current vulnerability. For example, a recent study by the World Bank, states that Jamaica's climate vulnerability has led to a decline in the growth of national GDP from 1.4 per cent to 0.5 per cent in 2017. This was a result of severe floods and adverse weather throughout that year.

State of Preparedness for DRM within the Jamaican Context

Comprehensive disaster risk management is fundamental to the country's thrust towards sustainable development. The country has a history of taking measures to reduce its vulnerability to both natural and man-made hazards through the implementation of various policies and programmes. The Disaster Risk Management Act, which was promulgated in 2015, includes various policy perspectives and therefore the Act has allowed the country to be able to advance the resilience agenda in the absence of a defined comprehensive disaster risk management policy as it specifies, *inter alia*, a host of new provisions to increase comprehensive disaster risk management capacity in the country.

The Act establishes the Office of Disaster Preparedness and Management (ODPEM) as the primary organization responsible for DRM, which includes coordinating and building capacity for disaster risk planning and response by agencies across government as well as building awareness among the public. The Act also provides legal recognition for, and defines roles and function of, a National Disaster Risk Management Council (NDRMC) (for which the ODPEM acts as the Secretariat) and Parish and Zonal Disaster Committees. It outlines a three-tier framework for managing disaster risk – national, parish and community – and each tier has an organizational structure that is deemed necessary for the effective management of disaster risk. Figure 1 illustrates a proposed structure that reflects these three tiers.

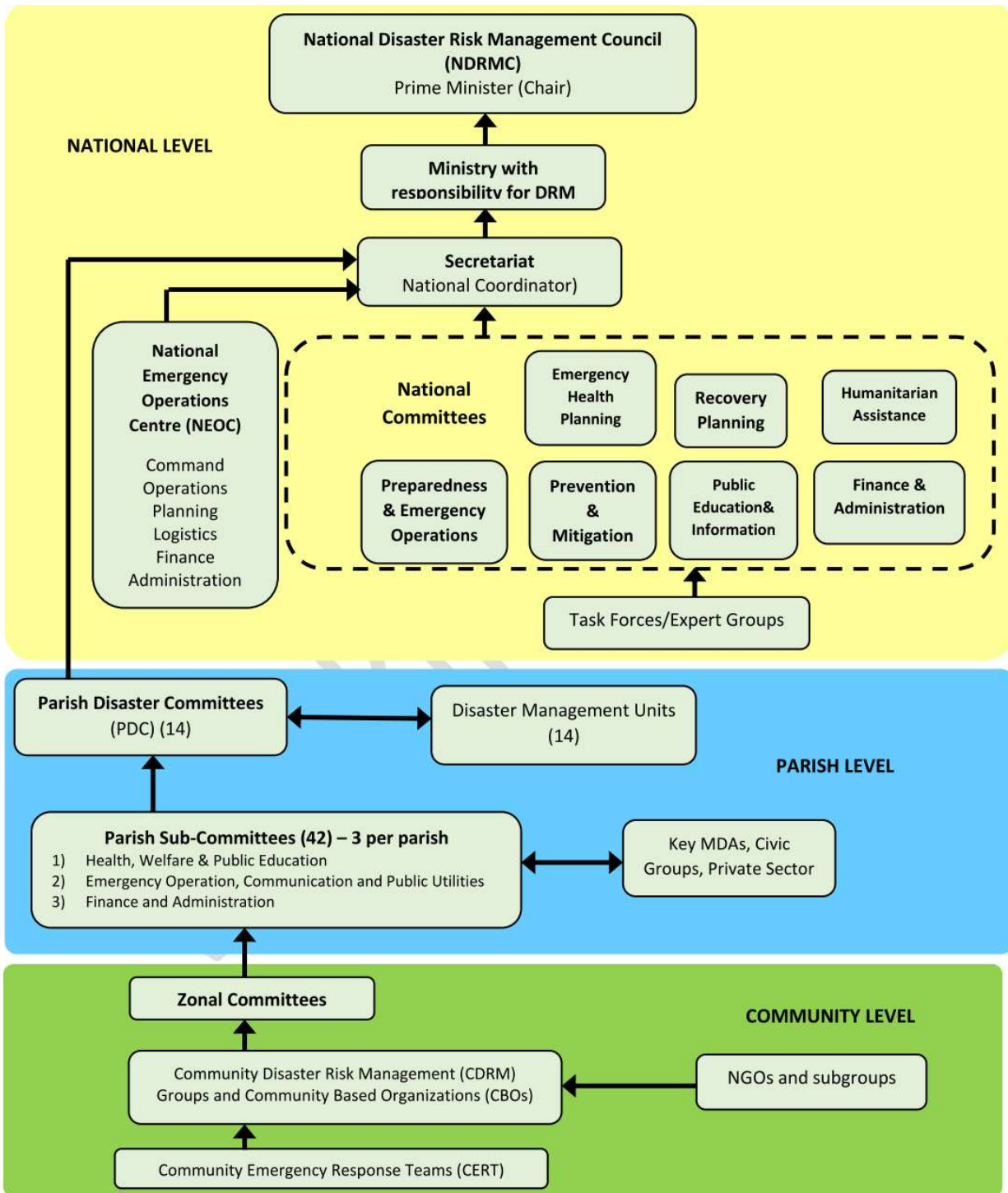


Figure 1: Proposed Structure of the National Disaster Risk Management Framework for Jamaica

Source: Draft Comprehensive Disaster Risk Management Policy for Jamaica 2019, ODPEM

Also, Jamaica has incorporated disaster risk management within “Vision 2030 Jamaica”, the country’s first long-term strategic development plan, which provides a comprehensive planning framework in which the economic, social, environmental and governance aspects of national development are integrated. It calls for Jamaica to develop and implement strategies and actions towards “Hazard Risk Reduction and Adaptation to Climate Change” (National Outcome #14 of the Plan).

The achievement of National Outcome #14 – “Hazard Risk Reduction and Adaptation to Climate Change”, requires *inter alia* the need for Jamaica to have in place a current, long-term and comprehensive risk management policy that takes into account the impacts of a changing climate, covering a range of dimensions – including but not limited to rehabilitation plans and policies as well as multi-sectoral programmes to better identify risks; reduce vulnerability to natural hazards by improving environmental and developmental practices; reduce the impact of adverse events; and strengthen emergency services, including the development and use of early warning systems. Such a policy also must support resilience building amongst the most vulnerable and include strategies that are gender sensitive and promote gender equity. The policy must also define ways in which various sectors – such as water, agriculture, health and tourism among others – could be climate proofed and – critically – it must link social protection and financial protection strategies as critical elements towards closing the protection gap.

Additionally, as the country seeks to pursue a development pathway consistent with achieving the sustainable development goals (SDGs), the national development plan creates the framework through which the SDGs would be achieved. As such, the strategies included under National Outcome #14 – Hazard Risk Reduction and Adaptation to Climate Change are aligned with the

Jamaica's National Goals and National Outcomes

NATIONAL VISION

"Jamaica, the place of choice to live, work, raise families and do business"



SDGs below and by pursuing the strategies and actions in the Medium-Term Socio-Economic Framework (MTF) 2018 – 2021, Jamaica will be contributing to the achievement these SDGs:

- Goal # 13: Take urgent action to combat climate change and its impacts
- Goal #11: Make cities and human settlements inclusive, safe, resilient and sustainable
- Goal #1: End Poverty in all its forms everywhere
- Goal #7: Ensure Access to Affordable, Reliable, Sustainable and Modern Energy for All



Jamaica is signatory to a range of international and regional conventions and agendas which require developing and implementing associated policies, strategies and actions to bring these conventions into force locally. The development of a JCDRM policy will enable Jamaica to meet its requirements under the 2030 Agenda for Sustainable Development and the Sustainable Development Goals; the Sendai Framework for Disaster Risk Reduction 2015 – 2030; the Paris Agreement on Climate Change 2015; the Addis Ababa Action Agenda of the Third International Conference on Financing for Development (Addis Ababa Action Agenda); and the Caribbean Comprehensive Disaster Management Strategy and Programming Framework 2014-2024. Importantly, the Sendai Framework is a strong foundation upon which this policy has been formulated and therefore the policy is structured to include key principles articulated in the Framework. This policy also is expected to play a key role in helping CARICOM achieve its stated vision of making the Caribbean the world's first climate-resilient region.

Development of the Comprehensive Disaster Risk Management Policy

The development of this Comprehensive Disaster Risk Management Policy will ensure that disaster risk management is integrated in development planning across all sectors and industries. The policy will facilitate the effective coordination of disaster risk management programmes at the national and local levels; include strategies for coordination of activities of the private sector and civil society; and provide a common strategic direction to government (national and local entities), non-governmental organizations, private sector organizations, media and international development partners at national and local levels on how to effectively develop and implement disaster risk management programmes and activities.

The policy includes a results-based management framework consisting of a set of goals and outcomes to assess progress and enable both corrective action when necessary as well as continuous improvement. Also, this Comprehensive Disaster Risk Management Policy for Jamaica effectively provides policy direction and define the parameters and institutional arrangements required for the integration and implementation of disaster risk management and climate change adaptation (CCA) in Jamaica, towards building national disaster resilience.

The JCDRM policy therefore establishes the Government's strategic approach to disaster risk management towards building resilience. Whilst the focus is on the Government's approach, the goals and strategies contained in the policy also will require the commitment of the private sector, civil society organizations and the general public. The private sector, for example, will be called on to change its business model and attempt to implement a new approach to business where issues such as disaster risk reduction, environmental sustainability and climate change adaptation become essential elements that are integrated into company strategy – in other words, disaster risk reduction, climate change adaptation and environmental management would become fully legitimate business expenses whereby the business sector embraces a quality-, community-, and customer- oriented focus, towards reaching the triple bottom/top lines.

The JCDRM Policy, coupled with the national disaster risk financing policy being developed, the Disaster Risk Management Act 2015 and the amendments to the Climate Change Policy Framework for Jamaica (2015) will strengthen the country's overall disaster risk governance framework creating a dynamic platform for effective disaster risk management and disaster risk financing – an important step in advancing the country's development agenda that is consistent with the sustainable development goals. The policy is designed to accommodate an integrated and shared vision of the government, civil society organizations and the private sector for disaster risk management in Jamaica and will be the platform upon which the country develops legislation, programmes, plans, and other associated disaster risk management actions over the period 2020 – 2040.

Section 2: Situational Analysis

Jamaica's vulnerability to hazards remains high with ODPEM indicating that of the 947 communities on the island, over 300 can be considered highly vulnerable⁴. Disasters have impacts not only on the population but on almost all economic industries and sectors – tourism, agriculture, education, and health among others. The hazards to which Jamaica has been exposed over the years have had implications for public finance, increasing expenditure, reducing domestic revenue and in turn resulting in increased domestic and external borrowing. The COVID-19 pandemic has revealed the need to ensure that Jamaica's health systems are resilient and can continue providing access to the requisite care for the population – to combat the disease itself and to address other ongoing health issues.

Approximately 90 per cent of Jamaica's US\$14 billion GDP is produced within its coastal zone, making its economically valuable tourism, industry, fisheries and agriculture assets highly vulnerable to climate change. Disasters over the past two decades have severely impacted Jamaica's economic growth. Natural, biological and many man-made disasters – as well as financial crises – are typically exogenous events that represent covariate shocks across a country, affecting communities and households. Economic damages from hazards can jeopardize the health of national economies at a level comparable to or greater than that of financial crises. This policy highlights and makes linkages with the disaster risk financing policy, recognizing that integrated disaster risk financing strategies will allow the country to increase its financial response capacity in the aftermath of disasters and reduce its economic and fiscal burden.

Climate change, which poses a serious threat to the environment as well as to economies and societies is an important consideration in the development of this policy. This policy also takes into account the fact that climate change is increasing the negative impacts of many natural hazards, as it leads to more frequent high-intensity hurricanes, and more frequent excess rainfall events as well as droughts as well as sea level rise and degradation of protective coral reefs. Climate change also may increase the negative impacts of health-related/biological hazards by creating conditions favourable to increased spread of diseases. Thus, climate change impacts make the task of reducing disaster losses even more difficult. This policy document will seek to address the converging agendas of disaster risk reduction and climate change adaptation and the need for integrating these within wider development processes.

Whilst there are few options to reduce the occurrence and intensity of most hazards, it is important for the country to place emphasis on comprehensive disaster risk management activities and programmes as a means of reducing existing and future vulnerability.

Comprehensive disaster risk management places focus on:

⁴ GOJ Medium Term Socio-Economic Policy Framework 2015 - 2018

Risk Identification	<ul style="list-style-type: none"> • Hazard mapping, risk modelling
Risk Reduction	<ul style="list-style-type: none"> • Spatial and sectoral planning, sector-specific standards • Risk mitigation works, infrastructural retrofitting • Education and creating a culture of prevention
Financial Protection	<ul style="list-style-type: none"> • Budget planning, risk transfer, risk financing instruments (e.g. insurance, contingent credit, cat bonds etc.), budget appropriation
Preparedness	<ul style="list-style-type: none"> • Alerts and early warning systems, response planning, training equipment, logistics simulations, response systems management
Recovery and Redevelopment	<ul style="list-style-type: none"> • Institutional planning, strengthening; recovery, planning, reconstruction policies; rehabilitation plans

Hazard Risk Profile of Jamaica

Understanding hazards, exposure and vulnerability is the first step towards managing disaster risk. Jamaica, like other small island and coastal states, is susceptible to a range of primary and secondary hazards which impacts the advancement of its developmental goals. In determining the way forward and being able to best define the policy framework for comprehensive disaster management, it is important to understand Jamaica's vulnerability to natural, man-made and health-related/biological hazards and their impact on the social and economic fabric of the society. The natural, man-made and biological hazards that are of greatest significance to Jamaica are presented in the table below.

Table 1: Types of Hazards Applicable to Jamaica

Natural	Man-made	Biological/Health-related
<p>Hydro-meteorological*:</p> <ul style="list-style-type: none"> • Hurricanes and storms • Severe rain • Extreme heat • Floods • Drought • Land degradation • Coastal erosion • Soil erosion and landslides <p>* exacerbated by climate change</p> <p>Seismic:</p> <ul style="list-style-type: none"> • Earthquakes • Tsunamis 	<p>Technological:</p> <ul style="list-style-type: none"> • Road, aviation and nautical accidents – including oil spills • Failures of electricity, telecommunications, computer networks or water, sewer, or gas distribution systems • Dam failure <p>Other:</p> <ul style="list-style-type: none"> • Fires • Terrorism • Cybercrimes 	<p>Disease*:</p> <ul style="list-style-type: none"> • Human disease outbreaks and epidemics • Animal (livestock), and plant (agricultural) epidemics <p>*can be exacerbated by climate change</p> <p>Other:</p> <ul style="list-style-type: none"> • Other biological/physical hazards such as poisoning, air pollution

These disasters often have secondary impacts – caused not by the hazard itself but by conditions that arise due to the hazard. For example, after natural disasters, the lack of access to toilets, clean water and medications often put tens of thousands at risk for disease and in the Caribbean these disasters have brought infectious disease outbreaks that wreaked havoc after the initial hazard struck. For example, cholera killed thousands in Haiti after the 2010 earthquake. And stagnant water left behind can become a breeding ground for mosquitos, giving rise to diseases like dengue, chikungunya and Zika, which are endemic in Jamaica. Another example is the COVID-19 crisis, which reduced access to healthcare facilities to combat spread of the virus, resulting in a lack of care for other diseases such as diabetes, AIDS etc.

The challenges posed by these perils are further compounded by social issues such as the undesirable levels of poverty, the location of human settlements in high-risk areas, environmental degradation and varying instances of poorly constructed infrastructure and housing.

Therefore, disaster risk is a function of three components: hazard, exposure, and vulnerability. Exposure and vulnerability, not only the hazard level, are the main drivers of the scale and impacts of any disaster.

Natural Hazards – Hydro-meteorological

Most of the island’s critical economic and social assets including housing stock, approximately 82 per cent of the population and 70 per cent of all major industries are located along the coast⁵, increasing the country’s vulnerability especially to hydro-meteorological hazards. This concentration is due primarily to the high and growing economic importance of tourism (predominantly coast-based) and the high density of the population on the coast. Another main economic engine, agriculture, is also highly vulnerable to hydro-meteorological hazards. The Global Facility for Disaster Reduction and Recovery (GFDRR) has cited Jamaica to be the third most exposed country in the world to multiple hazards, with over 96 per cent of the country’s GDP and population at risk from two or more hazards⁶.

H A Z A R D R I S K	<i>Hazard</i> A natural or man-made phenomenon, which is likely to cause physical damage, economic loss, or threaten life, wellbeing or property (from the Disaster Management Act 2015)
	<i>Exposure</i> 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 the hazard
	<i>Vulnerability</i> The reaction or likelihood of damage of the assets when exposed to a hazard event

Over the last 30 years, Jamaica has experienced an increase in the frequency of natural events related to inclement weather, tropical depressions, tropical storms, hurricanes, floods, droughts

⁵ Medium Term Socio-Economic Policy Framework 2018 - 2021

⁶ GFDRR Jamaica page <https://www.gfdr.org/en/jamaica>

and landslides, which have resulted in increasing economic and environmental costs. The table below shows the impact of extreme natural hazard events on the economy during 1999 – 2017.

Table 2: Impact of Extreme Natural Hazard Events on the Economy (1999– 2017)

Event	Year	Category	Cost (J\$B)	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 and Emily	2005	4	5.98	1
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 (approx.)
May Flood Rains	2017		4.05	0.2
Total			127.95	1.3

Source: DaLA Reports (PIOJ and Ministry of Industry, Commerce, Agriculture and Fisheries)

Loss of life due to hurricanes has been relatively low through the years. However, it is not insignificant, as Gilbert, a Category 3 storm, in 1988 caused 45 deaths and Ivan, a Category 4, in September 2004 resulted in 14 deaths⁷.

For Jamaica, hurricane risk is considered to be more significant than earthquake risk, with average annual losses (AAL) from hurricanes estimated as being US\$67.3 million (0.5 per cent of GDP) and from earthquakes US\$36 million (0.3 per cent of GDP)⁸. This is represented in the map below, from the Jamaica Hurricanes and Earthquakes Risk Profile. This risk profile also indicates that the Probable Maximum Loss for hurricanes (for a hurricane with a 250-year return period)

⁷⁷ PAHO. Risk Management – Jamaica

https://www.paho.org/disasters/index.php?option=com_content&view=article&id=1215:risk-management-a-jamaica&Itemid=828&lang=en

⁸ Jamaica Hurricanes and Earthquakes Risk Profile, World Bank, 2016.

is US\$3.5 billion (25.3 per cent of GDP) and for earthquakes (for an earthquake with a 250-year return period) is US\$2 billion (14.6 per cent of GDP). Single-family, wood studwall frame with plywood/gypsum board sheathing, as well as reinforced masonry bearing walls with concrete diaphragms, are the buildings most vulnerable to hurricanes, each category accounting for 23 per cent of AAL.

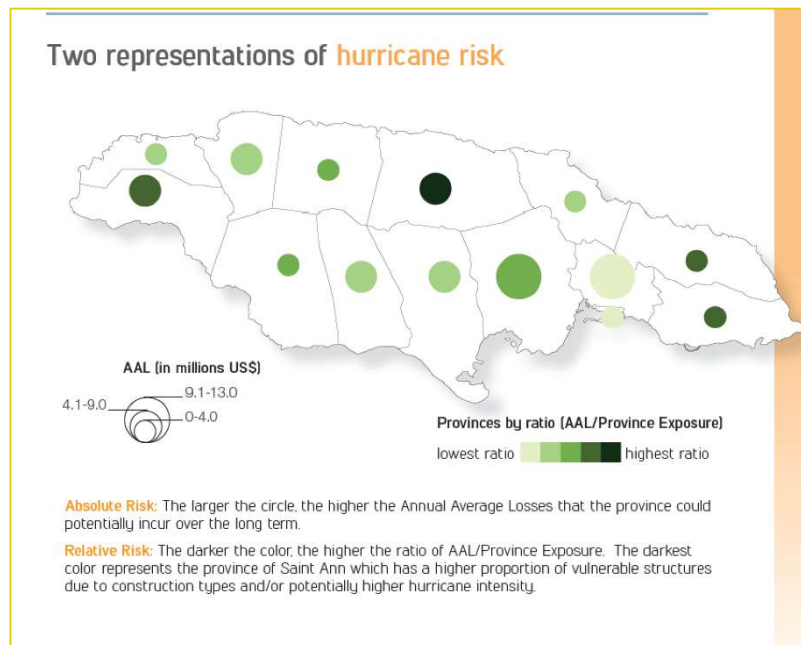
The Ministry of Finance and the Public Service has stated that natural disasters have cost Jamaica an estimated US\$1.2 billion between 2001 and 2010. The damage and losses from

Hurricane Ivan in 2004 alone exceeded US\$350 million⁹. Other examples include Hurricane Sandy in 2012, which resulted in damage and loss of US\$109 million (damage of US\$106 million and losses of US\$103 million), which represented some 0.8 per cent of 2011 nominal GDP.

The country also is impacted by excess rainfall events (which may occur throughout the year – not only within tropical cyclones). Urbanization patterns, poor drainage, ageing infrastructure and poor waste management practices often compound rainfall events resulting in wide-scale flooding.

Over the years, environmental degradation of ecosystems such as forests, wetlands, watersheds and coral reefs have contributed to an increase in the impacts of natural disasters in Jamaica – as these natural systems are unable to perform their protection functions. The impacts of natural hazards are likely to continue given expectations of further rapid urbanization, increasing environmental and ecosystem degradation, and the impacts of climate change, which is exacerbating disaster risk and negatively impacting resilience.

The State of Jamaican Climate Report 2015 by Climate Studies Group Mona indicates a decrease in annual average rainfall, accompanied by an increase in annual average temperatures and a higher number of “warm days”. This will result in increased intensity of hydro-meteorological



Source: Jamaica Hurricanes and Earthquakes Risk Profile, World Bank 2016

⁹ Press release: November 8, 2018. Jamaica Champions Climate and Financial Resilience in the Face of Natural Disaster Risks <https://www.worldbank.org/en/news/press-release/2018/11/08/jamaica-champions-climate-and-financial-resilience-in-the-face-of-natural-disaster-risks> 2018

hazards with a projected 80 per cent increase in the frequency of Saffir-Simpson category 4 and 5 Atlantic hurricanes accompanied by increased rainfall during those hurricanes.

Jamaica also is particularly vulnerable to drought. The seasonally driven and periodic impacts of drought on water supply and distribution, contribute to increased human health risk due to poor sanitation and also to food production and local food supply chains as the agriculture sector is the major water user in the country. According to data from the Meteorological Service, rainfall patterns indicate that over the past 60 years there has been a downward trend in monthly precipitation levels.

Natural Hazards - Seismic

Earthquake risk is a very prominent natural peril in Jamaica. Jamaica is located on the boundary of two main tectonic plates – the North American plate to the north and the Caribbean plate to the south, while Kingston is located in an area with a high concentration of local faults. The Earthquake Unit at the University of the West Indies (UWI) records more than 200 earthquakes each year on average being felt across the island. Data from the PIOJ as contained in the Economic and Social Survey (various years) supports this, as shown in the snapshot for the period presented in the table at right. Most of these usually measure less than 5.0 on the Richter scale.

Table 3: Snapshot of Number of Earthquakes Felt in Jamaica 2013 – 2018

Year	No. of Earthquakes
2013	218
2014	222
2015	232
2016	302
2017	279
2018	286

Source: Economic and Social Survey, Jamaica, Jamaica, various years

Known faults and past activity provide information of the earthquake exposure of the country. Three main events are worth mentioning – the 1692 earthquake that caused major damage to Port Royal with literature suggesting that it had a magnitude of at least 7.0 on the Richter scale; the earthquake which occurred in 1907 and which was estimated to measure 6.0 – 6.5 on the Richter scale causing major damage to Kingston, particularly as a result of fires occurring after the actual event; and the most recent event in 1993, which measured 4.5 on the Richter scale and which caused small-scale damage in Kingston. In the 1907 earthquake it is estimated that about 1,000 persons lost their lives and 85 per cent of buildings were either completely destroyed or affected. There also was significant liquefaction and fires that spread laterally. The 1993 earthquake resulted in 2 deaths, destroying many wooden structures and causing varying degrees of damage to reinforced structures¹⁰.

The seismic readiness of the country remains an area that requires attention. Detailed assessments of the country's seismic readiness were undertaken in 2013 and 2014. These assessments have shown that several of the structures in the Kingston Metropolitan Area (KMA) are not earthquake-resistant (for earthquakes with magnitudes above 5.0); of the 77 critical

¹⁰ Ahmad, Rafi. Earthquakes in Jamaica are Inevitable but Earthquake Disasters Need Not Be. https://www.mona.uwi.edu/uds/GEOHAZARDS_2001/EQprep-20010612b.html

facilities in the Corporate Area assessed, 61 per cent are susceptible to earthquakes. Of the 37 police stations assessed, 65 per cent were not considered to be earthquake safe. Of the 7 fire stations surveyed, 61 per cent were considered to be susceptible, along with 57 per cent of the 33 health centres included in the assessment¹¹. This is worrying as recent research published by the Earthquake Unit at the UWI indicates that the elastic strain accumulation is highest in Eastern Jamaica and therefore Kingston currently is at high risk of experiencing an earthquake of 7.0 – 7.2 magnitude. The assessments also reinforce the need for an updated national disaster policy and plan and the adherence to the country's revised building code. The recently promulgated Building Act (2018) establishes a National Building Code for Jamaica, which is comprised of a series of regulations for different categories of building work. Under the Act, the International Building Code together with 11 documents which have been declared by the Bureau of Standards to be standards of specification, are prescribed as the National Building Code of Jamaica. The absence of this modern comprehensive building code for many years has contributed in some cases to poor building practices which can ultimately lead to high seismic vulnerability. Even with building regulations and codes in place, poor building practices have been due to construction of buildings without official approval and a lack of enforcement of building standards.

Notwithstanding this, the country benefits from highly qualified engineers and architects as well as a number of professional associations such as the Jamaica Institute of Engineers, the Incorporated Master Builders' Association and the Association of Architects, whose members follow international best practices and incorporate standards and international best practices (albeit not necessarily uniformly) for natural hazards in the projects that they undertake. Concern also is related to structures and buildings constructed before the 1960s.

Since the opening of Carib Cement (now CEMEX) in 1952, concrete gradually overtook wood as the main form of construction materials, allowing for more resilient structures and infrastructure to be built. This is further evidenced by the fact that over the last 20 years in Jamaica, and according to data from the Survey of Living Conditions (various years), the housing quality index continues to improve with factors such as materials of the outer walls of housing units being made out of concrete blocks and steel. The vulnerability of such houses and buildings are significantly reduced especially when the concrete is reinforced. Further, most industrial and commercial structures built after the 1980s and newer structures incorporate reinforced concrete. Coupled with this is the fact that construction of buildings and infrastructure across the island needs to be granted approval by the parish councils and in some cases the National Environment and Planning Agency (NEPA).

Presently, vulnerability assessment is a key consideration in this development approval process, in which ODPEM provides comments and recommendations. The approval process – when combined with inspections of the built structures by competent trained planners/inspectors – will contribute to reducing the vulnerability to seismic risks and other natural hazard risk such as winds associated with hurricanes. Also, the enforcement of the National Building Code will reduce the potential impacts of seismic hazards. However, it should be noted that houses in

¹¹ Building Survey of Jamaica

poorer communities may be still constructed of wood and have no reinforcement or planning approval, and many public structures are old the seismic risk still remains. There also is the existence of informal and squatter settlements, which also are vulnerable to seismic risks.

Man-made Hazards

Jamaica is susceptible to man-made hazards such as fires and oil spills as well as more recent emerging hazards such as cybercrime. The main man-made hazard that has had significant impacts in Jamaica is fire – destroying property and agriculture as well as impacting human lives. A fire in 2015 at the Riverton City Dump affected the parishes of Kingston and St. Andrew, lasted 13 days and resulted in closure of schools and businesses. The fire resulted in many human health impacts with more than 3,000 persons reporting that they had to seek medical attention. This fire was blamed on poor management practices at the disposal site. An assessment of the socio-economic and environmental impact of the fire revealed that the National Solid Waste Management Authority (NSWMA), Office of Disaster Preparedness and Emergency Management and the Ministry of Health expended a combined J\$253.8 million to assist the firefighting efforts¹².

Cybercrime is a rapidly growing issue in Jamaica. According to the 2018 Financial Stability Report published by the Bank of Jamaica, the country lost in excess of J\$12 billion to cybercrime in 2016, and there were 62 counts of internet banking fraud in Jamaica totaling J\$38.2 million in losses between January and September 2018. It is almost certain that the loss to cybercrime more than reported because full disclosure might not be forthcoming because of the possible reputational damage to those most affected. These cyber-attacks include hacking into financial systems of banks and transferring money from accounts. Jamaica's banks experience nearly two cyber-attacks per week on average, with an average loss per month of J\$4 million. Since cybercrime is a trans-border activity, countries need to develop innovative strategies to counter this hazard.

While Jamaica has not been the target of any significant terrorism incidents, the Government is committed to global efforts to combat terrorism. Jamaica is a State party to 16 international counter terrorism instruments¹³. Consequently, Jamaica has a comprehensive counter terrorism law, the Terrorism Prevention Act, which has been in effect since 2005, and several supporting pieces of legislation for areas such as financial investigation and not enabling terrorist fighters.

Health-related/Biological Hazards

Jamaica has been periodically affected by health/biological hazards such as the Chikungunya outbreak of 2014, periodic influenza infections and various outbreaks of dengue. Jamaica reported dengue cases between 1990 and 2018; however, an increase was observed after December 2018 with cases exceeding the epidemic threshold. From 1 January through 21 January 2019, 339 suspected and confirmed cases including six deaths were reported. In 2018, a total of 986 suspected and confirmed cases of dengue including 13 deaths were reported. The number of reported dengue cases in 2018 was 4.5 times higher than that reported in 2017 (215 cases

¹² Damage and Loss Assessment Report on Riverton City Fire, PIOJ.

¹³ Statement By Major General Antony Anderson Commissioner Of Police Jamaica Constabulary Force at the High-Level Conference Of Heads Of Counter-Terrorism Agencies Of Member States, June 2018, United Nations, New York.

including six deaths). According to historic data, Jamaica reported a major outbreak in 2016, when 2,297 cases of dengue infection including two deaths were reported. Similar large increases were reported in 2010 (2,887 cases) and 2012 (4,670 cases)¹⁴. The Influenza Pandemic Preparedness and Response Plan, developed by the Ministry of Health in 2006 provides basic epidemiological guidance to deal with epidemics.

The current COVID-19 pandemic is a powerful example of how widespread the impacts of a health hazard can be for a country like Jamaica. While COVID-19 started out as a severe public health emergency, it has since moved to become an economic crisis that also has had significant impacts on social systems and services, threatening Jamaica's progress over the last decade. The number of COVID-19 cases and related deaths are relatively low – with 621 confirmed cases as of June 15, 2020, with 10 deaths¹⁵. However, measures implemented to control the spread of the disease have reduced economic and social activity beyond the health impacts themselves. These measures included bans on some economic activities; closure of non-essential services and entertainment events; establishing travel restrictions, which effectively halted Jamaica's tourism industry and had knock-on impacts on other related industries such as agriculture – and severely affected peoples' livelihoods. School closures affected educational progress and also interfered with associated social initiatives such as school feeding programmes, affecting children's nutrition and placing an added burden on families.

Given the necessary measures to slow the spread of the virus, Jamaica's economy is projected to decline by 5.6 per cent for 2020¹⁶. These projections are based on early information of the impact of COVID-19. Therefore, the projections are predicated on several factors including the pathway of the pandemic, the intensity and efficacy of containment efforts, the extent of supply disruptions, tightening in global financial market conditions, and volatile commodity prices. Jamaica's economy is expected to experience a sharp contraction in its main sources of foreign currency revenues – tourism, remittances, and alumina exports¹⁷. The tourism and transport sectors are expected to be the hardest hit as travel restrictions are implemented across the world and visitors are less willing to travel.

It is anticipated that remittances will fall significantly since the two largest source markets of remittances to Jamaica, the USA and the UK¹⁸, are also experiencing significant economic fallout due to COVID-19. Remittances are a major source of income for some of the country's most vulnerable groups. Hence, reductions in remittances will negatively impact the spending power of some of the most vulnerable. It is anticipated that vulnerable groups, including persons with disabilities, children, women and girls, female-headed households and persons living with HIV/AIDS are expected to be impacted disproportionately by effects of COVID-19 due to the economic fallout which has the potential to devastate these vulnerable communities who are already challenged by economic hardship and social disparities.

¹⁴ WHO. 2019. <https://www.who.int/csr/don/4-february-2019-dengue-jamaica/en/>

¹⁵ Ministry of Health and Wellness press briefing June 15 2020

¹⁶ PIOJ Quarterly press briefing June 2020

¹⁷ <https://www.fitchratings.com/research/sovereigns/fitch-revises-jamaica-outlook-to-stable-affirms-at-b-10-04-2020>

¹⁸ http://boj.org.jm/uploads/pdf/rem_updates/rem_updates_dec2019.pdf

Policy, Legal and Institutional Framework for Disaster Risk Management in Jamaica

There are a number of policies and pieces of legislation that lay the groundwork for and support comprehensive disaster risk management in Jamaica – starting with the Jamaican Constitution which considers it a right of all Jamaicans to be “free from the threat of injury”. The policies are supported by a number of strategies and plans. The policies and legislation that are most critical to this Comprehensive Disaster Risk Management Policy are listed in the table below, with the fundamental components described in more detail following.

Table 4: Policies and Legislation that Support Comprehensive Disaster Risk Management

Policies	Legislation
<ul style="list-style-type: none"> • Vision 2030 (National Development Plan) • National Public Financial Management Policy • Framework for Natural Disaster Risk Financing 2019 • Climate Change Policy 2015 • National Hazard Risk Reduction Policy for Jamaica 2005 • National Policy and Strategy for the Environmentally Sound Management of Hazardous Wastes 2016 • Social Protection Strategy 2014 • Water Policy 2015 • National Land Policy 1997 • National Forest Policy 2001 • Food and Nutrition Security Policy 2013 • National Housing Policy 2011 • National Policy on Poverty - National Poverty Reduction Programme 2016 • National Security Policy 2012 • National Information and Communications Technology (ICT) Strategy 2016 • Resettlement Strategy for Jamaica 2017 • Government of Jamaica’s Continuity Management Policy 2018 • National Cyber Security Strategy 2015 	<ul style="list-style-type: none"> • Constitution of Jamaica 1962 • Disaster Management Act (2015) • Building Act (2018) • Natural Resources Conservation Authority Act (1991) and regulations • Town and Country Planning Act • Terrorism Prevention Act (2005) and amendments • CyberCrimes Act (2010) • Disabilities Act (2014) • National Solid Waste Management Act (2002)

Vision 2030 Jamaica

The importance of comprehensive disaster risk management to Jamaica’s sustainability is reflected in Jamaica’s National Development Plan, Vision 2030 Jamaica, specifically, Goal 4 – “Jamaica has a Healthy Natural Environment” and the supporting National Outcome #14 – “Hazard Risk Reduction and Adaptation to Climate Change”. The Plan also calls for the development, promulgation, and implementation a comprehensive disaster risk management policy as the tool through which many of the reforms, acts and strategies will be implemented towards realizing the achievement of the national outcome. Working in a sustainable manner towards the achievement of all the goals of Vision 2030 will support the implementation of the

policy and build disaster resilience in all sectors. Goal 4, Outcome 14 prioritizes the mainstreaming of DRR into development planning across all sectors as the path to reducing disaster risk at all levels.

The Disaster Risk Management Act 2015

Jamaica currently has in place a well-defined DRM Act, promulgated in 2015, which repeals the 1993 Disaster Preparedness and Emergency Act and places emphasis on the entire disaster management cycle with specific focus on risk reduction. The Office of Disaster Preparedness and Emergency Management was established under the 1993 Act. The 2015 Act outlines a three-tier framework for managing disaster risk – national, parish and community – and each tier has an organizational structure that is deemed necessary for the effective management of disaster risk. It assigns primary responsibility for disaster risk management to ODPEM. In addition, the Act provides legal recognition for, and defines roles and function of, the National Disaster Risk Management Council, and Parish and Zonal Disaster Committees. Although these entities have been in place since at least 1996, they were not codified in any laws.

Definition of “Disaster” under the Disaster Risk Management Act 2015

An event which results or threaten to result in loss to damage to property, damage to the environment or death, ill health or injury to persons... and may result from fire, accident, an act of terrorism, storm, hurricane, pollution, disease, earthquake, drought, flood, the widespread dislocation of the essential services, other calamity.

The Act also establishes: the National Disaster Fund (NDF); the right to legally evacuate persons identified as at-risk as a preventive measure and provides additional authorities to take mitigation measures as a disaster threatens; identification and description of high-risk areas called “specially vulnerable areas” as well as guidelines for specific, response-related activities for vulnerable populations and the designated specially vulnerable areas; and requirements for a national alert system.

The Act expands the responsibilities and authority of the ODPEM (and/or specifically the Director-General) to include the following: to carry out post-disaster reviews, allowing for free access for the ODPEM to all information held by any government ministry, department or agency or request from other agencies and persons any information relevant and necessary for the review; to prepare and periodically review disaster risk assessment maps of each parish; to collaborate with the local authorities to monitor the implementation of the Act and supporting regulations. ODPEM must conduct annual “disaster management policy reviews” for the Minister to present to Parliament and to be made publicly available.

While the new law specifies a host of new provisions to increase comprehensive disaster management capacity in Jamaica, implementation remains a key challenge. The main issue is the lack of associated regulations – which is resulting in many aspects of the law not being applied.

The DRM Act itself includes a number of areas that may need to be revisited such as the definition of specially vulnerable areas (for which no definition is provided) which needs to reflect the type

of hazards that affect communities and their degree of vulnerability. This should be supported by regulations for the zoning of these specially vulnerable areas. The listing of hazard events covered in the Act should be expanded to include man-made hazards such as oil spills and chemical spills. The issue of evacuation needs to distinguish between mandatory and voluntary evacuation and remove any ambiguity related to both that currently pertains in the Act; the treatment of penalties needs to be adequately addressed as there currently are no penalties for the non-compliance with mandatory evacuation orders. The membership of the national disaster risk management council needs to be revisited; whilst the Act makes provision for a wide range of stakeholders to be members, it does not include mayors or other key representatives of local authorities. Also, the area of financing and funding needs to be revisited: the Act does not adequately define how funds are to be used during hazard events and does not explicitly define or indicate the types of risk mitigation the national disaster fund could be allowed to support, nor does it make reference to alternative financing instruments that could be explored to increase the emergency response resources. Also, the Act should include provisions to implement a sustainable funding/economic model for the municipalities and local authorities to undertake their DRM responsibilities.

Institutions for DRM

The National Disaster Risk Management Council, established by the DRM Act, is responsible for overall coordination of disaster management activities in Jamaica. While the Office of Disaster Preparedness and Emergency Management is the agency with overarching responsibility for DRM, a number of other organizations have primary roles in disaster risk reduction and response. These include, but are not limited to first responder agencies (such as the Jamaica Fire Brigade, Jamaica Constabulary Force and Jamaica Defence Force), Ministry of Health and Wellness; Ministry of Local Government and Rural Development (within which the ODPEM sits); and the National Environment and Planning Agency. Special institutions have been established in the last decade to address emerging hazards. In regard to terrorism, the Counter Terrorism Forum, established in 2015, promotes communication and intelligence sharing with local and regional intelligence agencies. The Major Organised Crime and Anti-Corruption Agency is responsible for handling cybercrime. To assist in the protection of Jamaica's Information Communication Technology (ICT) infrastructure, the Government established a Cyber Incident Response Team in 2016.

Disaster Risk Financing

The DRM Act establishes the National Disaster Fund which can be applied towards disaster mitigation, preparedness, recovery, and relief efforts. However, there are issues with the NDF which must be addressed, including: outdated terms of reference, lack of operating guidelines, and not operationalizing the capitalization of the NDF via the prescribed 1 per cent (or other percentage as agreed) of building fees paid annually to local authorities.

The Ministry of Finance and the Public Service plays a critical role in the area of disaster risk financing. In 2018, Cabinet approved the National Public Financial Management Policy Framework for Natural Disaster Risk Financing to increase allocations for the contingencies fund

for natural disasters. This framework allowed for the current preparation of the Disaster Risk Financing Policy which will incorporate a range of ex-ante risk financing tools.

Jamaica currently is adopting a holistic approach to disaster risk financing and is building a disaster financial protection strategy that combines a number of risk financing instruments that address different layers or types of risk – incorporating instruments that support low and high probabilistic events which address high and low severity events. The Ministry of Finance and the Public Service recently made amendments to the Fiscal Responsibility Framework to allow, for the first time, funds to be transferred to a Contingencies Fund to specifically provide for the possibility of natural disasters, moving the allocation from J\$100 million to J\$10 billion.

Additionally, Jamaica has been a member of CCRIF SPC since its inception in 2007 and purchases annual earthquake, tropical cyclone, and excess rainfall parametric insurance policies. CCRIF is the world's first multi-country multi-peril risk pool based on parametric insurance and provides parametric catastrophe insurance for Caribbean and Central American governments. Unlike indemnity insurance, CCRIF's parametric insurance products are insurance contracts that make payments based on the intensity of an event and the amount of loss calculated in a pre-agreed model caused by these events. Payout amounts increase with the level of modelled loss, up to a pre-defined coverage limit of up to US\$150 million per policy. CCRIF was not set up to cover all the losses on the ground but to provide quick liquidity after a policy is triggered to support countries' immediate needs.

In 2018, the Ministry of Finance and the Public Service signed a US\$285 million contingent loan from the Inter-American Development Bank (IDB), which is expected to bolster the country's response efforts after a natural disaster and further reduce any associated budget volatilities. The contingent credit facility will allow Jamaica to pay for any extraordinary public expenses that could arise from emergencies caused by natural disasters. The loan is intended to buffer the financial shock of a disaster on the Jamaica's fiscal balance, thereby increasing the nation's financial stability and efficiency as well as its disaster preparedness and response. The Contingent Credit Facility for Natural Disaster Emergencies (CCF) is one of the IDB's main tools to help countries develop effective strategies for natural disaster financial risk management. The CCF offers contingent loans that are prepared in advance but are disbursed after the IDB has verified the occurrence of a disaster event in terms of type, location, and intensity. This is part of the IDB's effort to help countries move from a primarily after-the-fact approach to managing disaster and climate risks to one that includes greater prevention, mitigation, and preparedness measures taken before disasters strike.

SWOT Analysis

The SWOT Analysis presents the identification of strengths and weaknesses related to disaster risk management in Jamaica, which represents the internal assessment of the approaches to JCDRM while the consideration of opportunities and threats represents the analysis of the impact of the external environment on JCDRM. The SWOT analysis, along with the hazard risk profile presented above form the basis for identifying goals and strategies that will be designed to ensure that Jamaica adopts and institutionalizes a broad and more comprehensive approach to disaster risk management, that takes into account and addressing not only the legal and institutional framework for DRM, but focuses on risk identification, risk reduction, disaster preparedness, response and recovery including risk financing (especially ex-ante risk financing).

The SWOT analysis related to comprehensive disaster risk management in Jamaica is presented in the matrix below.

	Policy, Programmatic and Legislative Framework	Institutional Framework	Capacity and Resources	Stakeholder Participation and Coordination	Physical/Social Issues
Strengths	<ul style="list-style-type: none"> Disaster risk management is included as one of 15 national outcomes in the country's national development plan which signals that at a national level DRM is a policy priority and there is political commitment and bipartisan support At the national level there is clear articulation of the linkages between 	<ul style="list-style-type: none"> There exists at the national level a disaster risk management council (the NDRMC) that is responsible for overall coordination of disaster management activities in Jamaica Parish Development Committees, Parish disaster committees and other community-based structures participate in the local governance framework for disaster risk management 	<ul style="list-style-type: none"> Jamaica has a national disaster management system with trained and knowledgeable leadership There is an updated hydro-meteorological and seismic network to facilitate data collection and monitoring of natural hazards such as earthquakes, droughts and tropical cyclones Existence of institutions such as 	<ul style="list-style-type: none"> Many NGOs and private sector organizations are engaged in DRM at the local level and are willing to participate within a more coordinated approach 	<ul style="list-style-type: none"> A Resettlement Strategy exists A Social Protection Policy exists

Policy, Programmatic and Legislative Framework		Institutional Framework	Capacity and Resources	Stakeholder Participation and Coordination	Physical/Social Issues
	<p>DRM and climate change adaptation</p> <ul style="list-style-type: none"> The promulgation of the DRM Act has allowed Jamaica to expand its view and outlook of disasters, taking on a more comprehensive approach to DRM - focusing on disaster preparedness, response and recovery, prevention and risk reduction and is able to incorporate hazards beyond natural hazards such as those related to pandemics and man-made hazards Disaster risk financing is a policy priority of the Government with government ensuring a risk layering approach to 	<ul style="list-style-type: none"> Government has adopted an all-hazards approach, and recognizes the importance of managing all hazards – natural, man-made and health-related Disaster risk management is promoted by Government as a multi-sector responsibility involving a range of stakeholders DRM is institutionalized within sectoral plans and community plans, and infused in school curricula A defined framework for accessing aid during a disaster exists 	<p>the UWI Climate Studies Groups and Mona Geoinformatics and the MEGJC National Spatial Data Management Branch that can contribute to data and research needs related to DRM</p> <ul style="list-style-type: none"> There exist at least 8 warehouses around the country stocked with response and relief supplies The Government has access to ex-ante risk financing tools in the event of natural disaster to support immediate relief (CCRIF SPC, IDB, CCF, Contingency Fund etc.) A cadre of DRM professionals across the public sector are trained in the use of post-disaster impact 		

Policy, Programmatic and Legislative Framework		Institutional Framework	Capacity and Resources	Stakeholder Participation and Coordination	Physical/Social Issues
	<p>DRF and utilizing a range of instruments (e.g. catastrophe risk insurance, CAT bonds, contingent credit facilities etc.). Amendments made to the Fiscal Responsibility Framework in 2018 allow for the first time funds to be transferred to a Contingencies Fund to specifically provide for the possibility of a disaster moving the allocation from J\$100 million to J\$10 billion – all instruments increasing Jamaica's ability to better respond to a natural disaster</p> <ul style="list-style-type: none"> • A number of disaster management plans exist 		<p>assessment methodologies</p> <ul style="list-style-type: none"> • Post-disaster impact assessment reports are generated after each major event 		

	Policy, Programmatic and Legislative Framework	Institutional Framework	Capacity and Resources	Stakeholder Participation and Coordination	Physical/Social Issues
Weaknesses	<ul style="list-style-type: none"> The DRM Act suffers from implementation challenges, including the development of associated regulations – which is resulting in many aspects of the law not being applied There exists no overarching national disaster risk management policy – the reason for the development of this policy Many disaster management plans are either unavailable, outdated or incomplete and there are no approved standard guidelines or templates to guide the development of Parish Disaster Plans 	<ul style="list-style-type: none"> Despite the existence of a national disaster risk management council, there exist institutional issues – capacity and financial – within ODPEM and at the parish levels There is a lack of a robust disaster management structure at the parish and local levels which reduces the capacity for subnational coordination of DRM and there currently exists a top-driven system, with the majority of resources and personnel at the national level. In 13 of the 14 parishes, the Parish Disaster Coordinator is the only person dedicated to disaster management, and 	<ul style="list-style-type: none"> There exists limited institutional capacity at ODPEM There is limited capacity of the health care system to respond to disasters Historical focus has been primarily on hydro-meteorological hazards resulting in inadequate development of skills and response systems for other hazards such as earthquakes, chemical spills, epidemics etc. There is no dedicated National Emergency Operations Center (NEOC) space/environment that operates 24 hours which presents challenges for effective response to quick-onset events. 	<ul style="list-style-type: none"> Many of the DRR activities undertaken by GOJ lack visibility and there is limited communication and stakeholder engagement making duplication of efforts and resources highly probable Many stakeholders lack a common understanding of the DRM Act There is a lack of guidelines to support a systematic, proactive approach to ensure that all levels of government, 	<ul style="list-style-type: none"> Much of the population and economic infrastructure are within 5 km of the coastline – increasing vulnerability to certain hazards Poor waste management practices exist There exists ageing infrastructure including hospitals, which are critical during disaster events There are no well-established criteria related to risk assessment and risk evaluation, with the aim to direct disaster

Policy, Programmatic and Legislative Framework		Institutional Framework	Capacity and Resources	Stakeholder Participation and Coordination	Physical/Social Issues
	<p>(the CDEMA templates will need to be approved by GOJ for their use in developing the local level plans)</p> <ul style="list-style-type: none"> • The Disaster Action Plan for guiding disaster response operations is outdated – the plan was last published in 1997. This results in planning gaps, particularly regarding mitigation activities. There is currently no clear strategy to revise the Plan • There is inconsistency in incorporation of risk assessments in development orders • Role of men and women including needs after a disaster not 	<p>there is no paid disaster management workforce below the parish level.</p> <ul style="list-style-type: none"> • There is limited transformational disaster management leadership at the national and local organizational levels 	<p>All EOCS are dual use including the one at the national level located at ODPEM – this can be inefficient especially in a rapid onset event</p> <ul style="list-style-type: none"> • While there exist technical DRM personnel and many are highly qualified, the country has not fully established minimum training requirements for disaster management personnel at the national and local levels, which results on knowledge gaps • Insufficient resources are allocated though the national budget for disaster risk reduction activities, which inhibits ODPEM's ability to undertake many necessary activities 	<p>NGOs and the private sector can work seamlessly together on DRR activities</p> <ul style="list-style-type: none"> • Government MDAs applying for international support for DRR projects and NGOs conducting DRR projects are not required to coordinate with ODPEM or receive any approvals from ODPEM • There is no online and interactive platform to support DRR and DRM plans 	<p>risk reduction planning in the most vulnerable areas of the country</p> <ul style="list-style-type: none"> • There is limited alignment of social protection strategies with disaster risk management • There are no well-defined psychosocial programmes in place to support persons after they are impacted by a disaster

Policy, Programmatic and Legislative Framework		Institutional Framework	Capacity and Resources	Stakeholder Participation and Coordination	Physical/Social Issues
	<p>adequately incorporated in gender policy and action plans</p> <ul style="list-style-type: none"> • Vulnerable groups including the disabled, elderly etc. are not adequately incorporated into disaster plans 		<ul style="list-style-type: none"> • An insufficient budget is allocated at the local level for DRR activities; most parish councils do not have dedicated funds to support recovery • Insufficient national disaster funds for recovery efforts – specifically within the DRF –reduces the effectiveness of disaster response operations • An inability exists to determine through the national budgeting process the amount of resources allocated to DRM across MDAs – no existing markers exist in the budgetary process making it almost impossible to determine the sum of the government budget supporting 	<ul style="list-style-type: none"> • There is a lack of ministry and sector-specific comprehensive disaster management plans 	

Policy, Programmatic and Legislative Framework	Institutional Framework	Capacity and Resources	Stakeholder Participation and Coordination	Physical/Social Issues
			<p>disaster risk management</p> <ul style="list-style-type: none"> • The pace of implementation of DRM programmes and projects is slow • There is limited capacity at the local level for response and relief, relying heavily on central government which also has limited capacity • There is need for strengthening the operational nation-wide emergency communications system to address critical communication needs when land and cellular telephone networks are unavailable • Whilst all parishes have designated EOCs, they are all 	

Policy, Programmatic and Legislative Framework		Institutional Framework	Capacity and Resources	Stakeholder Participation and Coordination	Physical/Social Issues
			<p>dual-use facilities and are generally only activated when instructed by ODPEM</p> <ul style="list-style-type: none"> • No database exists for documenting available institutional resources and equipment for use in support of disaster operations 		

	Policy, Programmatic and Legislative Framework	Institutional Framework	Capacity and Resources	Stakeholder Participation and Coordination	Physical/Social Issues
Opportunities	<ul style="list-style-type: none"> The priority focus given to the climate change policy and climate change adaptation strategies across a number of sectors provide a sound basis for reduction of climate vulnerability and risks (e.g. through public education, retrofitting, building for resilience etc.) Government has in place guidelines for the periodic updating of policies which would ensure that future DRM policies are updated in timely manner and are able to address new and emerging issues and challenges New joined up government initiatives will 	<ul style="list-style-type: none"> Overall thrust of government with respect to public sector reform, improvements in governance will support mainstreaming DRR across government Government and private sector can implement projects that are able to attract technological and/or financial support through IDPs and/or bilateral cooperation Current reform/restructuring of ODPEM seeks to strengthen the institutional framework of the agency to be better able to fully carry out its mandate 	<ul style="list-style-type: none"> The possibility exists to pursue climate change funding for specific DRR activities that are linked to climate change adaptation Accessing funds to support the achievement of the SDGs with specific reference alignment to those SDGs whose targets focus on DRR, health, reducing vulnerability and climate actions (SDGs #1, #5, #8, #9, #10, #11, #13, #14, and #15 Higher levels of investment in more resilient infrastructure is taking place across the country A National Risk Information Platform is being developed 	<ul style="list-style-type: none"> There is increasing IDP support for DRR in an attempt to secure other socio-economic investments and to reduce budget volatility The Social Development Commission has a strong presence across communities and can engender cultural change and training for volunteers in DRM using participatory approaches to ensure that they are well 	<ul style="list-style-type: none"> The population is more informed on issues such as environmental management, climate change and the linkages with DRR – as well as linkages among all disasters and economic impacts

Policy, Programmatic and Legislative Framework		Institutional Framework	Capacity and Resources	Stakeholder Participation and Coordination	Physical/Social Issues
	<p>facilitate integration of multi-hazard management across government</p> <ul style="list-style-type: none"> • A National Spatial Plan is being developed which will govern the management of Jamaica's natural resources and guide national development and investment • The Access to Information Act provides a mechanism for data sharing • Local Government Reform initiatives will support DRM at the parish and community levels • Jamaica is developing national policies for key areas such as housing or strategies to 		<p>which will provide different user groups access to spatial and non-spatial data to support risk informed decision making and planning.</p> <ul style="list-style-type: none"> • Lessons learned from the Building Disaster Resilient Communities Project can be transferred to other communities towards strengthening DRR • Rapidly developing new technologies are being used in areas related to communications and disaster relief 	<p>informed, and prepared to support community protection from the impacts of disasters</p>	

Policy, Programmatic and Legislative Framework		Institutional Framework	Capacity and Resources	Stakeholder Participation and Coordination	Physical/Social Issues
	effectively reduce squatter settlement which can increase the impacts of disasters and further reduce vulnerability				

	Policy, Programmatic and Legislative Framework	Institutional Framework	Capacity and Resources	Stakeholder Participation and Coordination	Physical/Social Issues
Threats		<ul style="list-style-type: none"> • There is limited integration of JCDRM principles into other national policies, especially socio-economic and environmental policies and plans, including sustainable development plans • Continued focus on climate change and hydro-meteorological hazards will divert resources from other hazards • There does not exist an integrated risk management framework that takes into account and plans for all types of risk – economic, societal, environmental, technological etc. • There is limited collaboration between DRM and 	<ul style="list-style-type: none"> • There is a lack of an integrated approach at the national level that focuses on the integration of all risk types and is able to anticipate new and emerging risks 		<ul style="list-style-type: none"> • Degraded ecosystems such as watersheds and coral reefs contribute to vulnerability issues and result in greater impacts from natural and health-related disasters • Prevalence of poverty including high levels of rural poverty increases vulnerability to all hazards

Policy, Programmatic and Legislative Framework	Institutional Framework	Capacity and Resources	Stakeholder Participation and Coordination	Physical/Social Issues
	CCA due to institutional and policy separation resulting in duplication of efforts and redundancies, and not maximizing the efficient use of limited financial funding or resources			

Gaps in Comprehensive Disaster Risk Management in Jamaica

In summary, this situation analysis reveals the gaps below, which will be addressed by this policy.

- Absence of a comprehensive disaster risk management framework which details and guides the risk management in Jamaica
- Absence of multi-hazard evacuation plans for vulnerable communities
- Absence of early warning systems and emergency infrastructure in high-risk areas across the island
- Preparation of risk assessments in an ad hoc manner with no established methodology that can be standardized and shared at sectoral and agency level
- Need for a National Continuity of Governance Plan for Jamaica
- Need to address land acquisition issues surrounding the relocation and resettlement of vulnerable populations
- Continued illegal settlement and resettlement within disaster prone areas
- Absence of criteria for identifying and declaring Specially Vulnerable Areas and Disaster Areas
- Increased land scarcity contributing to urban sprawl and an increase in informal settlements
- Inadequate provisions in plans, programmes and projects to address the needs of vulnerable groups
- Inadequate inclusion of gender sensitivity in the development of policies and plans for Jamaica
- Inadequate environmental protection despite existing legislation
- Increased number of and distribution of high risk areas expanded with development growth
- Limited understanding of roles and responsibilities for emergency operations
- Inadequate amenities to support commercial and residential developments
- Ineffective transportation systems resulting in poor and ad hoc expansion of development
- Poor governance structures and systems for DRR interventions in high risk areas including informal settlements
- High reliance on international donor funding used to support national disaster risk financing
- Lack of sustainability of socio-economic programmes to support livelihoods and reduce poverty and hazard risk and vulnerability
- Inadequate institutional capacity including staffing, development of appropriate skill sets
- Lack of standardization of modelling methodologies and use of relevant tools and maps

Section 3: Jamaica's Comprehensive Disaster Risk Management Policy Framework

Jamaica's Comprehensive Disaster Risk Management Policy 2020 – 2040 is a major step towards advancing the country's sustainable development prospects by ensuring that at a strategic level, disaster risk management is prioritized as a key development objective and that disaster risk management is mainstreamed in development planning by all sectors. Disasters disrupt people's lives and livelihoods, endanger human and food security, damage infrastructure and hinder socio-economic growth and development prospects. Disasters also increase the poverty of both rural and urban populations and erode the ability of the national economy to invest in key social sectors which are important to reducing poverty. It is, therefore, important to address disaster risks for the socio-economic development of the country.

Equally important is the recognition that climate change adaptation must be a part of the developmental agenda and be integrated into policy and initiatives that focus on disaster risk mitigation and management. The potential impacts of climate change can pose a significant drain on public resources even as the country seeks to ensure macroeconomic stability, reducing poverty levels, and improving international competitiveness and debt sustainability. These factors therefore present a clear rationale for ensuring that within the policy framework, climate change and DRR are inextricably linked. Tied to the impacts of climate change and efforts to advance disaster risk reduction, must also be a focus on environmental sustainability recognizing the importance of the effective management and use of the country's ecosystems – coral reefs, watersheds, forests, mangroves – towards reducing the impacts that hazards could pose.

The policy will contribute to the country's national outcomes related to eliminating poverty and vulnerability, creating sustainable urban and rural areas, and ensuring that 'no one is left behind' in the developmental space. Recognizing the importance of disaster risk reduction and the need to enhance risk identification, preparedness, mitigation, financial protection, recovery and response capacities to safeguard overall developmental gains, the promulgation of this JCDRM Policy assumes even greater significance. Also, linkages with climate change policy agenda will be addressed within the policy framework ensuring that there is a general level of coherence between the two policies and alignment where applicable.

The policy will facilitate the effective coordination of disaster risk management programmes across the country and highlights key priority strategies for making Jamaica a safe and resilient small island developing state. Achieving the vision contained herein will require a comprehensive institutional and legal framework, political commitment and allocation of adequate resources as well as the commitment of all stakeholders including government, civil society organizations, academia, the private sector, our development partners and indeed the general public.

Vision Statement

Jamaica's CDRM Policy is grounded in the Sendai Framework and also is guided by the principles and priorities established in the Enhanced CDM Strategy and Programming Framework 2014 to 2024 promulgated by CDEMA. Within this context, Jamaica's 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 JCDRM and social protection** and will be designed to ensure that by 2040, Jamaica achieves the vision of a resilient and safe country and provides a leading model for comprehensive disaster risk management in the region and other small island developing states.

Accordingly, the vision of the Comprehensive Disaster Risk Management Policy is:

A Resilient and Safe Jamaica

A resilient and safe Jamaica will be one in which there are safer communities and the programmes and projects being implemented in disaster risk reduction reduce and/or eliminate vulnerability, protect human life, reduce losses and promote rapid recovery in the event of a disaster. The policy framework will address in a fulsome manner, **preparation** including disaster risk financing (lining up the resources needed for recovery and reconstruction before a disaster strikes, including risk transfer instruments), **response**, and **recovery** to natural disasters (including referencing detailed emergency response plans in order to reduce disruptions to critical public services). These pillars complement each other because each is needed for building disaster resilience and properly executing any one of these pillars would ultimately reduce the cost of financing the others. The policy also will address the linkages between climate change and DRR as well as the role of disaster risk financing within the resilience agenda. Other areas such as structural resilience related to building resilient infrastructure, and "soft" measures such as installing early warning systems and enforcing zoning and building codes will be addressed, including the role of technology, including disruptive technologies to advance JCDRM. Also important are strategies to strengthen community capacities towards reducing vulnerabilities, incorporating the role of both men and women in DRR and ensuring that gender perspectives are integrated across strategies. Strategies will be developed to support children and youth, the vulnerable and the physically and mentally challenged towards reducing the impacts of disasters on them.

This policy will address natural, health-related/biological and man-made hazards, including technological hazards and thus will focus on all hazards and on all the phases in disaster risk management.

Policy Goals

To support the achievement of the vision, the policy is underpinned by seven policy goals that are designed around JCDRM best practices for risk identification, disaster risk preparedness and reduction, disaster recovery and reconstruction, disaster risk financing and financial protection, modern and innovative legal and institutional frameworks for JCDRM and social protection.

The policy goals set out where Jamaica would like to be by 2040 and are presented below.

National Comprehensive Disaster Risk Management Policy Goals

-
- #1** DRM is mainstreamed across all national policies and sectoral planning processes including the integration of DRR with climate change adaptation
 - #2** Mortality, economic, social and environmental losses from disasters are reduced, creating resilient individuals, communities and enterprises across Jamaica
 - #3** Jamaica has a modern and adaptive governance, institutional, legal and regulatory framework for comprehensive disaster risk management that facilitates stakeholder involvement and engagement
 - #4** Jamaica has in place well-defined systems for risk identification and assessments and is able to anticipate future events, including new and emerging hazards
 - #5** Jamaica has a strong, innovative and modern disaster preparedness system for effective recovery and response underpinned by high levels of innovation and optimal use of technology
 - #6** Jamaica's key industry structures embrace DRR and CCA as a means of advancing international competitiveness
 - #7** Jamaica has in place a well-defined policy framework for disaster risk financing to safeguard future development prospects

These goals have been structured to respond to the Sendai Framework call for countries to improve the understanding of disaster risk in all its dimensions of exposure, vulnerability and hazard characteristics; strengthen disaster risk governance, including national platforms; improve accountability with respect to disaster risk management; increase preparedness to “Build Back Better”; recognize stakeholders and their roles; mobilize risk-sensitive investment to avoid the creation of new risk; improve resilience of health infrastructure, cultural heritage and work places; and strengthen international cooperation and global partnerships, and risk-informed donor policies and programmes, including financial support and loans from international financial institutions. More specifically, the goals and strategies articulated are aligned to many of the tenets and strategic directions included in policy documents such as Transforming our World: 2030 Agenda for Sustainable Development (2030 Agenda); Sendai Framework for Disaster Risk Reduction; Paris Agreement on climate change; Addis Ababa Action Agenda; the New Urban Agenda; and the Agenda for Humanity as well as the Caribbean Regional Comprehensive Disaster Management Strategy and Results Framework 2014-2024.

Each of the seven goals is aligned with or can be mapped to seven priority areas as follows:

Goals – National JCDRM Policy	Priority Areas
Goal 1	Mainstreaming of DRM across all sectors and industries
Goal 2	Creating a culture of resilience
Goal 3	Modernization of the legal, regulatory and institutional governance framework
Goal 4	Improving risk identification and assessment
Goal 5	Ensuring adequate preparedness, recovery and response at all levels
Goal 6	Enhancing international competitiveness
Goal 7	Implementing disaster risk financing using a range of instruments

Strategic Framework for JCDRM Policy

The strategic framework charting the direction for comprehensive disaster risk management in Jamaica includes the policy goals as well as key strategies and the monitoring and evaluation framework which includes a range of indicators and accompanying targets by which the country can assess its progress towards a safe and resilient Jamaica and will allow for engaging in best practices, continuous improvement and learning lessons along the way towards achieving the vision. The policy is based on six guiding principles that will support its delivery and which will be used as key tools to inform decision making around the policy and the construct of activities and actions that are necessary to facilitate disaster risk reduction, the achievement of the goals and consequently the vision.

Jamaica's CDRM policy will support the implementation of Vision 2030 Jamaica – National Development Plan, and particularly the achievement of National Outcome #14 – Hazard Risk Reduction and Adaptation to Climate Change and is therefore consistent with, and part of the overarching vision of the country.

“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						
JCDRM Policy Goals						
Goal 1 DRM is mainstreamed across all national policies and sectoral planning processes including the integration of DRR with climate change adaptation	Goal 2 Mortality, economic, social and environmental losses from disasters are reduced, creating resilient individuals, communities and enterprises across Jamaica	Goal 3 Jamaica has a modern and adaptive governance, institutional, legal and regulatory framework for comprehensive disaster risk management, that facilitates stakeholder involvement and engagement	Goal 4 Jamaica has in place well-defined systems for risk identification and assessments and is able to anticipate future events including new and emerging hazards	Goal 5 Jamaica has a strong, innovative and modern disaster preparedness system for effective recovery and response	Goal 6 Jamaica's key industry structures embrace DRR and CCA as a means of advancing international competitiveness	Goal 7 Jamaica has in place a well-defined framework for disaster risk financing to safeguard future development prospects
Strategies and Key Actions to 2040						
Implementation Framework (DRM Plans, Vision 2030 Jamaica Action Plans/3-year Corporate and Operational Plans of Ministries, Agencies and Departments)						
Monitoring and Evaluation Framework (Indicators and Targets)						

Guiding Principles

The guiding principles presented here are used to guide decision making within the context of the policy, towards advancing resilience building and creating a Jamaica in which disasters as a result of the occurrence of hazards are reduced and/or eliminated.

1. **Sustainable Development and Good Governance** – The integration of economic, social and environmental issues, underpinned by good governance must be given due consideration in operationalizing the policy, and 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
2. **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 operationalizing this policy.

3. **Stakeholder Engagement, Participation, Consultation and Cooperation** – All stakeholders must be fully engaged in decision-making processes and activities aimed at reducing the impact of disasters. Participatory processes and stakeholder engagement will be at the core of all decision making, recognizing not only that all stakeholders can benefit from actions to reduce the impact of disasters but that they also have a key role to play in undertaking activities and actions towards reducing vulnerability and building resilience. Stakeholder engagement will 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 key.
4. **Ecosystems-based management** – The important role that ecosystems play in reducing the impact of natural disasters must be considered and clear linkages must be established with the environmental community to ensure that actions are undertaken to rehabilitate degraded ecosystems, 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.
5. **Technology, Innovation and Continuous Improvement** – The employment of modern technologies for DRR will be key to the achievement of many of the goals of the policy. The policy will be underpinned by the notion of 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). Knowledge management and learning will be critical for ensuring that lessons learned and best practices are captured and linked back into implementation, monitoring and evaluation.
6. **Adequate resources** – Technical and financial resources must be prioritized in a timely manner to implement activities aimed at disaster mitigation; financing is critical to ensure successful outcomes.

Each policy goal is explained in the following section, and the policy issues outlined, along with some key strategies and actions that must be implemented between the promulgation of the policy and 2040 as well as some key indicators to be used to measure accomplishment of the policy goal. The section presents the breadth of strategies and actions that need to be undertaken but does not necessarily cover the “depth” of analysis, planning and programming that needs to be undertaken – some of which would be completed in the accompanying work plan.

Section 4: Jamaica's CDRM Policy Goals

Goal 1: DRM is mainstreamed across all national policies and sectoral planning processes including the integration of DRR with climate change adaptation

Globally, there is a consensus that disaster risk management should be mainstreamed into the general development processes and across all key sectors of a country (including economic, social, environmental, and spatial development), towards advancing a country's sustainable development prospects. Notwithstanding, in practice, linking DRM with development is challenging. One of the advantages in Jamaica is that there currently exists, through the national development planning framework, the inclusion of DRR and DRM, with disaster risk management being addressed as a strategic priority to advance the development of the country. In other words, Jamaica has placed DRM as a core element within its national planning framework, providing an important "policy-recognition" step for its integration within sectoral policies and operations. Disaster risk reduction is a cross-cutting development issue and as such, it is important that it be incorporated within all relevant sectoral policies and plans. Also, DRM policies and plans must consciously incorporate other relevant cross-cutting development issues such as poverty reduction, environmental management and conservation, gender equity and social inclusion.

This goal will result in operational and practical mainstreaming across operations of all ministries, departments, and agencies (MDAs) and the national financing and development processes they control. This goal seeks to effectively create the mechanism for integrating the core DRM/CCA agenda and address any issues related to the governance structures and systems for the effective implementation of DRM and CCA interventions.

Infusing DRM considerations at the sectoral level will not only mean taking DRM considerations into account in industries such as tourism, agriculture, construction, and manufacturing but also ensuring that DRM considerations are included and infused in poverty policies and gender policies as well as social protection policies and strategies. In the case of gender, the policy framework will ensure that gender considerations are infused throughout all areas of disaster mitigation and financing as this would help lay a strong foundation for delivering a gender-sensitive response.

To effectively mainstream DRR into all national sectoral policies and planning will require capacity building within GOJ entities – both at the national and local levels – to enable them to move away from a disaster response culture to an integrated and sustainable DRR culture that promotes the strategic development and implementation of the DRM and CCA programmes at national, parish and community levels.

Whilst most MDAs are aware of the importance of infusing DRM into their own mandates, there is limited understanding of the specific roles and responsibilities of various entities, particularly MDAs and local authorities within the national disaster risk management framework. This results in the infusion of DRM in sector policies not being effectively practiced.

Ultimately, a fundamental challenge to mainstreaming is in fact, the lack of understanding of “how to mainstream” and what mainstreaming DRM looks like in a given sector, MDA, institution or organization. Integrating DRM in organizations or development sectors involves considering two generic issues: how the activities of the organization/sector impact disaster risks; and how to assess risk in planning the work of the organization or development of the sector.

Effectively, to mainstream DRM in sectors practically, policy makers must examine the preparedness and response capacities for the sector, risk reduction/risk mitigation protocols and activities within sector operations, risk retention and risk transfer to finance the sector in times of disaster, sector continuity of operations planning etc. If sectors do this, they will increase their resilience and cumulatively increase Jamaica’s national disaster resilience.

Currently, there is no Cabinet directive to stipulate that mainstreaming DRM be undertaken as part of the GOJ policy development or strategic planning process. Furthermore, although local authorities understand their responsibility to develop and implement parish/municipal DRM plans, they are less able to include these plans within local development and land use planning. The infusion of the DRM also must be within the national budget. Currently the Government is unable to adequately determine, through the national budgeting process, the value of resources allocated to DRM across MDAs – there are no existing markers or tags in the budgetary process, making it almost impossible to determine the sum of the government budget supporting disaster risk management.

Key Sector Strategies, Policy Directives and Actions to 2040

Policy, Programmatic and Legislative Framework

- Strengthen the existing legislative framework for all sectors
- Mainstream DRM into policy, planning, and management in all relevant sectors – tourism, health, agriculture, construction, manufacturing, education, social protection amongst others since DRM has important implications for a country’s growth and development agenda because disasters can pose serious obstacles to socio-economic development
- Strengthen existing measures to incorporate hazard risk reduction in land use practices and human settlements, including in new housing developments – and improve enforcement of existing mechanisms
- Facilitate the mainstreaming of disaster risk assessments into land use policy development and implementation, including urban planning
- Integrate DRM into templates and/or instruments for development planning and approval process

- Develop and implement national and local disaster risk reduction strategies and plans, aimed at preventing the creation of risk, the reduction of existing risk and the strengthening of economic, social, health and environmental resilience
- Establish an Integrated Risk Management Framework – this would involve creation of an all-hazards policy framework to allow the Government to consider sovereign risk in a more holistic manner focusing beyond natural disasters and catastrophes recognizing that the country is exposed to a myriad of other risks. Risks that should be considered within this integrated framework would include economic, geopolitical, environmental, societal (pandemics, migration, ageing populations etc.) and technological (e.g. cyber and nanotechnology) all of which have an impact on debt and fiscal sustainability and overall development.
- Ensure 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 and youth.

Institutional Framework

- Establish focal points within government ministries and agencies (possibly utilizing the existing Climate Change Focal Point Network (CCFPN)) to assist with the mainstreaming of DRM within their ministry sectoral policies and initiatives. Create specific terms of reference for these focal points as it relates to DRM and the linkages with 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.
- Strengthen existing mechanisms or where necessary create new ones to ensure that the approach, plan, and programmes related to disaster risk management and climate change adaptation are made coherent; and the policies, plans and activities are well harmonized and coordinated to effectively address disaster risk management gaps and overlaps
- Strengthen government coordination forums such as the Vision 2030 Jamaica Hazard Risk Reduction and Adaptation to Climate Change Thematic Working Group, composed of relevant stakeholders at the national and local levels

Capacity and Resources

- Mainstream DRM into public investment management systems
- 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.

- Empower local authorities, through regulatory and financial means to work and coordinate with civil society, communities and the private sector in disaster risk management at the local level
- Encourage parliamentarians 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

Stakeholder Participation and Coordination

- Improve the understanding of disaster risks by improving access to synthesized information, in digital format on disaster risks including, risk mapping and hazard zonation, statistics on disasters, losses data and make available this data and information to policy and decision makers across different sectors as part of mainstreaming
- Strengthen, as appropriate, mechanisms to follow up, periodically assess and publicly report on 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

Physical/Social Issues

- Strengthen the design and implementation of inclusive policies and social safety net mechanisms, including mechanisms that foster community involvement

Key Indicators

The indicators listed below will be used to monitor and assess achievement of Goal 1.

Impact Indicators

- Percentage of sectors with sector-specific DRM plans that are being implemented

Outcome Indicators

- Number of sectors that have integrated DRM into their policies and plans
- Number of national and local disaster risk reduction strategies and plans that go beyond disaster response and which include risk reduction and prevention and strengthening of economic, social, health and environmental resilience
- Percentage of data on disaster risks available in digital format
- Amount (as a percentage of the total budget) allocated for DRR within MDA budgets – and which can be identified as such

Key Implementing Partners

- Ministry of Local Government and Rural Development
- Local Authorities
- Ministry of Economic Growth and Job Creation

- Office of Disaster Preparedness and Emergency Management
- Cabinet Office
- Ministry of Finance and the Public Service
- Planning Institute of Jamaica
- National Environment and Planning Agency
- Ministry of Health and Wellness

Goal 2: Mortality, economic, social, and environmental losses from disasters are reduced, creating resilient individuals, communities, and enterprises across Jamaica

Reducing loss of life and physical assets after a natural or man-made disaster will require that Jamaicans across all spheres aggressively (*ex-ante*) adopt and promote a culture of safety and resilience by reducing underlying risk factors. These include the implementation of building codes that will lend to improvements in building safety and the protection of critical lifeline infrastructure; sustainable management and use of the environment, ecosystems and natural resources and aligning disaster risk reduction to climate change adaptation. This goal focusses on increasing the resilience of the poor and most vulnerable to disasters, bearing in mind that the most vulnerable among populations, including children and those with special needs (such as the mentally and physically challenged) are to be provided with the utmost protection and assistance during these times. Usually, these groups are the hardest hit during times of disasters.

This goal will lead to the development of strategies and actions that support strengthening resilience by incorporating physical, social, and economic measures that would enable communities to absorb losses, minimize impact and recover from disasters.

Essentially, this goal will address the requirements for ensuring that activities related to ecosystems management, land use and spatial planning, infrastructural development, housing and shelter, community development, social protection – including persons with disabilities among others – are fully addressed and key programmes and projects implemented. Achieving this goal will require for example:

- Improvements in environmental sustainability such as better management of ecosystems and reversing environmental degradation and losses – particularly with respect to watersheds, wetlands, coral reefs, and forests – ecosystems that can lessen the impact of natural hazards
- Improvements in the country's poverty rate which continues to be below desirable levels and include the establishment of more sustainable and vibrant rural areas
- Addressing housing and shelter needs of the population and reducing the incidence of squatter settlements
- Working closely with local authorities and communities to develop and implement projects and programmes that will mitigate and respond to the adverse effects of climate change and emerging hazards – natural and man-made

Achieving this goal will require the participation and partnership of the Government, local authorities, communities, civil society organizations, the private sector, international development partners and other stakeholders at all levels. Increased public-private collaboration could be accomplished by developing or expanding partnership arrangements between the Government and private sector entities that can provide essential services at national, municipality and community levels in times of emergency such as damage assessment, transport, logistics, provision of heavy equipment, debris clearance.

Focus also should be placed on more innovative partnerships such as those involving religious/faith-based organizations, volunteer groups and organizations, and academia, which should be forged to support communities to build sustainable and resilient communities and facilitate smoother coordination of response during emergencies.

Key Sector Strategies, Policy Directives and Actions to 2040

Policy, Programmatic and Legislative Framework

- Develop an up-to-date national spatial plan coupled with good land use planning practices that infuses disaster risk reduction issues
- In development planning, include the requirement that public and private investments must be comprehensively screened for disaster and climate risks
- Create and enforce legislation to reduce informal settlements in high-risk areas
- Fully implement and enforce the new building codes (and seismic code) and standards and engage in the retrofitting, rehabilitation, and reconstruction practices at the national and local levels
- Revise Jamaica's Seismic Code and finalize the seismic road map, which will allow for the retrofitting of critical facilities and structures
- Appraise the feasibility of ecosystem-based adaptation measures (as a means of disaster risk reduction) where possible for public investments
- Enhance the resilience of national health systems, by *inter alia*: integrating disaster risk management into primary, secondary, and tertiary health care and ensuring that hospitals and clinics are "safe hospitals"¹⁹, which are facilities whose services remain accessible and functioning at maximum capacity and within the same infrastructure immediately following a natural or man-made disaster or epidemic. This would include ensuring continuous provision of water, electricity, and telecom services in time of disaster for such facilities – as well as access to the facility for prospective patients. Enhanced national health systems will also require developing the capacity of health workers in understanding climate change and disaster risk and their impacts on human health and potential human health issues that may arise. There would also need to be mechanisms that enable the health sector to address new and emerging health risks and their potential impacts on the population (e.g., the global outbreak of COVID-19)
- Improve governance in the health and supporting sectors to promote management and response during periods of disaster, and to respond to new and emerging diseases with widespread impact on the population
- Implement the Resettlement Strategy, ensuring coherence with other policies related to regularizing informal settlements given that poor and vulnerable persons are more likely to live in these areas that are vulnerable to disaster risks
- Complete development of the Counter Terrorism Integrated Response Readiness Contingency Plan and National Counter Terrorism Strategy
- Complete the development of the National Cyber Security Policy

¹⁹ PAHO has also developed a hospital safety index that helps health facilities assess their resilience to natural hazards.

Institutional Framework

- Engage in multi-sectoral and integrated development planning in rural and urban development, infrastructure, water, education, health, among other sectors, recognizing that single-sector development planning cannot address the complexity of problems caused by disasters, nor can such planning build resilient societies
- Create an enabling environment for the better sharing of knowledge, science and technology, and innovations to facilitate better informed decisions on disaster management and to help make the most optimal use of scarce resources
- Create mechanisms that would allow for better collaboration among agencies in the preparation of hazard risk maps – to reduce duplication of resources
- Develop systems to prevent the inflow of hazards at the country's borders – related specifically to the pile up of possible hazardous materials at the country's ports – the modernization of the customs act should reduce the occurrence of this issue over time
- Support small and medium sized businesses to assess their continuity of operations risk and develop continuity of operations plans
- Establish greater public-private partnerships for disaster risk management and/or risk reduction

Capacity and Resources

- Enhance the capacity of parish and municipal authorities to develop Parish/Municipal Disaster Risk Management Plans that address the full spectrum of hazard risks
- Allocate the necessary resources, including finance and logistics, for the development and implementation of disaster risk reduction strategies, policies, plans, laws, and regulations in all relevant sectors
- Strengthen local level capacities to enable communities to reduce risks, prepare for and respond to disasters
- Increase capacity within the public sector (in key agencies), and among local authorities as well as in academia to undertake the preparation of hazard risk maps, which also should be designed to take into account climate change issues
- Increase the development and implementation of early warning systems with particular emphasis within high-risk communities
- Build capacity among professionals in both the public and private sectors to screen investments for disaster and climate risks
- Require that all community-based projects that receive Government funding include a hazard risk reduction component
- Build capacity for health laboratories to screen for diseases
- Determine and assess capacity requirements to address man-made hazards such as oil spills and fires and build capacity amongst key agencies to better manage man-made hazards; and procure necessary equipment to address man-made hazards
- Strengthen disaster-resilient public and private investments, particularly through structural, non-structural and functional disaster risk prevention and reduction measures in critical facilities, in particular schools and hospitals and physical infrastructure; building better from the start to withstand hazards through proper design and construction,

including the use of the principles of universal design and the standardization of building materials; retrofitting and rebuilding; nurturing a culture of maintenance; and taking into account economic, social, structural, technological and environmental impact assessments

- For agencies or municipalities that have responsibility, require the development of maintenance plans for critical infrastructure
- Institute guidance for the NEOC on how public advisory and information management is handled and managed – to include protocols for the dissemination of disaster and crisis communication and measures for the coordination and management of confidential information
- Continue to ensure that there is capacity to effectively undertake post-disaster needs assessments and adequately address immediate post-disaster needs

Stakeholder Participation and Coordination

- Create mechanisms to build and strengthen partnerships at local, national, regional, and international levels to facilitate coordination during times of disasters and also to support implementation of programmes and projects to advance resilience
- Implement strategies for greater public awareness and engagement about natural hazards, epidemics and diseases, and emerging hazards such as cybercrime

Physical/Social Issues

- Promote the resilience of new and existing critical infrastructure, including water, transportation and telecommunications infrastructure; educational facilities; hospitals and other health facilities, to ensure that they remain safe, effective, and operational during and after disasters in order to provide life-saving and essential services
- Enhance computer security in critical areas of the financial infrastructure, to prevent, detect and respond rapidly to cybercrimes and avoid catastrophic data loss
- Increase the number and resilience of emergency shelters
- Identify the most vulnerable segments of society and develop and implement measures to enhance their safety against risks from disasters and adverse effects of climate change and enhance their resilience
- Strengthen and/or establish community capacity for natural resource management and disaster risk reduction and provide alternatives for communities that live in high-risk areas
- Evaluate current vulnerability assessment methodologies to determine the need for updates and make the assessments publicly/digitally available and accessible for disclosure, transparency, and planning purposes
- Continue to undertake vulnerability assessments in communities across Jamaica and support the development and implementation of community development plans in collaboration with public sector entities and other key stakeholders
- Promote the disaster risk resilience of workplaces through structural and non-structural measures

- Incorporate microinsurance and other risk transfer instruments as part of social protection strategies so that the livelihoods of the poor and vulnerable can be protected following a natural disaster
- Identify and address infrastructural needs within high-risk communities, including squatter communities
- Develop and promulgate the regulations to support the “Specially Vulnerable” areas designated under the authority of the DRM Act

Key Indicators

The indicators listed below will be used to monitor and assess achievement of Goal 2.

Impact indicators

- Percentage of critical infrastructure that is considered to be resilient and to effectively support disaster recovery
- Percentage of hospitals/clinics that are designated “safe hospitals”
- Percentage of sectors with sector-specific DRM plans that are being implemented
- Percentage of communities covered by hazard vulnerability and capacity assessments that were developed with input from community members
- Number of parishes with completed risk assessments
- Percentage of population with access to early warning information through local government or through national dissemination mechanisms
- ODPEM has an effective emergency communications system supporting response and recovery
- Percentage of vulnerable population accessing climate risk insurance (microinsurance)

Outcome indicators

- Number of public-private partnerships for disaster risk management and/or risk reduction
- An up-to-date national spatial plan that incorporates disaster risk reduction
- Percentage of vulnerable communities with community plans to enhance resilience against hazards and climate change
- Percentage of new buildings adhering to the National Building Code since its promulgation
- Regulations for specially vulnerable areas in force
- Level of microinsurance that covers community members
- Percentage of communities with hazard risk maps and vulnerability assessments
- Percentage of workplaces with hazard risk management plans/initiatives in place
- Percentage of workplaces with continuity of governance plans in place

Key Implementing Partners

- Ministry of Local Government and Rural Development
- Local Authorities
- Office of Disaster Preparedness and Emergency Management

- Cabinet Office
- Ministry of Labour and Social Security
- Planning Institute of Jamaica
- Social Development Commission
- Jamaica Social Investment Fund
- Jamaica Customs
- National Environment and Planning Agency
- Ministry of Health and Wellness
- Ministry of Economic Growth and Job Creation
- Climate Change Division, Ministry of Economic Growth and Job Creation
- Private Sector Organization of Jamaica
- Parish Chambers of Commerce
- Jamaica Hotel and Tourist Association
- NGOs and CBOs

Goal 3 – Jamaica has a modern and adaptive governance, institutional, legal, and regulatory framework for comprehensive disaster risk management that facilitates stakeholder involvement and engagement

There are a number of policies and pieces of legislation that lay the groundwork for and support comprehensive disaster risk management in Jamaica and the country has in place well-defined overarching legislation in the DRM Act, which was promulgated in 2015. However, the DRM Act was passed outside of a policy framework for JCDRM and not developed to be specifically aligned to the Sendai Framework to which Jamaica is a signatory. However, as a participating state of the Caribbean Disaster Emergency Management Agency, Jamaica has adopted the Caribbean Comprehensive Disaster Management Strategy 2014-2024. The Act does address elements of the Sendai Framework, notably Priority 1 – the need for improved understanding of disaster risk – by requiring that ODPEM and subnational disaster management committees implement public awareness and education programmes on disaster risk management and Priority 2 – Strengthening disaster risk governance to manage disaster risk – by establishing governance structures and planning requirements at the national, parish and municipal levels as well as a disaster risk management and reduction network across Jamaica led by the National Disaster Risk Management Council.

The Act has some deficiencies, which should be addressed to bring it in line with the Sendai Framework and current thinking about comprehensive disaster risk management. Also, the Act suffers from a host of implementation challenges, including a delay in development of associated regulations, which is resulting in many aspects of the law not being applied. Notwithstanding the aforementioned issues, the promulgation of the DRM Act has led to improvements in DRR and Jamaica has made many strides in the areas of risk identification, preparedness and response. Also, the National Hazard-Risk Reduction Policy of 2005 and the Climate Change Policy Framework (2015) complement the Act and other related DRR activities being undertaken and are embodied by multi-agency strategies towards building awareness and promoting DRR.

Under this goal, required amendments to the DRM Act will be undertaken along with many other areas within the policy, legislative and institutional framework that require attention. For example, the (1997) National Disaster Plan is outdated and emphasizes hydro-meteorological hazards with direct focus primarily on response and early recovery. Although required by the DRM Act, many disaster management plans are either publicly unavailable or incomplete and there are no standard guidelines or templates to guide the development of parish and municipal disaster plans. This goal also will focus on promoting the enforcement of the DRM Act and related laws and regulations.

On the institutional side, acknowledging the existence of the National Disaster Risk Management Council, this goal will focus on addressing a number of issues such as capacity and financial issues within ODPEM and at the parish levels. Focus will be placed on the strengthening of ODPEM to be reformed into a transformational and dynamic organization within the context of public sector

reform thereby ensuring that it is better able to lead and coordinate the DRM roles/functions of various ministries in keeping with the overall vision of the national policy including playing a key role in working with the Ministry of Finance and the Public Service to assist in allocating budgets among MDAs for DRM activities. Reforming ODPEM will be based on ongoing analysis of the agency to ensure that it has the right skills and competencies to achieve the identified policy actions going forward to 2040.

On the local government side, current local government reform will significantly contribute to the ability of local authorities to play a key role in DRM efforts. Under this goal, emphasis will be placed on building the capacity of these local authorities to undertake a range of functions and associated responsibilities.

Engagement by a range of stakeholders, underpinned by participatory processes and coordination also will be key to the achievement of this goal.

Key Sector Strategies, Policy Directives and Actions to 2040

Policy, Programmatic and Legislative Framework

- Prepare an amendment to the DRM Act, 2015 to address issues not adequately reflected in the existing Act such as the definition of Vulnerable Areas, the definition of evacuation, penalties, funding for risk mitigation, disaster recovery etc.; or that need to be changed, such as the responsibility for the appointment of the Director General, ODPEM, which should be in line with the recruitment and selection processes used by other entities such as executive agencies; the membership of the National Disaster Risk Management Council, which needs to include representatives of local authorities.
- Update the National Disaster Plan to include a focus on the full range of natural, biological/health and man-made hazards and to link with other related sector plans
- Develop guidelines for disaster risk management plans
- Ensure that up-to-date DRM plans are prepared for all parishes and municipalities

Institutional Framework

- Define actions and costs for the reform of the ODPEM that are required to allow that entity to effectively function and coordinate and lead the DRM vision and agenda for the country – building on the reform process that has already begun. ODPEM will be required to coordinate other government entities and to function as the secretariat for the national disaster committee; improve its ability to formulate national strategies and DRM plans utilizing a range of coordination mechanisms and participatory approaches and coordinate and monitor the implementation of those, and to demand compliance within the Act etc.
- Create a roadmap or action plan to complete the reform of the ODPEM

- Strengthen the coordination functions of ODPEM to be able to effectively engage with other public sector entities that may not have DRM as a stated interest and also for other non-state entities
- Complete the process to establish a unit within the ODPEM or Ministry of Local Government and Rural Development to manage Jamaica's institutional arrangements or activities that will strengthen Jamaica's resilience through public policies and governance structure. The unit would have oversight of actions supporting DRR locally and forge regional and international partnerships for support in meeting its responsibilities under initiatives such as the IDB IGOPP Assessment, Sendai Framework and the Caribbean CDM Audit

Capacity and Resources

- Using the experiences of other small island states, with an emphasis on those in the Caribbean, create a lessons learned register that would allow for the strengthening of ODPEM and its associated DRM systems
- Build the capacity of local authorities to be better able to contribute to DRM efforts – this would involve strengthening the entire disaster management framework – including improving the operations and performance of the Parish Disaster Committees/Zonal Committees and the Parish Disaster Coordinators
- Undertake capacity building and training on the DRM Act within public sector entities and NGOs so that there is a fulsome understanding of roles and responsibilities and the legislative requirements to effect the Act
- Create capacity building programmes that would allow the membership of the National Disaster Risk Management Council to contribute to national coordinated DRM

Stakeholder Participation and Coordination

- Create a dynamic platform comprised of multiple stakeholders to coordinate various organizations at different levels, recognizing that inter-sectoral coordinating mechanisms are needed to properly design and implement DRM strategies. The platform should include key components related to political, technical, participatory, and resource mobilization to be able to effectively advance DRM initiatives
- Create mechanisms to better engage the private sector in DRR and resilience building to enable the private sector to be a core partner in all aspects of resilience building activities, and where their engagement is strategic and coordinated.

Key Indicators

The indicators listed below will be used to monitor and assess achievement of Goal 3.

Impact Indicators

- ODPEM has an effective emergency communications system supporting response and recovery
- DRM Act revised and required legislation under the Act promulgated
- ODPEM modernized in keeping with required organizational reviews

- Allocation of national budget to ODPEM (US\$)

Outcome Indicators

- Promulgation of an amendment to the 2015 Disaster Risk Management Act that addresses the deficiencies identified above
- A National Disaster Risk Management Council with appropriate membership that reflects all levels of government
- Finalization of a new National Disaster Risk Management Plan
- Percentage of parishes/municipalities with DRM plans

Key Implementing Partners

- Ministry of Local Government and Rural Development
- Local Authorities
- Office of Disaster Preparedness and Emergency Management
- Cabinet Office
- Ministry of Finance and the Public Service
- Municipal Corporations
- Social Development Commission
- Private Sector Organization of Jamaica
- Parish Chambers of Commerce
- Jamaica Manufacturers and Exporters Association
- Ministry of Tourism
- Jamaica Hotel and Tourist Association

Goal 4 – Jamaica has in place well-defined systems for risk identification and assessments and is able to anticipate future events, including new and emerging hazards

Under this goal, agencies such as ODPEM with support from other entities such as NEPA, the Climate Change Division²⁰, Water Resources Authority (WRA), National Works Agency (NWA), Meteorological Service of Jamaica, Ministry of National Security (MNS), Ministry of Health and Wellness (MHW), among others, will develop an effective system for conducting comprehensive disaster risk assessments at all levels and be able to anticipate future risk that the country may be exposed and develop relevant strategies and actions. Currently what largely pertains is the conduct of risk assessments in an *ad hoc* manner with no established and standardized methodology.

The establishment of a system for effectively identifying, assessing, monitoring and mapping disaster risks is an essential first step towards developing and implementing evidence-based disaster risk management and planning processes that are focused on reducing disaster risks. The system to be designed must have the capacity to track hazards, monitor, regularly update, document and disseminate disaster risk assessment information and also to develop integrated risk maps to identify areas and communities at risk and take appropriate actions.

Under this goal, the employment of geospatial technologies including geographic information systems (GIS) and remote sensing will have to be expanded and used much more extensively. In 2010 Cabinet approved the establishment of the National Emergency Response Geographical Information Systems Team (NERGIST), which is dedicated to undertaking damage assessments after hazard events. The Cabinet decision also established that data collected by MDAs after disaster events must be geo-referenced and shared with the government members of NERGIST and the National Disaster Coordination Team. However, NERGIST was not established through legislation and comprises volunteer technical GIS specialists from multiple public, private and academic institutions.

Early warning systems (EWS) must be a critical part of achieving this goal and should be so designed that they are comprehensive, integrated, people-centered and effective, recognizing that while some EWS already exist, it is important to build on and learn any lessons from the operation of those.

Achievement of this goal will therefore require effective mechanisms and platforms for disaster risk information and knowledge management as well as increasing mechanisms for information sharing among MDAs recognizing that different entities have responsibilities for monitoring and mitigating the impacts of different hazards. Early steps have been taken in this direction: in 2018, the Jamaica Social Investment Fund (JSIF) – in collaboration with ODPEM and other MDAs – began the development of a National Risk Information Platform (NRIP), aimed at allowing all risk data

²⁰ Within the Ministry of Economic Growth and Job Creation

to be located and updated in a centralized platform that is available to government agencies and the public.

New and emerging hazards – radiological and nuclear hazards, technological hazards, terrorism and pandemics – must be included.

Key Sector Strategies, Policy Directives and Actions to 2040

Institutional Framework

- Strengthen collaboration among MDAs to support national digital risk information platforms such as the National Risk Information Platform and climate data node
- In consultation with sector-specific stakeholders, develop standardized guidance for the conduct of risk, hazard and vulnerability assessments
- Institutionalize the roles of NERGIST members within the appropriate MDAs

Capacity and Resources

- Build technical capacity within key entities to be able to undertake hazard and risk assessments – to include building the capacity of key stakeholders in data collection, spatial analysis, multi-hazard risk assessment methodologies
- Strengthen capacity to use predictive tools for modelling, hazard data mapping and risk assessment
- Expand the development of multi-hazard mapping and risk assessment as this will guide decision making related to disaster risk management and spatial planning. Jamaica already has a number of projects being implemented in disaster vulnerability to support this activity: Jamaica Disaster Vulnerability Reduction Project and the Strategic Programme for Climate Resilience
- Prepare a national multi-hazard risk atlas

Physical/Social Issues

- Design and implement comprehensive, integrated and people-centered early warning systems
- Enhance access to information, exchange of information and improvement in information management systems to share risk data and assessments

Key Indicators

The indicators listed below will be used to monitor and assess achievement of Goal 4.

Impact Indicators

- Percentage of sectors with sector-specific DRM plans that are being implemented
- Percentage of communities covered by hazard vulnerability and capacity assessments that were developed with input from community members

- Number of parishes with completed multi-hazard risk assessments
- Percentage of population covered by early warning information through local government or through national dissemination mechanisms
- ODPEM has an effective emergency communications system supporting response and recovery

Outcome Indicators

- Existence of data related to all hazards included within the National Risk Information Platform; these hazards include: natural (hydro-meteorological, geophysical), biological (human health – including pandemics), man-made (fires, oil spills etc.), radiological and nuclear, technological, and terrorism
- Percentage of MDAs that contribute data to the NRIP and use it to inform their strategies and plans
- Percentage of communities that have early warning systems for natural and man-made hazards

Key Implementing Partners

- Ministry of Local Government and Rural Development
- Local Authorities
- National Land Agency
- National Environment and Planning Agency
- Ministry of Economic Growth and Job Creation
- Office of Disaster Preparedness and Emergency Management
- Ministry of Health and Wellness
- Planning Institute of Jamaica
- National Spatial Data Management Branch (Ministry of Economic Growth and Job Creation)
- Meteorological Services
- Climate Studies Group Mona
- Mona GeoInformatix
- Statistical Institute of Jamaica
- Ministry of Health and Wellness
- Ministry of National Security

Goal 5 – Jamaica has a strong, innovative and modern disaster preparedness system for effective recovery and response capacity

Strengthening the capacity for disaster preparedness and recovery planning is critical to ensuring rapid and effective response following a natural, man-made or health-related disaster. Recovery planning remains a major issue in Jamaica in the sense that little attention is paid to it until when a disaster happens.

Effective disaster response and recovery is dependent on all stakeholders – public and private sectors, and communities – being in a state of preparedness to effectively manage different types of disasters. Preparedness involves different types of activities such as the development and regular testing of contingency plans, ensuring the availability of emergency funds to support preparedness, response and recovery activities and the building of capacity of disaster risk management structures to respond to disasters. Strengthening preparedness capacity is, therefore, key to ensuring rapid and effective disaster response.

Strengthening of preparedness capacity across Jamaica will involve, among other things, the availability of multi-hazard contingency plans across all parishes and in communities. There also must be adequate resources made available through the national budget for the implementation of these contingency plans and also for the development of them where they do exist. Coordination among the national agencies and local authorities also is critical. At the level of the local authorities there exists insufficient human and capital resources to carry out DRM activities related to preparedness response and recovery.

It is globally accepted that local governments and communities are in a good position to be the first responders in times of a disaster and to have a key responsibility for DRM. It would therefore be prudent for the Ministry of Local Government and ODPEM, which operate at the national level, to support the local authorities to prepare for and respond to disasters.

The DRM Act requires the creation of a National Disaster Response Coordination Plan at least every five years which describes arrangements for effective recovery and response. ODPEM has prepared a zero draft of this plan and a top priority will be to complete this plan.

Disaster preparedness for effective response and recovery also will require the promotion of a culture of safety and the adoption and use of practices that promote disaster mitigation and preparedness through education, knowledge, advocacy, research and innovation. Increasing awareness and understanding of disaster risk reduction amongst the general public will nurture changes in behaviour that will ultimately contribute to building a culture of safety and resilience.

Key Sector Strategies, Policy Directives and Actions to 2040

Policy, Programmatic and Legislative Framework

- Review and revise the National Disaster Recovery Framework
- Review and finalize the National Disaster Response Coordination Plan and comprehensive disaster management strategy for the implementation of the plan
- Develop and periodically update disaster preparedness and contingency policies, plans and programmes in collaboration with key stakeholders
- Develop the Continuity of Governance (COG) Plan for Jamaica, based on the draft COG framework already developed, along with contingency plans for critical government functions
- Update procurement policies to include mechanisms for easy movement of relief/humanitarian supplies and other critical materials during emergencies

Institutional Framework

- Promote the incorporation of disaster risk management into post-disaster recovery and rehabilitation processes, facilitate the link between relief, rehabilitation and development
- Use opportunities during the recovery phase to develop capacities that reduce disaster risk in the short, medium and long term

Capacity and Resources

- Build the technical and financial capacity of local authorities as first responders to disasters – this is where ODPEM, for example, during normal times, could provide financial and technical support to local governments in promoting DRM. Current local government reform efforts will contribute positively to this strategy allowing local authorities to be able to promptly respond to disasters on the ground. Local government reform efforts also will allow powers and budgets to be gradually devolved to the local authorities, taking into account the limits of their capacity
- Invest in, develop, maintain and strengthen people-centred multi-hazard, multisectoral forecasting and early warning systems, disaster risk and emergency communications mechanisms, social technologies and hazard-monitoring telecommunications systems
- Build capacity (technical and functional) of the existing workforce, including the army and voluntary workers in disaster response, recovery planning and implementation and strengthen technical and logistical capacities to ensure better response in emergencies
- Revise ODPEM's National Disaster Risk Management Volunteer Programme, which is designed to strengthen community and parish-level stakeholder response to catastrophes
- Promote interdisciplinary and policy-oriented research on appropriate disaster risk management technologies and approaches
- Infuse disaster risk management in the curricula of primary, secondary and tertiary level institutions

Stakeholder Participation and Coordination

- Effectively involve the media, social networks, local communities and other grassroots institutions in the generation and dissemination of DRM information
- Develop a National Disaster Communication Plan that can be activated in times of disaster (that would better facilitate communication among key agencies), which would include establishing protocols/agreements with the Broadcasting Commission and other organizations with dedicated radio stations that facilitate interruption of regular programming of all radio stations nationally for emergency messaging etc.; it could also include the establishment of an ODPEM radio station that becomes functional during times of disaster as well as the development of a disaster App for smartphones and other similar devices

Physical/Social Issues

- Develop the National Alert Tone for the general public, including the build out of the existing early warning system for the hearing impaired

Key Indicators

The indicators listed below will be used to monitor and assess achievement of Goal 5. For each indicator, the data should be disaggregated according to the type of hazard within each category – natural, man-made and biological/health-related. These data also should be disaggregated in terms of gender, age, income and other characteristics of vulnerability.

Impact Indicators

- Loss of life as a result of disasters (including number of people missing)
- Number of people directly affected by a disaster disaggregated in terms of: number of people injured, evacuated (temporary movement to safer location) and relocated (permanent movement to safer location)
- Number of persons reporting illness or injury after a disaster
- Direct disaster economic losses (US\$)
- Hazard damage as a percentage of GDP
- Percentage variation of the average value of damages and losses after a small event
- Percentage variation of the average value of damages and losses after a medium event
- Disaster damage to critical infrastructure (US\$)
- Disaster damage to the agricultural sector (US\$)
- Disaster damage to the tourism sector (US\$)
- Direct economic loss in the housing sector/stock attributed to disasters
- Number of destroyed or damaged health facilities attributed to disasters
- Number of destroyed or damaged educational facilities attributed to disasters
- Direct economic loss to cultural heritage damaged or destroyed attributed to disasters (US\$)

- Percentage of critical infrastructure that is considered to be resilient and to effectively support disaster recovery
- Direct job loss due to hazard impacts
- Reduced productivity because of morbidity due to epidemics (percentage of GDP)

Outcome Indicators

- National Disaster Recovery Framework updated
- National Disaster Response Coordination Plan for 2020 finalized and reviewed/revised every 5 years
- National Disaster Communication Plan prepared and being implemented

Key Implementing Partners and Institutional Arrangements

- Ministry of Local Government and Rural Development
- Local Authorities
- Office of Disaster Preparedness and Emergency Management
- Social Development Commission
- Ministry of Education, Youth and Information
- Jamaica Defence Force
- Jamaica Constabulary Force
- Jamaica Red Cross
- Ministry of Labour and Social Security
- Ministry of Science, Energy and Technology
- Ministry of Health and Wellness
- University of the West Indies
- University of Technology, Jamaica
- Broadcasting Commission
- Jamaica Information Service

Goal 6 – Jamaica’s key industry structures embrace DRR and CCA as a means of advancing international competitiveness

This goal recognizes that disasters directly affect business performance and undermine longer-term competitiveness and sustainability of a country’s key industry structures. Under this goal, strategies will be created to take advantage of the opportunities that could be leveraged from private sector participation in disaster risk management and in building resilience across a number of the country’s industries – agriculture, tourism, manufacturing, mining, construction etc. as well as in the built environment. Engaging the private sector as key partners and stakeholders to reduce risk and enhance resilience are important as the private sector and their associated enterprises and operations are impacted by disasters and as such they have a strong stake in reducing negative impacts on their operations and consequently their profits. Also, the private sector can be agents of change in many of the resilience activities led by the government.

Under this goal, and within the context presented above, the private sector as part of the wider industry structures will focus attention on the growing impact that natural disasters have on the private sector, industry structures as well as how climate change has the potential to further exacerbate these impacts. The private sector in partnership with the public sector also will focus on how climate change is impacting key industry structures and focus on climate proofing these sectors, through investments in new technologies or in advancing research and innovation.

The role of the private sector in resilience building within the built environment will be a key focus under this goal as the private sector can significantly contribute to raising minimum standards such as building standards, employing modern practices and technologies lending themselves to best practices in areas such as construction and agriculture.

Today, it is becoming increasingly clear that the private sector cannot operate in a “business as usual”, manner as in most cases, the private sector does bear a large brunt of the damage incurred after a natural disaster, therefore providing a strong business case for infusing disaster risk reduction and resilience building into operations.

Key Sector Strategies, Policy Directives and Actions to 2040

Policy, Programmatic and Legislative Framework

- Develop strategies that would support development of regulations and incentives for private sector disaster risk reduction investment
- Climate proof national policies and plans that focus on the country’s key industry structures – tourism, agriculture, construction etc. - and integrate/infuse relevant actions into plans of key social and economic sectors

Institutional Framework

- Develop strategies for business continuity, especially for micro, small and medium enterprises
- Build capacity and provide tools for the inclusion of climate change considerations into development, based on climate projections, keeping in mind climate adaptation measures in place

Capacity and Resources

- Encourage research and innovation and ways in which the private sector could commit resources to design and use innovative technology in infrastructure and other areas and which can then be utilized to support resilience building in communities

Stakeholder Participation and Coordination

- Create a mechanism to identify the contributions made by the private sector to climate change and disaster risk reduction activities within communities and seek to align same with public sector initiatives to better facilitate more efficient use of scarce resources and logging of best practices to enhance scale etc.

Key Indicators

The indicators listed below will be used to monitor and assess achievement of Goal 6.

Impact Indicators

- Disaster damage to the agricultural sector (US\$)
- Disaster damage to the tourism sector (US\$)
- Direct economic loss in the housing sector/stock attributed to disasters

Outcome Indicators

- Number of incentive programmes developed and applied for the promotion of DRR/CCA by the private sector – in each economic sector
- Value of private sector investment in DRR/CCA activities – at the national and local levels – in each economic sector

Key Implementing Partners and Institutional Arrangements

- Ministry of Local Government and Rural Development
- Local Authorities
- Local Chambers of Commerce
- Ministry of Industry, Commerce, Agriculture and Fisheries
- Private Sector Organization of Jamaica
- Jamaica Manufacturers and Exporters Association
- Office of Disaster Preparedness and Emergency Management
- Ministry of Finance and the Public Service

- Ministry of Tourism
- Ministry of Economic Growth and Job Creation
- National Environment and Planning Agency
- Planning Institute of Jamaica

Goal 7 – Jamaica has in place a well-defined framework for disaster risk financing to safeguard future development prospects

Each country's financial resilience to disasters is dependent on its ability to manage internal and external resources to finance post-disaster needs. Considering disaster risk in fiscal policy provides an efficient means for countries to financially protect themselves against events that cannot be prevented. Integrated disaster risk financing strategies allow countries to increase their financial response capacity in the aftermath of disasters and reduce their economic and fiscal burden, thereby allowing them to advance their strategies for debt and fiscal sustainability. Such strategies therefore allow governments to reduce their budget volatility through a combination of self-retention (such as dedicated domestic reserve funds) and risk transfer instruments such as risk insurance and contingent credit facilities. If ex-ante risk financing is not pursued, governments are forced to rely solely on ex-post financing mechanisms such as debt relief and budget reallocation among others to manage sovereign disaster risk, resulting in volatile and open-ended fiscal exposure. This goal is aligned to the Government's Financial Management Policy for Natural Disaster Risk and recognizes that natural disasters have significant impact on macroeconomic indicators (as presented in the table below) and must be planned for as a key measure in advancing debt and fiscal sustainability.

Table 5: Macroeconomic Indicators and Expected Change after a Disaster

<i>Macroeconomic Indicator</i>	<i>Expected change after disaster</i>
Growth rate of GDP	Decrease or negative rate in year of disaster and subsequent increase during 1 to 2 years.
<i>Agricultural Sector</i>	Significant fall in production (if hurricane, flood or drought).
<i>Manufacture Sector</i>	Decrease in activity due to disruption of transportation, reduced production capacities.
<i>Export sector</i>	Poor performance due to the effects described above
Gross Formation of Fixed Capital	Sharp increase in the year following the disaster.
Inflation rate	Increase caused by the disruption of production and distribution and increasing transportation costs.
Public finances	Worsening of deficit due to a shortfall in tax revenues and increase in public expenditures.
Trade balance	Deficit due to decrease in exports and increase in imports, associated with the decline in production capacities and strong public and private investment for reconstruction.
Current Account	Increase in deficit due to trade imbalance, partially offset by capital inflows generated by official and private donations.

Adapted from Albala-Betrand (1993a) and Downing, Holstoom and Tol (1999).

This goal acknowledges that financial protection strategies are only one component of a comprehensive disaster risk management strategy. Whilst financial protection will help governments mobilize resources in the immediate aftermath of a disaster, thus buffering the

long-term fiscal impact of disasters, there is need for countries to have in place long-term and comprehensive risk management policies and strategies that take into account the impacts of a changing climate.

All of these disaster risk financing instruments have unique and distinct characteristics and are necessary to finance early response, recovery, and reconstruction needs while protecting a country's fiscal balance and preventing further disruptions caused by reallocations from other priorities (such as primary health care, education, national security among others).

The disaster risk financing policy is being developed by the Government of Jamaica as a means of improving the understanding of the fiscal risks of disasters and incorporating various risk financing tools and strategies to reduce budget volatility in the event of a disaster. This will move toward ensuring that targets for fiscal and debt sustainability are secured in the event of a disaster.

Key Sector Strategies, Policy Directives and Actions to 2040

Policy, Programmatic and Legislative Framework

- Develop and promulgate the Public Financial Management Policy for Natural Disaster Risk – this policy will improve understanding of fiscal risks of natural disasters, and recommend appropriate public financial management strategies for natural disaster risk including the implementation of various financing strategies and instruments – e.g. contingent credit facilities, cat bonds, catastrophe risk insurance etc.
- Update the terms of reference and develop guidelines and operating procedures for the management of the National Disaster Fund

Capacity and Resources

- Develop a strategy aligned to the public financial management policy on the feasibility of developing catastrophe risk markets to explore developing markets, participating in schemes where they exist or developing insurance products for public assets such as schools and hospitals, property catastrophe risk insurance such as for housing stock, catastrophe insurance for economic sectors such as agriculture and tourism, and microinsurance taking into account the needs of private citizens and economic sectors
- Explore the use of a range of financing for development instruments that could be used to finance DRR activities and promote mechanisms for disaster risk transfer and insurance, risk sharing and retention and financial protection, as appropriate, for both public and private investment in order to reduce the financial impact of disasters on Government and society
- Develop guidelines to facilitate the inclusion of disaster risk management into financial and investment decision making

- Develop mechanisms to ensure the capitalization of the National Disaster Fund to enable the availability of funding to support disaster risk mitigation, preparedness, recovery and relief activities
- Build the capacity and provide the enabling environment for private insurance entities to bring to market, products that will support disaster resilience towards contributing to closing the protection gap

Physical/Social Issues

- Develop strategies that support Government's participation in microinsurance schemes, which are designed to reduce the livelihood impact of individuals after a natural disaster, man-made disaster or disease outbreak – which should include the linkage between social protection and disaster risk

Key Indicators

The indicators listed below will be used to monitor and assess achievement of Goal 7.

Impact Indicators

- Percentage of vulnerable population accessing climate risk insurance (microinsurance)
- Percentage of government budget allocated to disaster risk mitigation
- Percentage of annual budget allocated for disaster risk financing
- Allocation of national budget to ODPEM (US\$)
- Allocation of national budget for disaster risk financing (US\$)
- Total official international support (ODA plus other official flows) for national disaster risk reduction (US\$)

Outcome Indicators

- Level of investment by the Government in disaster risk financing instruments
- Number of businesses and individuals directly covered by disaster insurance

Key Implementing Partners and Institutional Arrangements

- Ministry of Finance and the Public Service
- Ministry of Local Government and Rural Development
- Financial Services Division
- Ministry of Labour and Social Security
- Office of Disaster Preparedness and Emergency Management
- Planning Institute of Jamaica
- Insurance Association of Jamaica

Section 5: Implementation, Monitoring and Evaluation Framework

Government will have the primary responsibility for the coordination of implementation, monitoring and evaluation of the policy as comprehensive disaster risk management is an expression of Government's mandate to protect lives and property from harm as is presented in Chapter III of the country's Constitution. Additionally, it is the Government that has signed on to many international conventions related to disasters and climate change. The Ministry of Local Government and Rural Development will be the primary Government entity with responsibility for this policy. However, due to the cross-cutting nature of disaster risk management, the JCDRM policy will be implemented by a range of stakeholders at all levels. The key implementation partners and institutional arrangements outlined in the policy only pertain to stakeholders that will be required to play key roles. To guide the implementation of the policy, work plans will be prepared for discrete three-year periods. These work plans will also be aligned to the country's national development plan and will be coordinated by ODPEM with actual implementation of strategies and actions being undertaken by stakeholders across the public and private sectors, local authorities, civil society organizations, and within communities.

Private entities – businesses and NGOs – have many roles to play in disaster risk reduction as well as recover after an event. Businesses can partner with community organizations to rebuild a neighbourhood or providing immediate economic support for households can increase access to funding, much of which the private or nongovernmental sector can transfer or distribute more effectively than the public sector can. Business also should incorporate management of disaster risks and environmental stewardship within its own operations, thereby contributing to national resilience. Additionally, by being innovative, the private sector can create demand for and increase access to resilience-building products and services among its customers and employees.

Implementation Framework – Strategic Plans and Action Plans

Every three years, a new work plan will be prepared. Over the life of the policy, seven three-year work plans will be prepared, each aligned to the country's national development plans as well as the Whole of Government Business Plan. *However, a detailed 4-year Implementation and Financial Plan, along with a Monitoring and Implementation Plan is provided below.* Programmes and projects to be included and implemented during each three-year work plan will be based on specific priorities at the time, new and emerging challenges and also alignment with the country's overarching development agenda. Emphasis also will be placed on adopting a 'theory of change' approach, which will be devised to ensure that individual programmes, projects, activities and initiatives would be underpinned by broad strategic thinking around the longer-term changes the various initiatives are likely to achieve and also to ensure that each initiative is designed to contribute to the desired changes envisaged for country in the long term.

Activities to be implemented under the 1st work plan will be drawn from the strategic priorities set under Vision 2030 Jamaica – National Development Plan Medium Term Socio-Economic Policy

Framework (MTF) 2018 – 2021 given the high levels of stakeholder consultation that led to the determination of these priorities and their alignment with the national agenda – all within the context of new priorities and actions developed under the Government’s response to the COVID-19 pandemic. Activities also will be pulled from the corporate and operational plans of key entities involved in DRM as well as the Jamaica country programmes of development partners. Thereafter, the work plans underpinning this policy would use the inputs to Vision 2030 Jamaica and associated MTFs. The JCDRM Policy covers the period 2020 – 2040 and therefore goes beyond 2030 – the end date for the National Development Plan. Thus, progress in implementing the JCDRM Policy work plans can inform any future initiatives to update the Vision 2030 to go beyond 2030.

At the national level, Vision 2030 Jamaica – National Development Plan has called for key stakeholders to engage in processes that will minimize the impacts caused by natural and man-made hazards. Vision 2030 Jamaica also recognizes the role that hazard risk reduction can play in advancing sustainable prosperity and proposes to “disaster-proof” development by: “transforming ‘vicious spirals’ of risk accumulation and disaster losses into ‘virtuous spirals’ of development, risk reduction and effective disaster response”. The Plan proposes a range of strategies that the country should pursue. Many of these are being pursued to some extent, and include among others:

- Modernizing the legal framework related to disaster risk reduction
- Introducing risk transfer and other disaster risk financing instruments such as contingent credit facilities as part of the DRM framework
- Strengthening disaster risk governance to manage disaster risk
- Investing in disaster risk reduction for resilience – employing both risk mitigation and risk financing
- Using predictive tools for modelling, hazard data mapping and risk assessment
- Adopting a community-based approach to hazard risk reduction
- Expanding early warning systems to reduce the impacts of hazards
- Incorporating hazard risk reduction in environmental and natural resources management
- Establishing mechanisms for increasing resilience of the poor and most vulnerable
- Establishing measures to incorporate hazard risk reduction in land-use practices and human settlements
- Creating opportunities for private sector involvement in hazard risk reduction, including business contingency planning
- Developing measures to adapt to climate change such as those related to ‘climate proofing’ all national policies and plans; identifying strategic priorities for adaptation to climate change; and undertaking research to identify sector-specific strategies for adaptation
- Enhancing disaster preparedness for effective response and to "Build Back Better" in recovery, rehabilitation and reconstruction

Outside of these strategies, a range of activities, projects and programmes continue to be implemented towards reducing disaster risk and vulnerability – and are included in the current implementation plan of Vision 2030 Jamaica – Medium Term Socio-Economic Policy Framework 2018 – 2021. These include:

- Developing the Public Financial Management Policy for Natural Disaster Risk
- Developing and promulgating the “Specially Vulnerable Areas” regulations
- Revising Jamaica’s Seismic Code
- Expanding the development of multi-hazard mapping and risk assessments
- Building capacity of key stakeholders in data collection and analysis, risk assessment methodologies for enhancing multi-hazard mapping and undertaking risk assessments
- Establishing Risk Reduction Management Centres with local authorities
- Finalizing the seismic road map
- Creating mechanisms to reduce informal settlements in high risk areas
- Improving risk identification and a reduction in vulnerability in eight coastal communities (Port Maria, Alligator Pond, Black River, Savanna-la-Mar, Morant Bay, Ocho Rios, Manchioneal and Portland Cottage)
- Developing systems to prevent the inflows of hazards at the country’s borders
- Reviewing and revising the national disaster recovery framework
- Developing strategies for business continuity of small and medium enterprises
- Identifying high risk areas for mass evacuation and mass assembly points
- Implementing sustainable land and marine use management initiatives for the following resources: forestry (e.g. REDD+), marine and coastal areas (e.g. the Blue Economy), wetlands, fisheries
- Implementing activities to address the vulnerabilities associated with the effects of climate change on the transport sector
- Implementing activities to address the effects of climate change on human health
- Upgrading, expanding and coordinating the programme of collection of climate-relevant data
- Developing and implementing a coordinated information platform/clearing house for climate change

Key Roles and Responsibilities

The Ministry of Local Government and Rural Development – and specifically the ODPEM – will be the main coordination mechanism for implementation, monitoring and evaluation of the JCDRM Policy. A number of MDAs – including local authorities – will have core responsibilities related to implementation of various strategies and actions aligned to specific goals within the policy. Outside of central and local governments, civil society organizations and other non-governmental organizations, the private sector, international development partners, the media, academia and other research institutions are some of the critical partners in a disaster risk management system and because they already play important roles in the country’s development processes towards advancing the country’s developmental prospects and achieving the country’s long-term national goals. These organizations are in many instances actively involved in disaster prevention, mitigation, preparedness, response and recovery.

Disasters affect the public and private sector alike and partnerships between government and the private sector can contribute measurably to reducing disaster losses through the sharing of knowledge, technical capacity and other resources and engaging in joint developmental initiatives that would build resilience. Development partners will assist by aligning their country programmes for Jamaica with the policy. Another key role for development partners would be to assist in strengthening the capacity of in-country institutions – ODPEM and its parent ministry, the Ministry of Local Government and Rural Development as well as the local authorities – which are mandated to lead disaster preparedness and response, risk identification, risk financing etc. Support could also be provided to the Ministry of Finance and the Public Service to create specific budget lines for DRM.

Businesses and NGOs will engage with communities to provide valuable services post-disaster and also to engage in activities to increase resilience and build back better. The private sector also will incorporate disaster risk management within its own plans and operations.

The media will be engaged in public awareness and education, early warning information dissemination as well as the promotion of programmes for all aspects of disaster risk management across the country. In other words, there will be a focus on strengthening the role of the media, recognizing that they already play a key role in raising awareness.

Academia and research institutions will play an important role in training, knowledge management and sharing and research in DRM and will be ultimately responsible for building a cadre of individuals who are able to contribute to future DRM efforts and resilience building. They also will play a key role in providing much needed data and information that could inform DRR activities including the development of contingency plans and other related activities.

Financing Arrangements for Policy Implementation

Financial resources for the implementation of the policy will be an integral part of the corporate plans and budgets of ministries, departments and agencies as well as those of local authorities (*see below detailed Implementation and Financial Plan*). The national budget will include a process of markers to be able to identify from corporate plans which activities are related to disaster risk management allowing for better identification of the allocation of resources to the policy. Additionally, civil society organizations and development partners will be encouraged to align the strategies contained in the policy with their own strategic directions and in the case of the development partners with their country programmes for Jamaica.

Medium-Term Implementation and Financial Plan for Jamaica's CDRM Policy

Outputs	Output Indicators	Main Activities	Responsible Entities	Timeline Years 1 – 4 (JMD\$)			
				1	2	3	4+
Outcome 1.1 DRM infused/mainstreamed across national sectoral policies promulgated by Government, including those for spatial planning, social security, poverty							
Output 1.1.1 Mainstreaming Framework for MDAs and economic and social sectors being implemented	Final mainstreaming framework	Determine the entities responsible for the definition of methodologies for the elaboration of gender informed disaster risk and climate change adaptation studies, including the differentiated character of vulnerability for women, men children and people with disabilities	PIOJ, ODPEM, MLGRD, Bureau of Gender Affairs	2.5 mill.			
	Development of TOR						
	Consultant to be hired	Consultation Sessions	Develop Mainstreaming Framework for MDAs and other economic and social sectors to enable the effective infusion of DRM in national and sectoral policy	ODPEM, MLGRD, CCD, Cabinet Office	3 mill	3 mill	4.5 mil
Public Education Campaign	Implement Mainstreaming Framework for MDAs		ODPEM, CCD, Cabinet Office		5 mill	5 mill	5 mil
Output 1.1.2 Functional focal points across all MDAs working on	# MDAs with identified and trained focal points	Confirm responsibilities of focal points within all MDAs	Cabinet Office, ODPEM	5 mill			

Outputs	Output Indicators	Main Activities	Responsible Entities	Timeline Years 1 – 4 (JMD\$)			
				1	2	3	4+
mainstreaming DRM into policies and plans	# of Training Sessions held	Develop capacity of focal points, using guidelines and screening tool for DRR and CCA	ODPEM	5 mil			
Output 1.1.3 Draft Guideline and Screening Tool for DRR and CCA	Guideline and screening tool Development of TOR Consultant to be hired Consultation Sessions	Prepare Draft Guideline and Screening Tool for DRR and CCA	ODPEM	4.5 mill			
Outcome 1.2 DRM and CCA incorporated in Strategic Plans and Cabinet Submissions							
Output 1.2.1 GOJ policy making guidelines which incorporate DRM and CCA issues	Guidelines document finalized Development of TOR Consultant to be hired Consultation Sessions	Prepare guidelines	Cabinet Office, ODPEM, CCD	3 mill	3 mill		
Output 1.2.2 Cabinet submission guidelines which incorporate DRM and CCA issues	Guidelines document finalized Development of TOR	Prepare guidelines	Cabinet Office, ODPEM, CCD		3 mill	3 mill	

Outputs	Output Indicators	Main Activities	Responsible Entities	Timeline Years 1 – 4 (JMD\$)			
				1	2	3	4+
	Consultant to be hired Consultation Sessions						
Outcome 1.3 DRM infused/mainstreamed and considered in public investment and development approval processes							
Output 1.3.1 Guidelines for mainstreaming DRM in public investment process developed	Guidelines document finalized Development of TOR Consultant to be hired Consultation Sessions	Prepare guidelines	MFPS, ODPEM, Cabinet Office	5 mill	3 mill		
Outcome 1.4 DRM tagging is incorporated in the national budget and GOJ corporate planning processes							
Output 1.4.1 Budget guidelines which generate a budget qualifier that allows identifying the resources allocated to DRM/CCA	Guidelines document finalized Consultations Sessions	Review and update existing budget guidelines to include generate a budget qualifier that allows identifying the resources allocated to DRM/CCA	MFPS, Cabinet Office, ODPEM	3 mill	3 mill		
Outcome 1.5 All levels of the national health systems have the capacity to understand, anticipate and respond to climate-related illnesses and other health-related risks and pandemics and to anticipate the potential impact of these risks to the population							
Output 1.5.2 DRR plans developed and implemented for healthcare facilities	% healthcare facilities with DRR plans	Develop DRR plans for hospitals, infirmaries, homes of care	MOHW, ODPEM	5 mill	5 mill	5 mill	5 mill

Outputs	Output Indicators	Main Activities	Responsible Entities	Timeline Years 1 – 4 (JMD\$)			
				1	2	3	4+
	Development of TOR Consultant to be hired Consultation Sessions						
Outcome 1.7 Improved coherence of DRM and CCA across all areas of national development							
Output 1.7.1 Strengthen the existing climate change focal point network across GOJ and include DRR issues	% Climate change focal points which include DRR issues Consultation Sessions	Include DRR issues within climate change focal point responsibilities	CCD, ODPEM	1.5 mill	1.5 mill		
Output 1.7.2 Knowledge products and innovative solutions to support the integration of DRM and CCA utilized	# knowledge products about integration of DRM and CCA Development of TOR Consultant to be hired Consultation Sessions	Develop products such as guidelines, case studies, tools etc.	CCD, ODPEM	3 mill	5 mill		
Outputs	Output Indicators	Main Activities	Responsible Entities	Timeline Years 1 – 3 and Beyond			

Outputs	Output Indicators	Main Activities	Responsible Entities	Timeline			
				Years 1 – 4 (JMD\$)			
				1	2	3	4+
				1	2	3	4+
Outcome 2.1 National systems in place to increase resilience of communities and vulnerable segments of society							
Output 2.1.1 Standards for national, parish and community DRM plans in place	Standards and guidelines for DRM plans finalized/revised Development of TOR Consultant to be hired Consultation Sessions Percentage of plans at each level using standard Consultation Sessions	Develop standards for DRM plans at the national, parish and community levels. Build capacity to revise existing plans to meet these standards	ODPEM	3 mill 1.5 mill	3 mill 1.5 mill		
Output 2.1.2 National standards and guidelines for conducting Hazard Vulnerability Risk Assessments (HVAs) developed at national, parish and community levels	Standards and guidelines for HVA at the national, parish and community levels finalized Development of TOR	Assess the disaster risks to vulnerable groups Incorporate disaster risks for vulnerable groups into National HVA standards and guidelines	ODPEM	3 mill	3 mill		

Outputs	Output Indicators	Main Activities	Responsible Entities	Timeline Years 1 – 4 (JMD\$)			
				1	2	3	4+
	Consultant to be hired Consultation Sessions						
Output 2.1.4 Community vulnerability ranking tool developed	Community vulnerability ranking tool finalized Consultation Sessions Field Research Volunteers Engaged	Develop community vulnerability ranking tool	ODPEM, MLGRD, SDC	12 mill	12 mill		
Output 2.1.8 Drought Management Plan updated	Revised Drought Management Plan finalized Consultation Sessions Public Education Campaign	Update Drought Management Plan Engage stakeholders to finalize plan	MICAF, RADA, ODPEM, WRA, Met. Service	12 mill	12 mill		
Outcome 2.2 Strengthened community resilience							
Output 2.2.1 Multi-Hazard Plan and Strategy for	# parishes and communities with	Conduct training in development of multi-hazard plans and strategies	ODPEM, MLGRD, Local Authorities	10 mill	10 mill	10 mill	

Outputs	Output Indicators	Main Activities	Responsible Entities	Timeline Years 1 – 4 (JMD\$)			
				1	2	3	4+
parishes/communities developed	multi-hazard plans and strategies Consultation Sessions # of Training Sessions held	Identify high risk areas for mass evacuation and mass assembly points In collaboration with local authorities and community leaders, develop the plans and strategies					
Output 2.2.2 Parish Disaster Risk Management Plans updated/developed for all parishes	# Parish Disaster Risk Management Plans finalized Consultation Sessions	In collaboration with local authorities and community leaders, develop Parish Disaster Risk Management Plans	ODPEM, MLGRD, Local Authorities	8 mill	8 mill	8 mill	
Output 2.2.3 Community DRM/CCA plans updated or developed	# Community DRM/CCA plans Consultation Sessions	Revise and improve 6 community disaster risk management plans to include climate change considerations	ODPEM, CCD, Local Authorities	8 mill	8 mill	8 mill	
Output 2.2.4 Community capacity strengthened for natural resource management and disaster risk reduction	# persons trained in resource management and disaster risk reduction	Implement awareness raising and knowledge transfer programmes on DRR and natural resource management	ODPEM, SDC	6 mill	6 mill		
	# of Training Sessions held	Develop and implement “train the trainer” DRM programmes at the community level	ODPEM, SDC	8 mill	8 mill		

Outputs	Output Indicators	Main Activities	Responsible Entities	Timeline Years 1 – 4 (JMD\$)			
				1	2	3	4+
Output 2.2.6 Vulnerability to seismic risks reduced	Seismic road map	Finalize seismic road map for the retrofitting of critical facilities and structures	ODPEM	10 mill	10 mill	10 mill	10 mill
Outcome 2.3 The poor and most vulnerable become resilient							
Output 2.3.2 Focus placed on vulnerable groups in all activities	# vulnerable persons involved in DRR activities Development of TOR Consultant to be hired Consultation Sessions	Undertake gender responsive DRR and climate change adaptation studies	MLSS, OPDEM, CCD	10 mill	10 mill	10 mill	
Outputs	Output Indicators	Main Activities	Responsible Entities	Timeline Years 1 – 3 and Beyond			
				1	2	3	4+
Outcome 3.1 The DRM Act is revised and aligned to the Jamaica’s CDRM Policy							
Output 3.1.2 Regulations developed in accordance with the DRM Act 2015	Regulations in force	Develop Evacuation Regulations/Guidelines	MLGRD, ODPEM, CPC	6 mill	6 mill	6 mill	6 mill
	Consultation Sessions	Develop/Revise Shelter Regulations/Guidelines	MLGRD, ODPEM, CPC	6 mill	6 mill	6 mill	6 mill
	Public Education Campaigns	Develop Specially Vulnerable Areas Regulations/Guidelines	MLGRD, ODPEM, CPC	6 mill	6 mill	6 mill	6 mill

Outputs	Output Indicators	Main Activities	Responsible Entities	Timeline Years 1 – 4 (JMD\$)			
				1	2	3	4+
		Develop DRM Data and Information Management Regulations/Guidelines	MLGRD, ODPEM, CPC	6 mill	6 mill	6 mill	6 mill
Outcome 3.2 DRM organizations at the national and local levels are able to effectively deliver and advance the country's DRM mandate							
Output 3.2.1 Organizational review process of ODPEM completed and recommendations implemented	ODPEM review process completed Development of TOR Consultant to be hired Consultation Sessions Change Management Sessions	Undertake organizational review process of ODPEM and implement recommendations	MLGRD, Cabinet Office, Services Commission, MFPS	10 mill	10 mill	10 mill	
Outputs	Output Indicators	Main Activities	Responsible Entities	Timeline Years 1 – 3 and Beyond			
				1	2	3	4+
Outcome 4.1 Systems are in place for identifying, assessing, monitoring and mapping disaster risk							
Output 4.1.1 A National Disaster Risk Profile for Jamaica developed with a defined methodology	National Disaster Risk Profile for Jamaica finalized Consultation Sessions	Define and have approved the methodology and develop the National Disaster Risk Profile for Jamaica, in collaboration with technical experts in government, the private sector and academia	ODPEM, MEGJC, NEPA	10 mill	10 mill		

Outputs	Output Indicators	Main Activities	Responsible Entities	Timeline Years 1 – 4 (JMD\$)			
				1	2	3	4+
Output 4.1.2 Establish the National Risk Information Platform	National Risk Information Platform fully functional Consultation Sessions Field Research Licenses Renewal	Complete the development of the National Risk Information Platform/Update existing NRIP Data and Processes	NSDMD, ODPEM, JSIF		15 mill		
Output 4.1.3 Categorization of critical facilities for DRM prepared	Report on categorization of critical facilities for DRM finalized Consultation Session GIS Analyst Services rendered	Prepare report on categorization of critical facilities for DRM	ODPEM, NWA, MHW	5 mill			
Output 4.1.4 Guidelines/standards developed for geological, climatic and hydrological hazard studies and major medical/health emergencies such as epidemics/pandemics	Guidelines and standards documents finalized Consultation Sessions	Develop guidelines/standards to conduct natural hazard studies, which include the frequency of occurrence associated with the intensity levels of the events (return periods for events of given magnitude/intensity)	ODPEM, MGD, CCD, UWI Earthquake Unit, NWA, Climate Studies Group, Mona		8 mill	8 mill	8 mill

Outputs	Output Indicators	Main Activities	Responsible Entities	Timeline Years 1 – 4 (JMD\$)			
				1	2	3	4+
Output 4.1.5 Study for defining the priority investments in risk identification and risk reduction undertaken	Report on study for defining the priority investments finalized Consultation Sessions	Conduct study for defining the priority investments in risk identification and risk reduction	MFPS, PIOJ, ODPEM	8 mill	8 mill		
Outcome 4.2 Adequate technical capacity exists for undertaking hazard and risk assessments							
Output 4.2.1 Training programme in data collection and analysis and risk assessment methodologies conducted	# persons participating in training programme Consultation Sessions # of Training Sessions held Licenses Renewal	Develop a relevant training programme to build the capacity of key stakeholders in data collection and analysis, risk assessment methodologies for enhancing multi-hazard mapping and undertaking risk assessment	ODPEM		10 mill	10 mill	
Outcome 4.3 Multi-hazard mapping and risk assessments are used to inform decision making							
Output 4.3.1 Multi-hazard vulnerability assessments conducted for public infrastructure including critical facilities and utilities	# multi-hazard vulnerability assessments conducted for public infrastructure Consultation Sessions Licenses Renewal	Improve risk identification and a reduction in vulnerability in eight coastal communities (Port Maria, Alligator Pond, Black River, Savanna-la-Mar, Morant Bay, Ocho Rios, Manchioneal and Portland Cottage) – under the Jamaica Disaster Vulnerability Reduction Project (DVRP)	ODPEM	10 mill	10 mill		

Outputs	Output Indicators	Main Activities	Responsible Entities	Timeline Years 1 – 4 (JMD\$)			
				1	2	3	4+
Outputs	Output Indicators	Main Activities	Responsible Entities	Timeline Years 1 – 3 and Beyond			
				1	2	3	4+
Outcome 5.1 Local authorities are equipped with the technical and financial capacity to be first responders in the event of a disaster							
Output 5.1.1 Capacity exists to conduct comprehensive post disaster needs assessments within affected communities to determine priorities for humanitarian response	Number of community post-disaster needs assessments for affected communities Consultation Sessions # of Training Sessions held	Build capacity among national, parish and community DR managers to conduct post-disaster needs assessments	ODPEM, MLGRD, Local Authorities	10 mill	10 mill		
Outcome 5.2 A modern disaster recovery framework is operationalized							
Output 5.2.1 National disaster recovery framework revised	National disaster recovery framework finalized Development of TOR Consultant to be hired Consultation Sessions	Review and revise national disaster recovery framework	ODPEM	5 mill	5 mill		

Outputs	Output Indicators	Main Activities	Responsible Entities	Timeline Years 1 – 4 (JMD\$)			
				1	2	3	4+
Output 5.2.2 Draft Concept Paper related to Jamaica Incident Management System prepared	Draft Concept Paper related to Jamaica Incident Management System Development of TOR Consultant to be hired Consultation Sessions	Prepare Draft Concept Paper related to Jamaica Incident Management System	ODPEM, MLGRD	5 mill	5 mill		
Output 5.2.4 National Inventory Database developed and maintained	National Inventory Database finalized Consultation Sessions Licenses Renewal	Design/Update National Inventory Database, including the types and sources of necessary data as well as input and access mechanisms Develop and implement database Promote database to ensure wide use	ODPEM	10 mill	10 mill		
Output 5.2.6 National incident command system standardized	Standards for national incident command system finalized Development of TOR	Develop standards for national incident command system	ODPEM	8 mill	8 mill		

Outputs	Output Indicators	Main Activities	Responsible Entities	Timeline Years 1 – 4 (JMD\$)			
				1	2	3	4+
	Consultant to be hired Consultation Sessions Testing of SOPs						
Output 5.2.9 National Debris Management Plan for post disasters developed	National Debris Management Plan finalized Consultation Sessions	Prepare National Debris Management Plan	NSWMA, MLGRD, ODPEM			5 mill	5 mill
Output 5.2.10 Systems to prevent the inflows of hazards at the country's borders developed	Systems to prevent the inflows of hazards at the country's borders finalized Consultation Sessions	Develop systems to prevent the inflows of hazards at the country's borders	MNS		4 mill	4 mill	4 mill
Output 5.2.11 Strategies for business continuity of small and medium enterprises developed	# SMEs with business continuity plans and strategies Consultation Sessions	Build capacity of SMEs to develop business continuity strategies	ODPEM, MICAF, SBAJ		10 mill	10 mill	

Outputs	Output Indicators	Main Activities	Responsible Entities	Timeline Years 1 – 4 (JMD\$)			
				1	2	3	4+
	# of Training Sessions held						
Outcome 5.3 National communications plan exists and partners, including media use it during disaster recovery							
Output 5.3.1 National Crisis Communications Plan developed	National Crisis Communications Plan finalized Consultation Sessions # of Training Sessions held	Prepare/Revise National Crisis Communications Plan	ODPEM, OPM, JIS	8 mill	8 mill		
Output 5.3.2 Early warning messaging developed and disseminated	Early warning message protocols established Consultation Sessions Testing of System	Develop early warning messaging for communication and dissemination mechanisms for disaster risk information and early warning systems	ODPEM	4 mill	4 mill		
Outcome 5.4 Communities' psychosocial health addressed							
Output 5.4.1 Strategies for psychosocial intervention for hazards in place with long-term and far-reaching effects	Strategies for psychosocial intervention for hazards impacted population developed Consultation to be hired	Develop strategies for psychosocial intervention for hazards	ODPEM, MHW	8 mill	8 mill		

Outputs	Output Indicators	Main Activities	Responsible Entities	Timeline Years 1 – 4 (JMD\$)			
				1	2	3	4+
	Consultation Sessions						
Outputs	Output Indicators	Main Activities	Responsible Entities	Timeline Years 1 – 3 and Beyond			
				1	2	3	4+

Monitoring and Evaluation Framework

Jamaica's CDRM Policy uses monitoring, evaluation, and a focus on results and continuous improvement to drive improved performance in DRM in Jamaica and positions the country to be a best practice example to other small island developing states in the region and beyond (see below *M&E Snapshot and Detailed Plan*). To achieve the vision of a "Resilient and Safe Jamaica", is accompanied by a logical monitoring and evaluation framework that defines how the vision will be achieved and is based on a results framework defining expected outputs, outcomes, and indicators for measuring progress. The monitoring and evaluation system is therefore designed to track output- and outcome-level results that can be aggregated to monitor performance at the national level also making reporting on Vision 2030 Jamaica more timely and reliable.

Additionally, the monitoring and evaluation framework underpinning this policy includes a range of indicators aligned to interim targets that would be used to assess progress being made towards Jamaica achieving the vision as articulated in the JCDRM Policy. These indicators are the building blocks of the monitoring and evaluation system and are based on national, regional and international disaster risk management platforms: MTF 2018–2021, the Caribbean Comprehensive Disaster Management Strategy and Framework and the Sendai Framework – as well as other international frameworks and agreements to which Jamaica is signatory.

Targets will be set in collaboration with the Ministry of Local Government and Rural Development and other relevant MDAs. Evaluating these indicators and targets will facilitate the verification of results of the implementation of activities contained in the three-year work plans allowing for assessing progress, determining lessons learned, enabling the engagement in continuous improvement and providing a solid base for informing future activities and work plans.

MLGRD and ODPEM have coordinating and reporting accountability for implementation of this Policy and progress will be monitored and evaluated by the Hazard Risk Reduction and Adaptation to Climate Change (HRRACC) Thematic Working Group under Vision 2030 Jamaica, led by ODPEM and the Climate Change Division of the Ministry of Economic Growth and Job Creation (MEGJC). This working group serves as the overarching body for monitoring and evaluating activities being developed and implemented and related to hazards and climate change. This M&E framework also will facilitate the Government of Jamaica in fulfilling its commitment towards reporting on its implementation of the Caribbean CDM Framework.

The evaluation of the policy and associated actions in the spirit of good governance will be subject to the evaluation of the Office of the Auditor General in their undertaking of performance-based audits to which policies and programmes of GOJ may be subject to from time to time. Based on the Government policy making guidelines, the CRDM Policy will be reviewed every three years and the results of the review sent to Cabinet for their information and or action.

A snapshot of the monitoring and evaluation framework is presented below.

<p><i>“Jamaica, the place of choice to live, work, raise families and do business”</i></p> <p><i>Jamaica’s National Vision Statement</i></p>
<p>A Resilient and Safe Jamaica</p> <p><i>Vision of Jamaica’s Comprehensive DRM Policy on the “Road to Resilience”</i></p>
<p>Guiding Principles and Cross-Cutting Themes:</p> <p>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</p>
<p>Goal 1: DRM is mainstreamed across all national policies and sectoral planning processes including the integration of DRR with climate change adaptation</p> <p>Main Outcomes:</p> <ul style="list-style-type: none"> • DRM infused/mainstreamed across national sectoral policies promulgated by Government, including those for spatial planning, social security, poverty • DRM and CCA incorporated in Strategic Plans and Cabinet Submissions • DRM infused/mainstreamed and considered in public investment processes • DRM tagging is incorporated in the national budget and GOJ corporate planning processes • All levels of the national health systems have the capacity to understand, anticipate and respond to climate-related illnesses and other health-related risks and pandemics and to anticipate the potential impact of these risks to the population • Integrated Risk Management Framework is being implemented and the country has in place a functional all-hazards policy framework to allow the Government to consider sovereign risk in holistic manner focusing beyond natural disasters and catastrophes recognizing that the country is exposed to a myriad of other risks, including economic, geopolitical, environmental, societal (pandemics, health, migration, ageing populations etc.) and technological (e.g. cyber and nanotechnology) all of which have an impact on debt and fiscal sustainability and overall development prospects • Improved coherence of DRM and CCA across all areas of national development

Goal 2: Mortality, economic, social and environmental losses from disasters are reduced, creating resilient individuals, communities and enterprises across Jamaica

Main Outcomes:

- National systems in place to increase resilience of communities and vulnerable segments of society
- Strengthened community resilience to all hazards
- The poor and most vulnerable become resilient
- Communities have access to early warning systems

Goal 3: Jamaica has a modern and adaptive governance, institutional, legal and regulatory framework for comprehensive disaster risk management that facilitates stakeholder involvement and engagement

Main Outcomes:

- The DRM Act is revised and aligned to the Jamaica's CDRM Policy
- DRM organizations at the national and local levels are able to effectively deliver and advance the country's DRM mandate
- The private sector and civil society organizations are fully engaged in DRM activities and work closely with national and local entities towards realizing the overall DRM goals of the country

Goal 4: Jamaica has in place well-defined systems for risk identification and assessments and is able to anticipate future events including new and emerging hazards

Main Outcomes:

- Systems are in place for identifying, assessing, monitoring and mapping disaster risk
- Adequate technical capacity exists for undertaking hazard and risk assessments
- Multi-hazard mapping and risk assessments are used to inform decision making

Goal 5: Jamaica has a strong, innovative and modern disaster preparedness system for effective recovery and response

Main Outcomes:

- Local authorities are equipped with the technical and financial capacity to be first responders in the event of a disaster
- A modern disaster recovery framework is operationalized
- National communications plan exists and partners, including media use it during disaster recovery
- Communities' psychosocial health addressed

Goal 6 – Jamaica’s key industry structures embrace DRR and CCA as a means of advancing international competitiveness

Main Outcomes:

- Strategic disaster risk management programming for priority sectors improved
- Hazard information integrated into development planning and work programming for priority sectors
- Incentive programmes developed and applied for the promotion of risk reduction/CCA in infrastructure investment in priority sectors

Goal 7 Jamaica has in place a well-defined framework for disaster risk financing to safeguard future development prospects

Main Outcomes:

- Disaster risk financing policy is implemented, and Jamaica is making use of a wide range of disaster risk financing instruments, increasing the financial resilience of the government and the private sector
- Climate and catastrophe risk insurance is widely available at the micro and meso levels and the private sector is playing a key role in bringing to market affordable and diverse products to meet the needs of all sectors of the population increasing the financial resilience of the general population
- The National Disaster Fund to finance immediate recovery efforts after a disaster is well financed
- Financing for resilience investments from government, development partners, private sector mobilized

Impact Indicators and Targets (see separate table)

Results

Resilient communities, towns and citizens • Resilient citizens Increasing resources and access to disaster risk financing instruments • Stakeholder partnerships and collaboration for DRM Access to data, knowledge products information and tools • Deepening engagements between DRM and CCA • Demonstration of good practices such as mainstreaming of DRR, adoption of DRM in private sector, research and innovation towards finding solutions for DRM Resilient recovery

Inputs

Government budget • Technical and financial support from development partners • Technical experts through strategic partnerships • Human resources from national and local authorities

Monitoring and Evaluation Plan for Jamaica's CDRM Policy Medium-Term Implementation Plan (1st 4 years of Implementation)

Outputs	Output Indicators	Main Activities	Responsible Entities	Means of Verification
Outcome 1.1 DRM infused/mainstreamed across national sectoral policies promulgated by Government, including those for spatial planning, social security, poverty				
Output 1.1.1 Mainstreaming Framework for MDAs and economic and social sectors being implemented	Final mainstreaming framework	Determine the entities responsible for the definition of methodologies for the elaboration of gender informed disaster risk and climate change adaptation studies, including the differentiated character of vulnerability for women, men children and people with disabilities	PIOJ, ODPEM, MLGRD, Bureau of Gender Affairs	TOR for Consultant, Meeting Schedule, Action Items, Framework Drafted
	Development of TOR			
	Consultant to be hired			
	Consultation Sessions			
		Develop Mainstreaming Framework for MDAs and other economic and social sectors to enable the effective infusion of DRM in national and sectoral policy	ODPEM, MLGRD, CCD, Cabinet Office	TOR for Consultant, Meeting Schedule, Action Items, Framework Drafted
	Public Education Campaign	Implement Mainstreaming Framework for MDAs	ODPEM, CCD, Cabinet Office	TOR for Consultant, Meeting Schedule,

Outputs	Output Indicators	Main Activities	Responsible Entities	Means of Verification
				Action Items, Framework Drafted
Output 1.1.2 Functional focal points across all MDAs working on mainstreaming DRM into policies and plans	# MDAs with identified and trained focal points # of Training Sessions held	Confirm responsibilities of focal points within all MDAs	Cabinet Office, ODPEM	Meeting Schedule, Action Items, # of Training Sessions held, Observations
		Develop capacity of focal points, using guidelines and screening tool for DRR and CCA	ODPEM	
Outcome 1.2 DRM and CCA incorporated in Strategic Plans and Cabinet Submissions				
Output 1.2.1 GOJ policy making guidelines which incorporate DRM and CCA issues	Guidelines document finalized Development of TOR Consultant to be hired Consultation Sessions	Prepare guidelines	Cabinet Office, ODPEM, CCD	TOR for Consultant, Meeting Schedule, Action Items, Guidelines Drafted
Output 1.2.2 Cabinet submission guidelines which incorporate DRM and CCA issues	Guidelines document finalized Development of TOR Consultant to be hired Consultation Sessions	Prepare guidelines	Cabinet Office, ODPEM, CCD	TOR for Consultant, Meeting Schedule, Action Items, Guidelines Drafted
Outcome 1.3 DRM infused/mainstreamed and considered in public investment and development approval processes				
Output 1.3.1 Guidelines for mainstreaming DRM in public investment process developed	Guidelines document finalized Development of TOR	Prepare guidelines	MFPS, ODPEM, Cabinet Office	TOR for Consultant, Meeting Schedule, Action Items, Guidelines Drafted

Outputs	Output Indicators	Main Activities	Responsible Entities	Means of Verification
	Consultant to be hired Consultation Sessions			
Outcome 1.4 DRM tagging is incorporated in the national budget and GOJ corporate planning processes				
Output 1.4.1 Budget guidelines which generate a budget qualifier that allows identifying the resources allocated to DRM/CCA	Guidelines document finalized Consultations Sessions	Review and update existing budget guidelines to include generate a budget qualifier that allows identifying the resources allocated to DRM/CCA	MFPS, Cabinet Office, ODPEM	Meeting Schedule, Action Items, Guidelines Drafted
Outcome 1.5 All levels of the national health systems have the capacity to understand, anticipate and respond to climate-related illnesses and other health-related risks and pandemics and to anticipate the potential impact of these risks to the population				
Output 1.5.2 DRR plans developed and implemented for healthcare facilities	% healthcare facilities with DRR plans Development of TOR Consultant to be hired Consultation Sessions	Develop DRR plans for hospitals, infirmaries, homes of care	MHW, ODPEM	TOR for Consultant, Meeting Schedule, Action Items, # of DRR Plans drafted
Outcome 1.7 Improved coherence of DRM and CCA across all areas of national development				
Output 1.7.1 Strengthen the existing climate change focal point network across GOJ and include DRR issues	% Climate change focal points which include DRR issues Consultation Sessions	Include DRR issues within climate change focal point responsibilities	CCD, ODPEM	Meeting Schedule, Action Items,
Output 1.7.2 Knowledge products and innovative solutions to support the integration of DRM and CCA utilized	# knowledge products about integration of DRM and CCA Development of TOR	Develop products such as guidelines, case studies, tools etc.	CCD, ODPEM	TOR for Consultant, Meeting Schedule, Action Items, Guidelines Drafted

Outputs	Output Indicators	Main Activities	Responsible Entities	Means of Verification
	Consultant to be hired Consultation Sessions			
Outcome 2.1 National systems in place to increase resilience of communities and vulnerable segments of society				
Output 2.1.1 Standards for national, parish and community DRM plans in place	Standards and guidelines for DRM plans finalized/revised Development of TOR Consultant to be hired Consultation Sessions Percentage of plans at each level using standard Consultation Sessions # of Training Sessions held	Develop standards for DRM plans at the national, parish and community levels. Build capacity to revise existing plans to meet these standards	ODPEM	TOR for Consultant, Meeting Schedule, Action Items, SOPs Drafted TOR for Consultant, Meeting Schedule, Action Items, # of Training Sessions held, Observations
Output 2.1.2 National standards and guidelines for conducting Hazard Vulnerability Risk Assessments (HVAs) developed at national, parish and community levels	Standards and guidelines for HVA at the national, parish and community levels finalized Development of TOR Consultant to be hired	Assess the disaster risks to vulnerable groups Incorporate disaster risks for vulnerable groups into National HVA standards and guidelines	ODPEM	TOR for Consultant, Meeting Schedule, Action Items, Guidelines Drafted/Approved

Outputs	Output Indicators	Main Activities	Responsible Entities	Means of Verification
	Consultation Sessions			
Output 2.1.4 Community vulnerability ranking tool developed	Community vulnerability ranking tool finalized Consultation Sessions Field Research Volunteers Engaged	Develop community vulnerability ranking tool	ODPEM, MLGRD, SDC	Meeting Schedule, Action Items, Draft Volunteer Application Form, Vulnerability Ranking Tool
Output 2.1.8 Drought Management Plan updated	Revised Drought Management Plan finalized Consultation Sessions Public Education Campaign	Update Drought Management Plan Engage stakeholders to finalize plan	MICAF, RADA, ODPEM, WRA, Met. Service	Meeting Schedule, Action Items, Concept Note re Public Awareness, Drought Plan Updated/Drafted
Outcome 2.2 Strengthened community resilience				
Output 2.2.1 Multi-Hazard Plan and Strategy for parishes/communities developed	# parishes and communities with multi-hazard plans and strategies Consultation Sessions # of Training Sessions held	Conduct training in development of multi-hazard plans and strategies Identify high risk areas for mass evacuation and mass assembly points In collaboration with local authorities and community leaders, develop the plans and strategies	ODPEM, MLGRD, Local Authorities	Meeting Schedule, Action Items, # of Training Sessions held, Observation

Outputs	Output Indicators	Main Activities	Responsible Entities	Means of Verification
Output 2.2.2 Parish Disaster Risk Management Plans updated/developed for all parishes	# Parish Disaster Risk Management Plans finalized Consultation Sessions	In collaboration with local authorities and community leaders, develop Parish Disaster Risk Management Plans	ODPEM, MLGRD, Local Authorities	Meeting Schedule, Action Items, # of Parish Plan Finalized
Output 2.2.3 Community DRM/CCA plans updated or developed	# Community DRM/CCA plans Consultation Sessions	Revise and improve 6 community disaster risk management plans to include climate change considerations	ODPEM, CCD, Local Authorities	Meeting Schedule, Action Items, # of Community DRM/CCA Plans drafted
Output 2.2.4 Community capacity strengthened for natural resource management and disaster risk reduction	# persons trained in resource management and disaster risk reduction	Implement awareness raising and knowledge transfer programmes on DRR and natural resource management	ODPEM, SDC	TOR for Consultant, Meeting Schedule, Action Items, Concept Note re Public Awareness
	# of Training Sessions held Public Awareness Campaign	Develop and implement “train the trainer” DRM programmes at the community level	ODPEM, SDC	TOR for Consultant, Meeting Schedule, Action Items, # of Training Sessions held, Observation
Output 2.2.6 Vulnerability to seismic risks reduced	Seismic road map Consultation Sessions	Finalize seismic road map for the retrofitting of critical facilities and structures	ODPEM	Meeting Schedule, Action Items, Seismic Road Map Drafted/Approved
Outcome 2.3 The poor and most vulnerable become resilient				
Output 2.3.2 Focus placed on vulnerable groups in all activities	# vulnerable persons involved in DRR activities Development of TOR Consultant to be hired Consultation Sessions	Undertake gender responsive DRR and climate change adaptation studies	MLSS, OPDEM, CCD	TOR for Consultant, Meeting Schedule, Action Items, Final Report

Outputs	Output Indicators	Main Activities	Responsible Entities	Means of Verification
Outcome 3.1 The DRM Act is revised and aligned to the Jamaica's CDRM Policy				
Output 3.1.2 Regulations developed in accordance with the DRM Act 2015	Regulations in force	Develop Evacuation Regulations/Guidelines	MLGRD, ODPEM, CPC	Meeting Schedule, Action Items, Regulations Drafted, Concept Note re Public Education
	Consultation Sessions			
	Public Education Campaigns	Develop/Revise Shelter Regulations	MLGRD, ODPEM, CPC	Meeting Schedule, Action Items, Regulations Drafted, Concept Note re Public Education
		Develop Specially Vulnerable Areas Regulations/Guidelines	MLGRD, ODPEM, CPC	Meeting Schedule, Action Items, Regulations Drafted
		Develop DRM Data and Information Management Regulations/Guidelines	MLGRD, ODPEM, CPC	Meeting Schedule, Action Items, Regulations Drafted
Outcome 3.2 DRM organizations at the national and local levels are able to effectively deliver and advance the country's DRM mandate				
Output 3.2.1 Organizational review process of ODPEM completed and recommendations implemented	ODPEM review process completed Development of TOR Consultant to be hired Consultation Sessions Change Management Sessions	Undertake organizational review process of ODPEM and implement recommendations	MLGRD, Cabinet Office, Services Commission, MFPS	TOR for Consultant, Meeting Schedule, Action Items, Change Management Sessions Conducted,
Outcome 4.1 Systems are in place for identifying, assessing, monitoring and mapping disaster risk				

Outputs	Output Indicators	Main Activities	Responsible Entities	Means of Verification
Output 4.1.1 A National Disaster Risk Profile for Jamaica developed with a defined methodology	National Disaster Risk Profile for Jamaica finalized Consultation Sessions	Define and have approved the methodology and develop the National Disaster Risk Profile for Jamaica, in collaboration with technical experts in government, the private sector and academia	ODPEM, MEGJC, NEPA	Meeting Schedule, Action Items
Output 4.1.2 Establish the National Risk Information Platform	National Risk Information Platform fully functional Consultation Sessions Field Research Licenses Renewal	Complete the development of the National Risk Information Platform/Updating existing NRIP Data and Processes	NSDMD, ODPEM, JSIF	Meeting Schedule, Action Items, License Renewal (invoice), Risk Information Platform Guidelines
Output 4.1.3 Categorization of critical facilities for DRM prepared	Report on categorization of critical facilities for DRM finalized Consultation Session GIS Analyst Services rendered	Prepare report on categorization of critical facilities for DRM	ODPEM, NWA, MHW	TOR for Consultant, Meeting Schedule, Action Items, TOR for GIS Analyst, Final Report
Output 4.1.4 Guidelines/standards developed for geological, climatic and hydrological hazard studies and major health/medical	Guidelines and standards documents finalized Consultation Sessions	Develop guidelines/standards to conduct natural hazard studies, which include the frequency of occurrence associated with the intensity levels of the	ODPEM, MGD, CCD, UWI Earthquake Unit, NWA, Climate Studies Group, Mona	Meeting Schedule, Action Items, Draft Guidelines Developed,

Outputs	Output Indicators	Main Activities	Responsible Entities	Means of Verification
emergencies such as epidemics/pandemics		events (return periods for events of given magnitude/intensity)		
Output 4.1.5 Study for defining the priority investments in risk identification and risk reduction undertaken	Report on study for defining the priority investments finalized Consultation Sessions	Conduct study for defining the priority investments in risk identification and risk reduction	MFPS, PIOJ, ODPEM	Meeting Schedule, Action Items, Final Report on Investments in Risk Identification
Outcome 4.2 Adequate technical capacity exists for undertaking hazard and risk assessments				
Output 4.2.1 Training programme in data collection and analysis and risk assessment methodologies conducted	# persons participating in training programme Consultation Sessions # of Training Sessions held Licenses Renewal	Develop a relevant training programme to build the capacity of key stakeholders in data collection and analysis, risk assessment methodologies for enhancing multi-hazard mapping and undertaking risk assessment	ODPEM	Meeting Schedule, Action Items, # of Training Sessions held, Observation, Licenses Renewal (invoice),
Outcome 4.3 Multi-hazard mapping and risk assessments are used to inform decision making				
Output 4.3.1 Multi-hazard vulnerability assessments conducted for public infrastructure including critical facilities and utilities	# multi-hazard vulnerability assessments conducted for public infrastructure Consultation Sessions Licenses Renewal	Improve risk identification and a reduction in vulnerability in eight coastal communities (Port Maria, Alligator Pond, Black River, Savanna-la-Mar, Morant Bay, Ocho Rios, Manchioneal and Portland Cottage) – under the Jamaica	ODPEM	TOR for Consultant, Meeting Schedule, Action Items, Licenses Renewal (invoice), # of multi-hazard assessments

Outputs	Output Indicators	Main Activities	Responsible Entities	Means of Verification
		Disaster Vulnerability Reduction Project (DVRP)		
Outcome 5.1 Local authorities are equipped with the technical and financial capacity to be first responders in the event of a disaster				
Output 5.1.1 Capacity exists to conduct comprehensive post disaster needs assessments within affected communities to determine priorities for humanitarian response	Number of community post-disaster needs assessments for affected communities Consultation Sessions # of Training Sessions held	Build capacity among national, parish and community DR managers to conduct post-disaster needs assessments	ODPEM, MLGRD, Local Authorities	Meeting Schedule, Action Items, # of Training Sessions held, Observation
Outcome 5.2 A modern disaster recovery framework is operationalized				
Output 5.2.1 National disaster recovery framework revised	National disaster recovery framework finalized Development of TOR Consultant to be hired Consultation Sessions	Review and revise national disaster recovery framework	ODPEM	TOR for Consultant, Meeting Schedule, Action Items, Framework Updated
Output 5.2.2 Draft Concept Paper related to Jamaica Incident Management System prepared	Draft Concept Paper related to Jamaica Incident Management System Development of TOR Consultant to be hired Consultation Sessions	Prepare Draft Concept Paper related to Jamaica Incident Management System	ODPEM, MLGRD	TOR for Consultant, Meeting Schedule, Action Items, Draft Concept Paper drafted

Outputs	Output Indicators	Main Activities	Responsible Entities	Means of Verification
Output 5.2.4 National Inventory Database developed and maintained	National Inventory Database finalized Consultation Sessions Licenses Renewal # of Training Sessions held	Design National Inventory Database, including the types and sources of necessary data as well as input and access mechanisms Develop and implement database Promote database to ensure wide use	ODPEM	Meeting Schedule, Action Items, License Renewal (invoice), # of Training Sessions held, Observation
Output 5.2.6 National incident command system standardized	Standards for national incident command system finalized Development of TOR Consultant to be hired Consultation Sessions Testing of SOPs	Develop standards for national incident command system	ODPEM	TOR for Consultant, Meeting Schedule, Action Items, Incident Command SOPs developed
Output 5.2.9 National Debris Management Plan for post disasters developed	National Debris Management Plan finalized Consultation Sessions	Prepare National Debris Management Plan	NSWMA, MLGRD, ODPEM	Meeting Schedule, Action Items, National Debris Plan Developed
Output 5.2.10 Systems to prevent the inflows of hazards at the country's borders developed	Systems to prevent the inflows of hazards at the country's borders finalized Consultation Sessions	Develop systems to prevent the inflows of hazards at the country's borders	MNS	Meeting Schedule, Action Items, Draft Framework Developed

Outputs	Output Indicators	Main Activities	Responsible Entities	Means of Verification
Output 5.2.11 Strategies for business continuity of small and medium enterprises developed	# SMEs with business continuity plans and strategies Consultation Sessions # of Training Sessions held	Build capacity of SMEs to develop business continuity strategies	ODPEM, MICAF, SBAJ	Meeting Schedule, Action Items, # of Training Sessions held, # of Business Continuity Plans Developed, Observation
Outcome 5.3 National communications plan exists and partners, including media use it during disaster recovery				
Output 5.3.1 National Crisis Communications Plan developed	National Crisis Communications Plan finalized Consultation Sessions # of Training Sessions held	Prepare/Revise National Crisis Communications Plan	ODPEM, OPM, JIS	Meeting Schedule, Action Items, # of Training Sessions held, Crisis Communication Plan, Observation
Output 5.3.2 Early warning messaging developed and disseminated	Early warning message protocols established Consultation Sessions Testing of System	Develop early warning messaging for communication and dissemination mechanisms for disaster risk information and early warning systems	ODPEM	Meeting Schedule, Action Items, Draft Early Warning Messages, Testing Schedule
Outcome 5.4 Communities' psychosocial health addressed				
Output 5.4.1 Strategies for psychosocial intervention for hazards in place with long-term and far-reaching effects	Strategies for psychosocial intervention for hazards impacted population developed	Develop strategies for psychosocial intervention for hazards	ODPEM, MHW	TOR for Consultant, Meeting Schedule, Action Items, Draft Psychosocial Strategies

Outputs	Output Indicators	Main Activities	Responsible Entities	Means of Verification
	Development of TOR Consultation to be hired Consultation Sessions			

Impact Indicators and Targets

The indicators presented in the table below will be used to assess progress in the implementation of Jamaica's CDRM Policy to 2040 and also will assist in facilitating reporting to Vision 2030 Jamaica on the country's overall development results as well as other mechanisms such as the Sendai Framework for Disaster Risk Reduction and the Caribbean CDM Strategy and Framework. The indicators will therefore measure progress in achieving targets that will be set by GOJ in collaboration with entities such as PIOJ, which will include adopted targets included in the Sendai and Caribbean CDM frameworks. Each indicator is also tied to the JCDRM Policy goals for which it measures progress.

Sector Indicators	Baseline	Targets							JCDRM Policy Goals						
	2016	2021	2024	2027	2030	2033	2036	2039	1	2	3	4	5	6	7
Loss of life as a result of disasters ²¹													●		
Number of people directly affected by a disaster ²²													●		
Number of persons reporting illness or injury directly attributed to a disaster													●		
Direct disaster economic losses (US\$)													●		
Hazard damage as a percentage of GDP													●		
Direct job loss due to hazard impacts													●		
Reduced productivity because of morbidity due to epidemics (percentage of GDP)													●		

²¹ Including missing persons

²² in terms of: number of people injured, evacuated (temporary movement to safer location) and relocated (permanent movement to safer location)

Sector Indicators	Baseline	Targets							JCDRM Policy Goals						
	2016	2021	2024	2027	2030	2033	2036	2039	1	2	3	4	5	6	7
Percentage variation of the average value of damages and losses after a small hazard event ²³			-20										●		
Percentage variation of the average value of damages and losses after a medium hazard event ²⁴			-20										●		
Disaster damage to critical infrastructure (US\$)													●		
Disaster damage to the agricultural sector (US\$)													●	●	
Disaster damage to the tourism sector (US\$)													●	●	
Direct economic loss in the housing sector/stock attributed to disasters													●	●	
Number of destroyed or damaged health facilities attributed to disasters													●		
Number of destroyed or damaged educational facilities attributed to disasters													●		
Direct economic loss to cultural heritage damaged													●		

²³ Indicator and 2024 target from Caribbean CDM Strategy

²⁴ Indicator and 2024 target from Caribbean CDM Strategy

Sector Indicators	Baseline	Targets							JCDRM Policy Goals						
	2016	2021	2024	2027	2030	2033	2036	2039	1	2	3	4	5	6	7
or destroyed attributed to disasters (US\$)															
Percentage of critical infrastructure that is considered to be resilient and effectively supports disaster recovery										●			●		
Percentage of sectors with sector-specific DRM plans that are being implemented									●	●		●			
Percentage of communities covered by hazard vulnerability and capacity assessments that were developed with input from community members										●		●			
Number of parishes with completed risk assessments										●		●			
Percentage of population covered by early warning information through local government or through national dissemination mechanisms										●		●	●		
ODPEM has an effective emergency communications system										●	●	●	●		

Sector Indicators	Baseline	Targets							JCDRM Policy Goals						
	2016	2021	2024	2027	2030	2033	2036	2039	1	2	3	4	5	6	7
supporting response and recovery															
DRM Act revised and required legislation under the Act promulgated											●				
ODPEM modernized in keeping with required organizational reviews											●				
Number of private sector companies that have in place DRM and CCA strategies														●	
Percentage of vulnerable population accessing climate risk insurance (microinsurance)										●					●
Percentage of government budget allocated to disaster risk mitigation															●
Percentage of annual budget allocated for disaster risk financing															●
Allocation of national budget to ODPEM (US\$)											●				●
Allocation of national budget for disaster risk financing (US\$)															●
Total official international support (ODA plus other															●

Sector Indicators	Baseline	Targets							JCDRM Policy Goals						
	2016	2021	2024	2027	2030	2033	2036	2039	1	2	3	4	5	6	7
official flows) for national disaster risk reduction (US\$)															

For certain indicators the data should be disaggregated according to the type of hazard within each category – natural, man-made and biological/health-related. These data also should be disaggregated in terms of gender, age, income and other characteristics of vulnerability.

The reporting framework of indicators and targets will mirror the formats used by Vision 2030 Jamaica for reporting on the progress of implementation of the national development plan.

Policy Review

A policy is a guiding principle established to sanction in advance actions to be taken in the future. The consequences of policy actions are never fully known in advance and for this reason, it is essential to monitor and evaluate policy actions after they have occurred. In order to ensure that desired outcomes of the JCDRM Policy are being achieved, the effectiveness of the policy must be assessed. This process will help to identify when a complete review or alteration is appropriate.

It is expected that after the first six months of implementation, the Ministry of Local Government and Rural Development in collaboration with ODPEM will conduct an assessment in order to identify and rectify problems that become evident at start up. Thereafter, the policy will be reviewed and where necessary revised every three years in keeping with GOJ processes. The revision will be informed by the results of monitoring and evaluation and other relevant information sources, including but not limited to reports such as iGOPP and the CDEMA Audit as well as the analysis of the country's development results as published by Vision 2030 Jamaica.

Glossary of Key Terms

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.