



# **GUYANA** **NATIONAL DISASTER** **PREPAREDNESS BASELINE** **ASSESSMENT**

**A DATA-DRIVEN TOOL FOR  
ASSESSING RISK AND BUILDING  
LASTING RESILIENCE**



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- Anna Regina Town Council
- Bureau of Statistics
- Canals Polder Neighbourhood Democratic Council
- Central Housing and Planning Authority
- Civil Defence Commission
- Department of Environment and Climate Change
- Department of National Defence, Canada
- Department of Public Information
- Disaster Risk Prevention and Management Unit
- Environmental Protection Agency Guyana
- Guyana Chronicle
- Guyana Civil Aviation Authority
- Guyana Defence Force
- Guyana Energy Agency
- Guyana Geology & Mines Commission
- Guyana Livestock Development Authority
- Guyana Police Force
- Guyana Power & Light Inc
- Guyana Red Cross Society
- Guyana Telephone & Telegraph Company
- Guyana Tourism Authority
- Guyana Water Incorporated
- Hydrometeorological Services
- International Organization for Migration
- Iwokrama International Center
- Linden Mayor & Town Council
- Mahaica Mahaicony Abary
- Maritime Administration Department
- Mayor and Town Council of Lethem
- Ministry of Agriculture
- Ministry of Labour
- Ministry of Culture, Youth & Sport
- Ministry of Education
- Ministry of Finance
- Ministry of Health
- Ministry of Housing and Water
- Ministry of Human Services and Social Security
- Ministry of Local Government & Regional Development
- Ministry of Natural Resources
- Ministry of Public Works
- National Agricultural Research & Extension Institute
- National Commission on Disability
- National Communications Network Inc
- National Data Management Authority
- National Toshias Council
- Office of the President
- PAHO/WHO Guyana
- Pesticides and Toxic Chemicals Control Board
- Private Sector Commission
- Regional Democratic Council Region No.1
- Regional Democratic Council Region No.10
- Regional Democratic Council Region No.2
- Regional Democratic Council Region No.3
- Regional Democratic Council Region No.4
- Regional Democratic Council Region No.5
- Regional Democratic Council Region No.6
- Regional Democratic Council Region No.7
- Regional Democratic Council Region No.8
- Regional Democratic Council Region No.9
- Stabroek News
- UNDP
- UNICEF
- US Embassy
- World Wildlife Fund Guianas

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# LIST OF ABBREVIATIONS

**ANEOC:** Alternative National Emergency Operations Centre (see also NEOC)

**BCP:** Business continuity plan

**CAD:** Computer-Aided Design

**CAC:** Community Action Council

**CARICOM:** Caribbean Community

**CBDRM:** Community-based disaster risk management

**CBO:** Community-based organization

**CCA:** Climate change adaptation

**CCCCC:** Caribbean Community Climate Change Centre

**CCRIF SPC:** Caribbean Catastrophe Risks Insurance Facility Segregated Portfolio Company

**CDC:** Civil Defence Commission

**CDCVC:** Civil Defence Commission Volunteer Corps

**CDEMA:** Caribbean Disaster Emergency Management Agency

**CDM:** Comprehensive Disaster Management

**CDM-SRF:** Comprehensive Disaster Management Strategy and Results Framework

**COG:** Continuity of Government

**CONOPS:** Concept of Operations

**COOP:** Continuity of Operations

**COP:** Common operating picture

**CSO:** Civil society organization

**CSSP:** Citizen Security Strengthening Programme

**CWP:** Country Work Programme

**DANA:** Damage Assessment and Needs Analysis

**DG:** Director-General

**DLCA:** Digital Logistics Capacity Assessments

**DM:** Disaster management

**DMA:** Disaster Management Analysis (of the NDPBA program)

**DoE:** Department of Environment

**DPI:** Department of Public Information

**DRFI:** Disaster risk financing and insurance

**DRM:** Disaster Risk Management

**DRR:** Disaster risk reduction

**DRRM:** Disaster risk reduction and management

**ECLAC:** Economic Commission for Latin America and the Caribbean

**EOC:** Emergency Operations Center

**EPA:** Environmental Protection Agency

**EU:** European Union

**EWS:** Early Warning System

**FAO:** Food and Agriculture Organization of the UN

**FBO:** Faith-Based Organization

**GAPE:** Guyana Association of Professional Engineers

**GCAA:** Guyana Civil Aviation Authority

**GCCI:** Georgetown Chamber of Commerce & Industry

**GCSL:** Guyana Civil Society Leadership

**GDF:** Guyana Defence Force

**GDP:** Gross domestic product

**GEA:** Guyana Energy Agency

**GFDRR:** Global Facility for Disaster Risk Reduction (of the World Bank)

**GGMC:** Guyana Geology and Mines Commission

**GINA:** Government Information Agency

**GIS:** Geographic Information Systems

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# LIST OF ABBREVIATIONS

**GLSC:** Guyana Lands and Survey Commission

**GoG:** Government of Guyana

**GP:** Guiding Principle (of Sendai Framework)

**GPF:** Guyana Police Force

**GPHC:** Georgetown Public Hospital Corporation

**GPS:** Geo Positioning Systems

**GRCS:** Guyana Red Cross Society

**GSDS:** Green State Development Strategy

**GT:** Global Target (of UN)

**HAZMAT:** Hazardous materials

**HFA:** Hyogo Framework for Action

**HPS:** Head of the Presidential Secretariat

**ICRC:** International Committee of the Red Cross

**ICS:** Incident command system

**IDB:** Inter-American Development Bank

**IFC:** International Finance Corporation

**IFRC:** International Federation of the Red Cross and Red Crescent Societies

**iGOPP:** Index of Governance and Public Policy

**IMF:** International Monetary Fund

**INDC:** Intended Nationally Determined Contribution

**INGO:** International nongovernmental organization

**INSARAG:** International Search and Rescue Advisory Group (of the UN)

**IOM:** International Organization for Migration

**IPED:** Institute of Private Enterprise Development

**ITOPF:** International Tanker Owners Pollution Federation

**LCDS:** Low Carbon Development Strategy

**LIS:** Land Information System

**MARAD:** Maritime Administration Department

**MNR:** Ministry of Natural Resources

**MoA:** Ministry of Agriculture

**MoE:** Ministry of Education

**MoF:** Ministry of Finance

**MoHW:** Ministry of Housing & Water

**MoLG:** Ministry of Local Government

**MoPW:** Ministry of Public Works

**MOU:** Memorandum of Understanding

**MSLDM:** Mainstreaming

Sustainable Land Development and Management

**NAREI:** National Agricultural Research & Extension Institute

**NCCGY:** NGO National Coordinating Coalition of Guyana

**NCCPAP:** National Climate Change Policy and Action Plan

**NDANAC:** National Damage Assessment and Needs Analysis Committee

**NDC:** National Disaster Coordinator

**NDC:** Neighbourhood Demographic Council

**NDO:** National disaster office

**NDPBA:** National Disaster Preparedness Baseline Assessment (of PDC)

**NDRMF:** National Disaster Risk Management Fund

**NDRRCP:** National Disaster Risk Reduction Coordination Platform

**NEOC:** National Emergency Operations Centre (see also ANEOC)

**NFEWS:** National Flood Early Warning System

**NGO:** Non-Governmental Organization



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# LIST OF ABBREVIATIONS

**NHIA:** National Hazard Impact Assessment

**NIDRMP:** National Integrated Disaster Risk Management Plan

**NMHDPRP:** Multi-Hazard Disaster Preparedness Response Plan

**NSRC:** National Science Research Council

**NSTIP:** National Science, Technology, and Innovation Policy

**OP/OTP:** Office of the President

**PFA:** Priority for Action (of Sendai Framework)

**PFM:** Public finance management

**PML:** Probable maximum loss

**PPP:** Public-Private-Partnership

**PS:** Participating state

**R&D:** Research and Development

**RBM:** Results-based management

**RCP:** Regional Coordination Plan

**RDC:** Regional Demographic Council

**RDRMC:** Regional Disaster Risk Management Committee

**REDD+:** Reducing Emissions from Deforestation and Forest Degradation

**REOC:** Regional Emergency Operations Centre

**RRM:** Regional Response Mechanism (of CDEMA)

**RSS:** Regional Security System (of CDEMA)

**RVA:** Risk and Vulnerability Assessment (of the NDPBA program)

**SAR:** Search and Rescue

**SBDT:** Small Business Development Trust

**SD:** Sustainable Development

**SDG:** Sustainable Development Goal

**SFDRR:** Sendai Framework for Disaster Risk Reduction

**SME:** Small and medium-sized enterprise

**SOP:** Standard Operating Procedure

**UN OCHA:** UN Office for the Coordination of Humanitarian Affairs

**UN:** United Nations

**UNDP:** United Nations Development Programme

**UNESCO:** United Nations Educational Scientific, and Cultural Organization

**UNFCCC:** United Nations Framework Convention on Climate Change

**UNFPA:** United Nations Population Fund

**UNHCR:** UN High Commissioner for Refugees

**UNICEF:** United Nations Children's Fund

**UNITAR:** United Nations Institute for Training and Research

**UNODC:** UN Office on Drugs and Crime

**UNOPS:** UN Office for Project Services

**UNOSAT:** United Nations Satellite Centre

**USAID:** United States Agency for International Development

**USSOUTHCOM:** United States Southern Command

**VERT:** Volunteer Emergency Response Team

**VYC:** Volunteer Youth Corps

**W&GEC:** Women and Gender Equality Commission (under the Ministry of Human Services and Social Security)

**WASH:** Water, Sanitation, and Hygiene

**WFP:** World Food Programme

**WHO:** World Health Organization

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**NDPBA**

# **EXECUTIVE SUMMARY**



# EXECUTIVE SUMMARY

PDC's National Disaster Preparedness Baseline Assessment (NDPBA) is more than just an assessment; it's a sustainable system for understanding, updating, accessing, and applying critical risk information in decision-making. The NDPBA provides the necessary tools, scientific data, and evidence-based practices to reduce disaster risk – informing national and regional-level decisions effectively. The NDPBA includes a Risk and Vulnerability Assessment (RVA) which examines several components of risk, including hazard exposures, vulnerability, and coping capacity. These findings are further reviewed through PDC's unique Disaster Management Analysis (DMA). The DMA contextualizes the RVA and guides recommendations to increase resilience and reduce disaster risk.

The NDPBA provides Guyana with the tools and data essential for disaster risk monitoring while aligning recommended actions with the United Nations Sustainable Development Goals and the Sendai Framework for Disaster Risk Reduction 2015-2030. PDC worked in partnership with the Republic of Guyana's Civil Defence Commission (CDC) to integrate national priorities and stakeholder feedback throughout every step of the process. The findings of this analysis were compiled into a Disaster Risk Reduction (DRR) Plan offering practical actions to be taken over a five-year period.

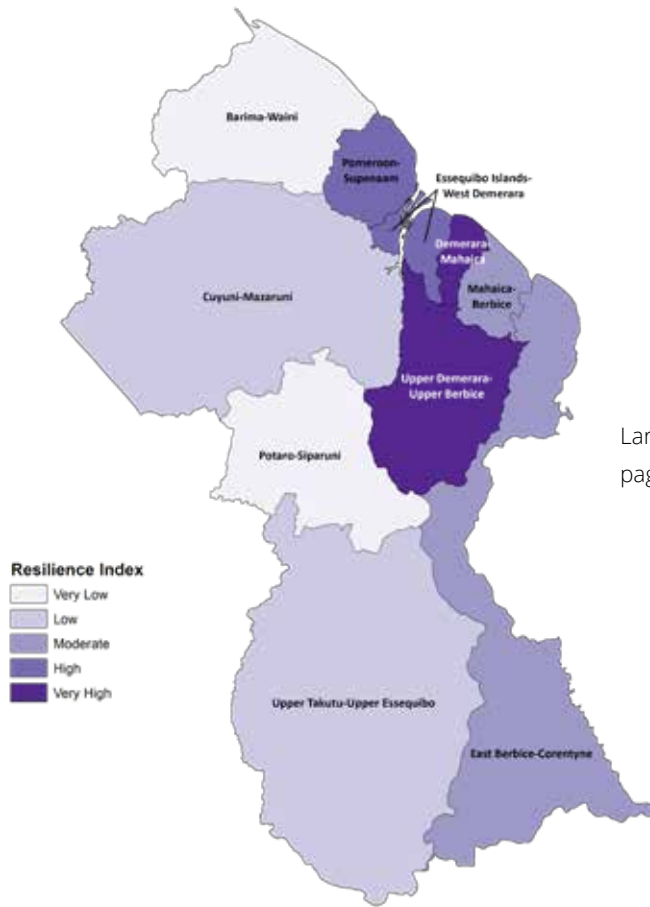
While the NDPBA was conducted, the effects of climate change, especially flooding, landslides, and coastal inundation, as well as the Global COVID Pandemic, challenged the government of Guyana. These events presented challenges and opportunities in helping to understand and actively observe the capabilities of Guyana's disaster management structure. The NDPBA was funded by the United States Government through the United States Southern Command (USSOUTHCOM) and conducted in coordination with United States Embassy in Guyana. Although the CDC was PDC's in-country partner during this project, PDC also developed relationships and data-sharing agreements with multiple government and non-governmental agencies in Guyana that supported the data gathering and vetting process.

To access all findings, recommendations, and data (tabular and spatial), developed for this analysis, please visit the PDC's DisasterAWARE platform at <https://disasteraware.pdc.org/>.



# SUMMARY OF FINDINGS

## RESILIENCE BY REGION

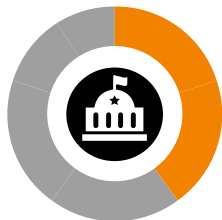


Larger map provided on page 50.

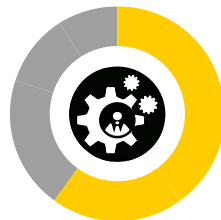
RANK	REGION	INDEX SCORE
1	Demerara-Mahaica	0.648
2	Upper Demerara-Upper Berbice	0.635
3	Essequibo Islands-West Demerara	0.599
4	Pomeroun-Supenaam	0.599
5	East Berbice-Corentyne	0.595
6	Mahaica-Berbice	0.518
7	Cuyuni-Mazaruni	0.475
8	Upper Takutu-Upper Essequibo	0.468
9	Potaro-Siparuni	0.464
10	Barima-Waini	0.373

## DISASTER MANAGEMENT ANALYSIS

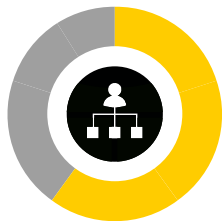
■ Limited or No Capacity   ■ Early Capacity Development   ■ Achievement with Significant Limitation   ■ Substantial Progress with Some Limitation   ■ Advanced Capacity



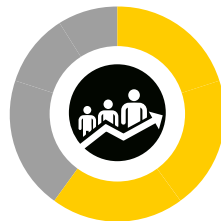
**Institutional Arrangements**



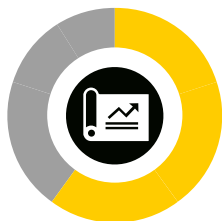
**Capabilities and Resources**



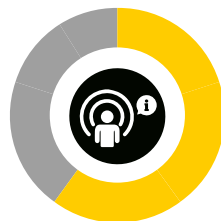
**Enabling Environment**



**Capacity Development**



**Disaster Governance Mechanisms**



**Communication and Information Management**

# RECOMMENDATIONS



These recommendations are included in greater detail in the body of the report. We hope that the Government of Guyana and key development and disaster management partners will leverage the results of this comprehensive assessment to enable a more robust and sustainable disaster risk-reduction effort in Guyana that will contribute to saving lives and property.

## IN LIGHT OF OUR FINDINGS, PDC MAKES THE FOLLOWING RECOMMENDATIONS:

# 1

**Conduct a formal review and update of the DRM Bill.**

# 2

**Strengthen the institutional capacity of the Civil Defence Commission (CDC).**

# 3

**Expand base funding for CDC to support the growing need for disaster management services.**

# 4

**Develop a national risk transfer strategy for natural hazards.**

# 5

**Strengthen existing partnerships with international governments and organizations for response.**

# 6

**Strengthen engagements with the private sector, NGOs, academia, and media in the government DRM framework.**



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**7** Increase information access and sharing among DM stakeholders.

---

**8** Develop a formal mechanism to assess progress toward achieving DRR (Sendai), Climate Adaptation, and SDGs.

---

**9** Increase visibility, transparency, and public support for government action.

---

**10** Operationalize disaster management capabilities at the subnational, local, and community levels.

---

**11** Develop resilience/ COOP/COG plans for the country's critical infrastructure sectors and integrate plans across sectors and regions.

---

**12** Periodically update key policies, plans, and SOPs.

---

**13** Continue implementing a standard incident management system at all levels of government.

---

**14** Strengthen emergency service provisions across the nation.

---

**15** Draft and finalize the National Disaster Preparedness Response Plan and make it widely accessible.

---

**16** Develop a nationwide evacuation and shelter plan.

---

**17** Strengthen the capacity of early warning systems for hydrometeorological events.

---

**18** Continue efforts to expand access to telecommunications services in areas with poor penetration of information and communications technology (ICT) to facilitate timely receipt and dissemination of information before, during, and after a disaster.

**19**

**Develop sustainable land use planning policies by taking into consideration primary hazards.**

**20**

**Continue efforts to sustainably manage Guyana's abundant forest resources through good stewardship, Codes of Practice, REDD+, and adherence to forestry regulations and policies.**

**21**

**Strengthen the capacity of institutions to monitor and manage extractive activities to reduce or eliminate land degradation and contamination, and the pollution of ground water, streams, and rivers.**

**22**

**Strengthen the protection of Guyana's low-lying coastal environment by implementing strategies to reduce erosion, coastal inundation, and coastline retreat.**

**23**

**Foster public-private stakeholder engagement in short- and long-range development planning to promote economic recovery, growth, and sustainability, and increase economic capacity.**

**24**

**Strengthen public-private and multi-agency engagement in planning and implementing new transportation infrastructure to expand into underserved areas, and facilitate related infrastructure improvements (e.g., water, electricity, telecommunications).**

**25**

**Expand energy capacity in remote and underserved areas.**

**26**

**Increase household access to improved water and sanitation through investments in clean water infrastructure enhancements in underserved areas.**

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**27**

**Strengthen, repair, and/or replace aging or damaged water control structures and systems, prioritizing developed coastal areas and agricultural land. Ensure that mitigation measures anticipating hazard and climate change impacts are incorporated into new construction and retrofits.**

---

**29**

**Engage international NGOs and donors to invest in programs aimed at the alleviation of poverty among Guyana's most vulnerable populations.**

---

**28**

**Reduce marginalization and promote gender equality.**

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**30**

**Provide education, information, and incentives to homeowners, residents, and industry regarding implementing flood protection and/or reduction measures to reduce environmental stress.**

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**31**

**Continue to pursue long-term goals and strategies to enhance Guyana's health care capacity and improve the overall health of its citizens.**

---

**32**

**Improve public access to locally relevant hazard information to support community-based hazard awareness and preparedness campaigns, reduce vulnerability and increase coping capacity.**



**NDPBA**

# **COUNTRY BACKGROUND**



## GEOGRAPHY

Located on the northern coast of South America, the Cooperative Republic of Guyana is the third smallest country on the continent after Suriname and Uruguay.

Neighboring countries include Venezuela to the west, Brazil to the south, Suriname to the east, and the Atlantic Ocean to the north.

Guyana is considered a “middle income” country.

**211,852 km<sup>2</sup> (81,797 sq mi)**

Land Area

**459 km (285 mi)**

Coastline

**2,933 km  
(1,822 sq mi)**

Land boundaries

**399 sq km  
(248 sq mi)**

Urban land area below 5 m  
in elevation (2010)

**5.2%  
(2015)**

Percent total land area below  
5 m in elevation

Guyana has some of the largest unspoiled rainforests in South America, with 83.9% of total land area covered in forest (2016).

Guyana's largest city and national capital is Georgetown, located on the Atlantic coast and on the eastern bank of the Demerara River estuary. Located one meter below the high-tide level, the city is protected by a sea wall and numerous drainage channels. Georgetown is home to a major seaport and is the administrative, commercial, and financial center of the country.

### Guyana is comprised of 10 administrative regions:

- |                                     |                                   |
|-------------------------------------|-----------------------------------|
| 1 - Barima-Waini                    | 6 - East Berbice-Corentyne        |
| 2 - Pomeroon-Supenaam               | 7 - Cuyuni-Mazaruni               |
| 3 - Essequibo Islands-West Demerara | 8 - Potaro-Siparuni               |
| 4 - Demerara-Mahaica                | 9 - Upper Takutu-Upper Essequibo  |
| 5 - Mahaica-Berbice                 | 10 - Upper Demerara-Upper Berbice |

### Four natural regions characterize Guyana's physical geography:

1. Low coastal plains
2. Hilly sand and clay region
3. Hinterland forest
4. Rupununi savannas

## GEOLOGY AND CLIMATE

Climate: Guyana’s climate is tropical, hot and humid, and moderated by northeast trade winds.

Seasons: Guyana has two rainy seasons, one from May to August, and the other from November to January.

### Population affected by key hazards



Droughts (1988-2022)

**607,200 persons**

(\$67.2 million losses)



Floods (1988-2022)

**685,048 persons**

(\$833million losses)

### Key climate change risks:

Periods of more intense rainfall, longer dry periods, sea level rise and resulting coastal inundation, salinization of aquifers and agricultural land, increased flooding and dam brecches, water deficits, food insecurity, increased temperatures, habitat loss, drought, wildfire, health risks.

Highest elevation: Laberintos del Norte on Mount Roraima (2,810 m / 9,219 ft) – part of the Pakaraima mountain range and located near the international boundaries of Guyana, Brazil, and Venezuela.

Lowest elevation: Parts of the coastal plain have elevations of 1-3 m below mean sea level.

# DEMOGRAPHICS

**790,000**

Total population (2021 est.)

**4 persons per km<sup>2</sup>**

Population density (2021 est.)

About 90% of Guyana’s total population lives in the coastal plains, while the remaining 10% is comprised largely of indigenous populations living in the country’s extensive tropical rainforests (2017).

**27%**

Urban population (2022)

**27% / 73%**

Urban/rural population

**0.24%**

Average annual population growth (2022 est.)

**24,500**

Refugees by country of origin (2021): Venezuela

**-7.42**

Net migration rate (2022 est.): Migrants/1,000 people

Guyana’s emigration rate is among the highest in the world - more than 55% of its citizens reside abroad - and it is one of the largest recipients of remittances relative to GDP among Latin American and Caribbean countries.

## Ethnic groups (2012 est.)

Nine Indigenous Nations reside in Guyana and occupy an estimated 35,170 sq km (12,410 sq mi) of titled Amerindian Lands throughout the country.

- 39.8%** East Indian
- 29.3%** African descent
- 19.9%** Mixed race
- 10.5%** Amerindian
- 0.5%** other (includes Portuguese, Chinese, White)



# ECONOMY

## Gross domestic product (GDP)

**\$8 billion**

Gross domestic product (GDP) in current US dollars (2021)

**\$9,998.5 (US)**

GDP per capita (2021 est.)

**20.1%**

Annual GDP growth (2021)

**5%**

Annual Inflation, consumer prices (2021)

In 2020, personal remittances accounted for 8% of GDP (2020).

**16.4%**

Total unemployment as % of labor force (2021)

**44.1% / 63.4%**

Female to male labor force participation (2020 est.)

**16.8%**

Percent employment in agriculture (2020 est.)

**22.9%**

Percent employment in industry (2020 est.)

**60.3%**

Percent employment in services (2020 est.)

The agricultural and natural resource sectors play a key role in the country's economy. Together, these sectors represented approximately 28% of GDP in 2015 (2017).

### Sectors (% of GDP)

- 15.4%**, Agriculture
- 25%** Industry
- 59.6%** Services

### Top 5 product exports



Petroleum oils and oils obtained from bituminous



Unwrought gold



Cargo containers



Semi-milled or wholly milled rice



Floating docks and vessels



## HEALTH



**1.8**

Physicians per 1k people (2018)



**0.8**

Nurses and midwives per 1k people (2017)



**1.7**

Hospital beds per 1k people (2016)



**68 YEARS**

Life expectancy at birth (2020 est.)



**24**

Infant mortality rate per 1,000 live births (2020 est.)



**1.4%**

HIV / AIDS (% of population ages 15-49) (2021)

## ACCESS TO INFORMATION

**73.9%**

Net enrollment in primary school (2021)

**37.3 %**

Internet users (2021 est.)

**88%**

Adult literacy rate (2017)

# KEY INFRASTRUCTURE

## Logistics and Transportation



**105**

Total Airports (2022)

**4**

Medium airports

**12**

Airports with paved runways

**101**

Small airports

**93**

Airports with unpaved runways



**3,995 km**  
**(2,482 mi)**

Roads (2019) - 80% of roads are unpaved



**1**

Major seaport: Port of Georgetown



**40**

Other (ferry terminal, dock, wharf)

## Water Control Structures

**11**

Water Conservancies

**116 km (72 mi)**

Seawalls and Earthen Dykes

**81**

Sluices and Kokers (Georgetown only)

**21,413 km (13,305 mi)**

Canals and Drains

## Energy and Power

**18**

Power Plants

**86.9%**

Electrification Rate (2014) - (94.4% urban, 84% rural)

**12**

Oil Wells/Platforms

## Emergency Services

**36** 

Hospitals

**49** 

Clinics

**22** 

Fire stations

**78** 

Police stations

**2** 

Warehouses

**33** 

Shelters  
(Georgetown only):

## Communications

**56**

Communications  
Towers

**1,656**

Cell Towers

**94,329 sq km (36,421 sq mi)**

Cell Coverage Area: 44%  
of Guyana's land area

## Water, Sanitation & Hygiene (WASH)

**94.2%**

Households with access to improved  
drinking water source (2014): (urban 98.8%,  
rural 92.5%)

**95.4%**

Households with access to  
improved toilet facilities (2014)

**22**

Water Towers and Wells

**6**

Water Treatment and  
Management Facilities

## **DISASTER MANAGEMENT**

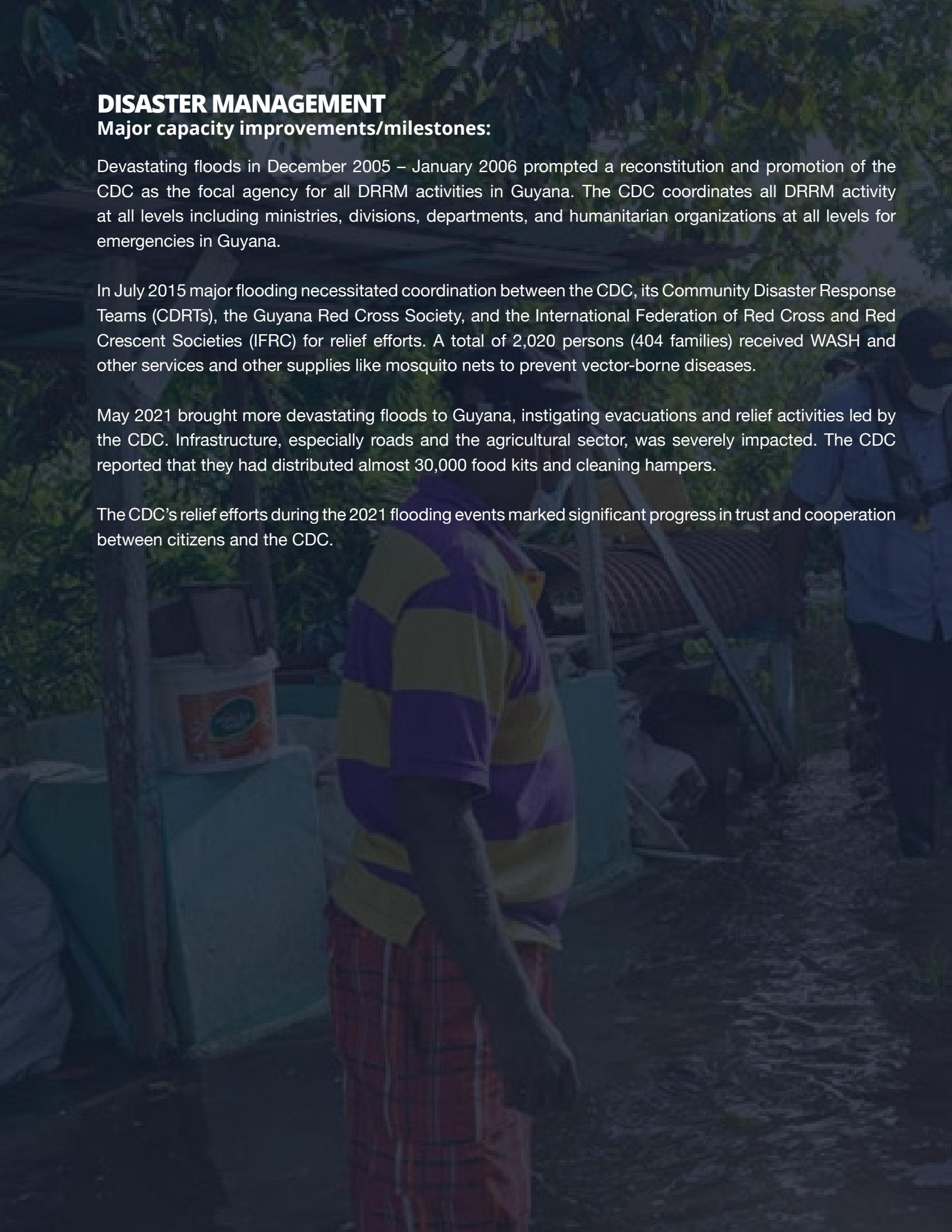
### **Major capacity improvements/milestones:**

Devastating floods in December 2005 – January 2006 prompted a reconstitution and promotion of the CDC as the focal agency for all DRRM activities in Guyana. The CDC coordinates all DRRM activity at all levels including ministries, divisions, departments, and humanitarian organizations at all levels for emergencies in Guyana.

In July 2015 major flooding necessitated coordination between the CDC, its Community Disaster Response Teams (CDRTs), the Guyana Red Cross Society, and the International Federation of Red Cross and Red Crescent Societies (IFRC) for relief efforts. A total of 2,020 persons (404 families) received WASH and other services and other supplies like mosquito nets to prevent vector-borne diseases.

May 2021 brought more devastating floods to Guyana, instigating evacuations and relief activities led by the CDC. Infrastructure, especially roads and the agricultural sector, was severely impacted. The CDC reported that they had distributed almost 30,000 food kits and cleaning hampers.

The CDC's relief efforts during the 2021 flooding events marked significant progress in trust and cooperation between citizens and the CDC.









**THE RVA**

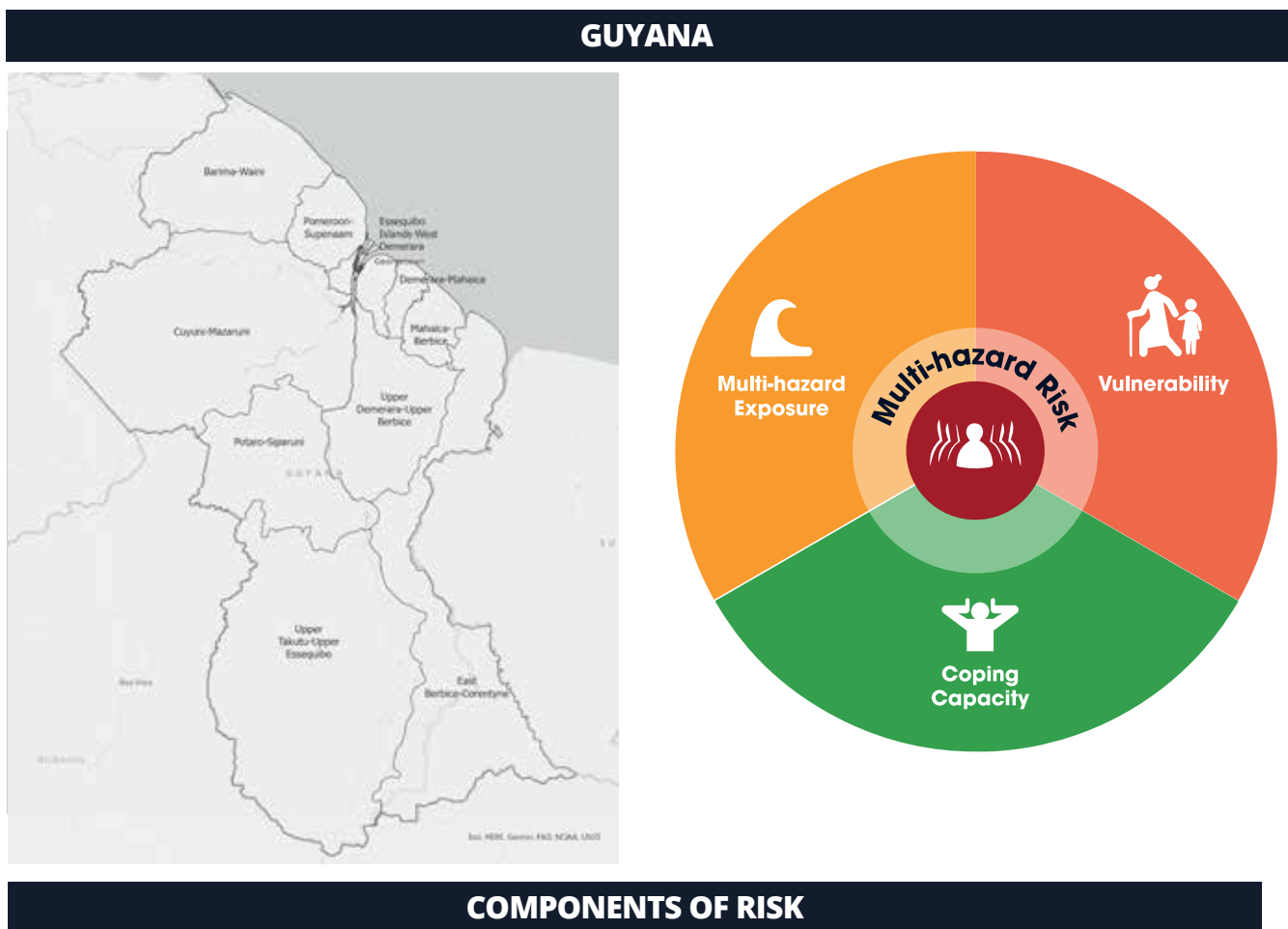
# **RISK AND VULNERABILITY ASSESSMENT RESULTS**

# RISK AND VULNERABILITY

## ASSESSMENT RESULTS

Provided in this section are the Risk and Vulnerability Assessment (RVA) results conducted by the Pacific Disaster Center as part of the Guyana National Disaster Preparedness Baseline Assessment.

For more information about PDC’s NDPBA Methodology, please visit:  
<https://pdc.org/wp-content/uploads/2019/05/NDPBA-Data-Sharing-Guide-Screen.pdf>



**Multi-hazard Exposure**



**Vulnerability**



**Coping Capacity**





**THE RVA**

# **MULTI-HAZARD EXPOSURE**

# MULTI-HAZARD EXPOSURE

The following hazards were assessed by PDC as part of the National Disaster Preparedness Baseline Assessment:

## Global Multi-hazard Exposure Rank (PDC Global RVA)

**142** OUT OF 216 COUNTRIES / TERRITORIES ASSESSED

## Multi-Hazard Exposure within Latin America and the Caribbean

**38** OUT OF 42 COUNTRIES / TERRITORIES ASSESSED

### GUYANA HAZARD ZONES

#### COASTAL FLOODING



**12%** Population Exposed  
**94,800** Raw Population Exposure

**\$849 Million (USD)** Raw Economic Exposure

#### FLASH FLOODING



**69%** Population Exposed  
**532,000** Raw Population Exposure

**\$5.57 Billion (USD)** Raw Economic Exposure

#### DROUGHT



**39%** Population Exposed  
**296,000** Raw Population Exposure

*Capital Exposure Not Calculated*

#### RIVERINE FLOODING



**50%** Population Exposed  
**385,000** Raw Population Exposure

**\$4.74 Billion (USD)** Raw Economic Exposure

#### EXTREME HEAT



**98%** Population Exposed  
**752,000** Raw Population Exposure

**\$7.41 Billion (USD)** Raw Economic Exposure

#### WILDFIRE



**92%** Population Exposed  
**703,000** Raw Population Exposure

**\$6.78 Billion (USD)** Raw Economic Exposure

# Guyana: Coastal Flood Hazard Exposure



VIEW IN DISASTERAWARE



### POTENTIAL POPULATION EXPOSURE



### POTENTIAL ECONOMIC EXPOSURE



### CRITICAL INFRASTRUCTURE AND ASSETS EXPOSED



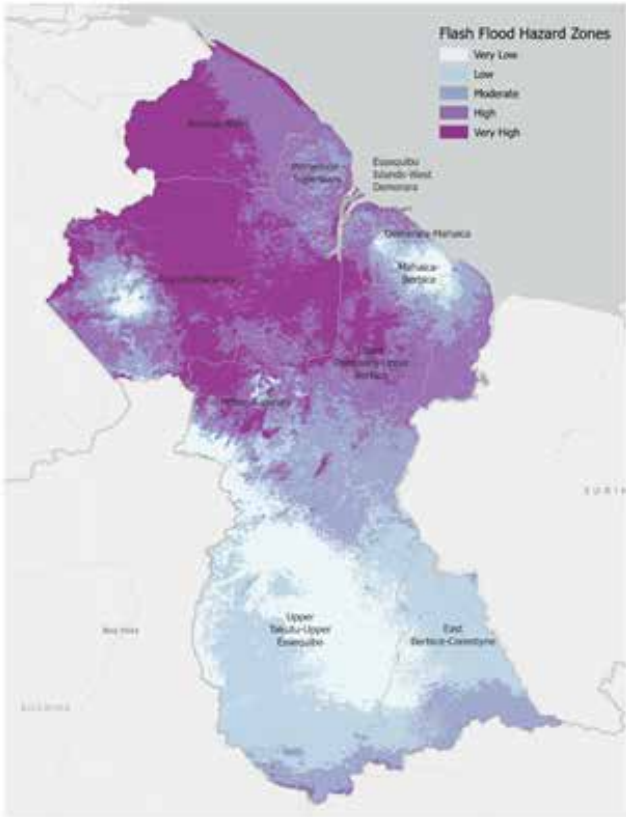
© 2015-2022 Pacific Disaster Center (PDC) - All rights reserved. Commercial use is permitted only with explicit approval of PDC | 8/9/2022 | <https://disasteraware.pdc.org/> | Population and Economic exposure calculated using PDC's All Hazards Impact Model (AIM) (experimental). Data: PDC, GTSS, SRTM, The World Bank, OurAirports, Sky Vector, World Port Index, GuyNeds, Guyana Ministry of Health, Guyana Police Force, Guyana Fire Service, Ministry of Home Affairs, HDX, and HOTOSM.



# Guyana: Flash Flood Hazard Exposure



VIEW IN DISASTERWARE



### POTENTIAL POPULATION EXPOSURE



### POTENTIAL ECONOMIC EXPOSURE



### CRITICAL INFRASTRUCTURE AND ASSETS EXPOSED



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**Guyana: Drought Hazard Exposure** PDC | GLOBAL [VIEW IN DISASTERWARE](#) →



**POTENTIAL POPULATION EXPOSURE**



**WATER NEEDS OF VULNERABLE POPULATION (Children and Elderly)**



**EXPOSED POPULATION BREAKDOWN**



**CRITICAL INFRASTRUCTURE AND ASSETS EXPOSED**



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# Guyana: Riverine Flood Hazard Exposure



VIEW IN DISASTERAWARE



## POTENTIAL POPULATION EXPOSURE



**385,000 (50%)**

People exposed to riverine flood (low, moderate, high, very high)

## POTENTIAL ECONOMIC EXPOSURE



**\$4.74 Billion (63%)**

Capital stock exposed to riverine flood (low, moderate, high, very high)

## CRITICAL INFRASTRUCTURE AND ASSETS EXPOSED



**32 (30%)**  
Airports



**18 (44%)**  
Seaports



**277 (50%)**  
Schools & Colleges



**1 (50%)**  
EOC



**1 (50%)**  
Warehouses



**27 (42%)**  
Bridges



**16 (44%)**  
Hospitals



**36 (73%)**  
Health Clinics



**9 (41%)**  
Fire Stations



**34 (44%)**  
Police Stations



**15% (297km)**  
Electric Grid



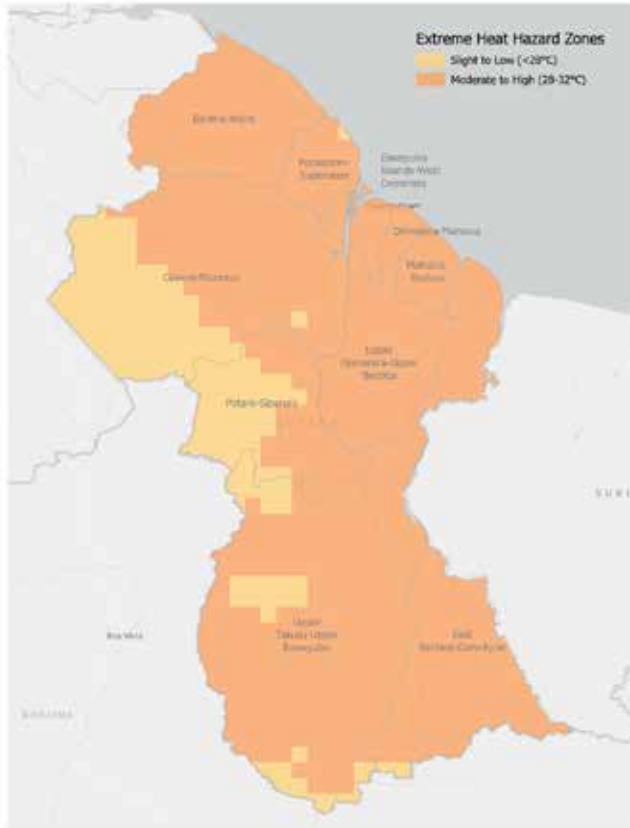
**57% (12,190km)**  
Water Control Structures

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# Guyana: Extreme Heat Hazard Exposure



VIEW IN DISASTERAWARE



## POTENTIAL POPULATION EXPOSURE



**752,000 (98%)**

People exposed to extreme heat hazard (moderate/high)

## POTENTIAL ECONOMIC EXPOSURE



**\$7.41 Billion (99%)**

Capital stock exposed to extreme heat hazard (moderate/high)

## CRITICAL INFRASTRUCTURE AND ASSETS EXPOSED



**72 (69%)**  
Airports



**38 (93%)**  
Seaports



**537 (98%)**  
Schools & Colleges



**2 (100%)**  
EOC



**2 (100%)**  
Warehouses



**18 (100%)**  
Power Plants



**34 (94%)**  
Hospitals



**48 (98%)**  
Health Clinics



**22 (100%)**  
Fire Stations



**74 (95%)**  
Police Stations



**62 (97%)**  
Bridges

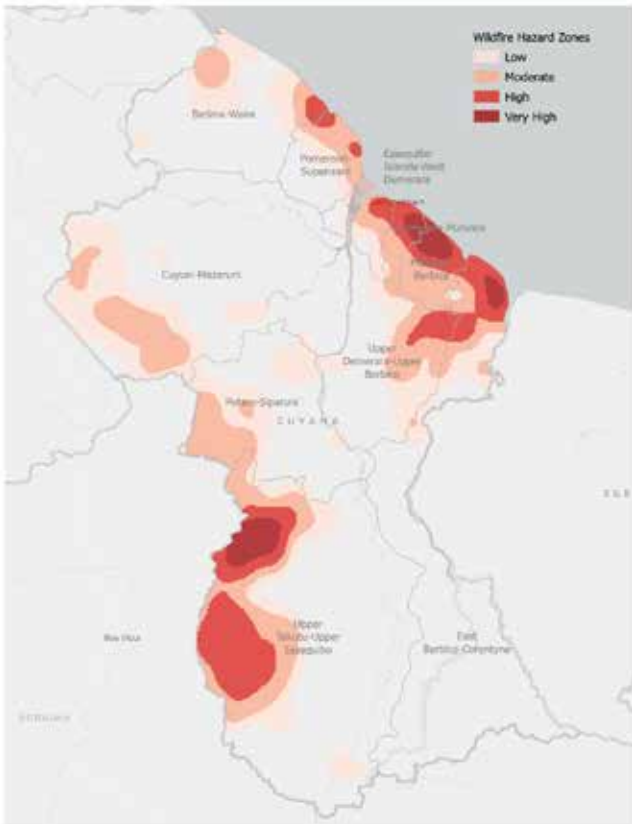


**97% (32,580sq km)**  
Agricultural Lands (Class I & II)

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**Guyana: Wildfire Hazard Exposure** PDC | GLOBAL [VIEW IN DISASTERWARE](#)



**POTENTIAL POPULATION EXPOSURE**



**POTENTIAL ECONOMIC EXPOSURE**



**CRITICAL INFRASTRUCTURE AND ASSETS EXPOSED**

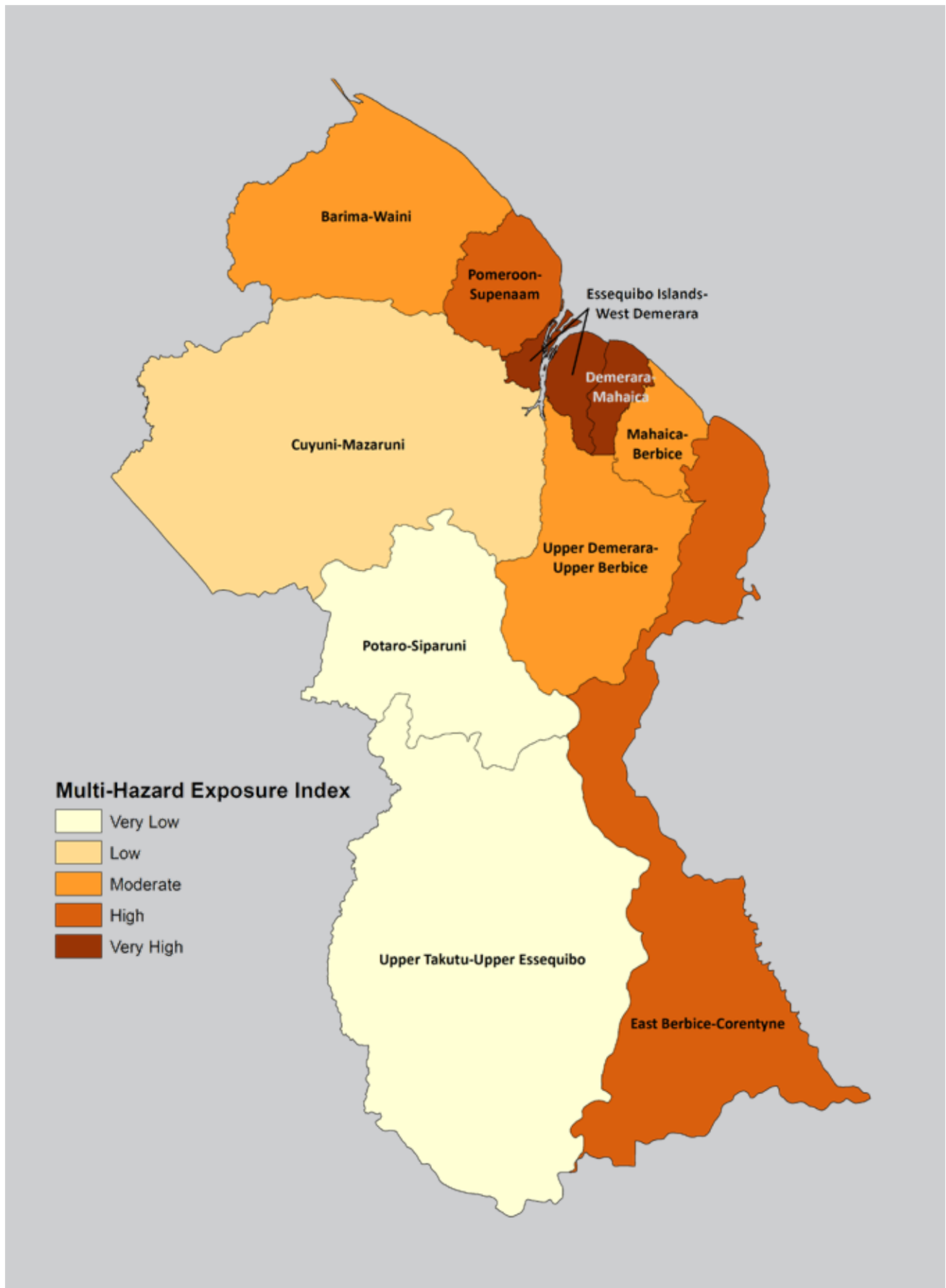


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## MULTI-HAZARD EXPOSURE BY REGION

	RANK	REGION	INDEX SCORE
VERY HIGH	1	Essequibo Islands-West Demerara	0.856
	2	Demerara-Mahaica	0.767
HIGH	3	East Berbice-Corentyne	0.470
	4	Pomeroon-Supenaam	0.459
MEDIUM	5	Mahaica-Berbice	0.430
	6	Upper Demerara-Upper Berbice	0.420
	7	Barima-Waini	0.420
LOW	8	Cuyuni-Mazaruni	0.397
VERY LOW	9	Upper Takutu-Upper Essequibo	0.339
	10	Potaro-Siparuni	0.000





**THE RVA**

# **VULNERABILITY**

# VULNERABILITY

Vulnerability measures the physical, environmental, social, and economic conditions and processes that increase susceptibility of communities and systems to the damaging effects of hazards. Vulnerability data is designed to capture the multi-dimensional nature of poverty, the inequality in access to resources due to gender, and the ability of a given area to adequately support the population. In coordination with stakeholders, the following indicators were selected to measure vulnerability subcomponents in the country. Breaking down each vulnerability subcomponent to the indicator level allows users to identify the key drivers of vulnerability to support risk reduction efforts and policy decisions.

## Global Vulnerability Rank (PDC Global RVA)

**74** OUT OF 204 COUNTRIES / TERRITORIES ASSESSED

## Vulnerability within Latin America and the Caribbean

**7** OUT OF 38 COUNTRIES / TERRITORIES ASSESSED

### VULNERABILITY SUBCOMPONENTS AND INDICATORS



#### Population Pressures

- Average Population Change
- Net Migration Rate



#### Economic Constraints

- Age Dependency Ratio
- Unemployment Rate
- Households in Lowest Wealth Quintile



#### Vulnerable Groups

- Female to Male Labor Participation
- Parity in Secondary Education Enrollment
- Disabled Population



#### Information Access Vulnerability

- Adult Illiteracy
- Net Primary School Enrollment
- Adults with Less than Secondary Education



#### Standard of Living

- Population with Internet Access
- Households with Television Access
- Households with Radio Access
- Households with a Private Vehicle
- Households Cooking with Solid Fuels
- Households with Water Source over 30 minutes from Home
- Households with Improved Sanitation
- Households with Improved Drinking Water Source



#### Environmental Stress

- Change in Intact Forest Area
- Households Affected by Drainage Issues
- Households Affected by Waste Disposal
- Households Affected by Soil Erosion
- Households Affected by Water Contamination
- Livestock Density



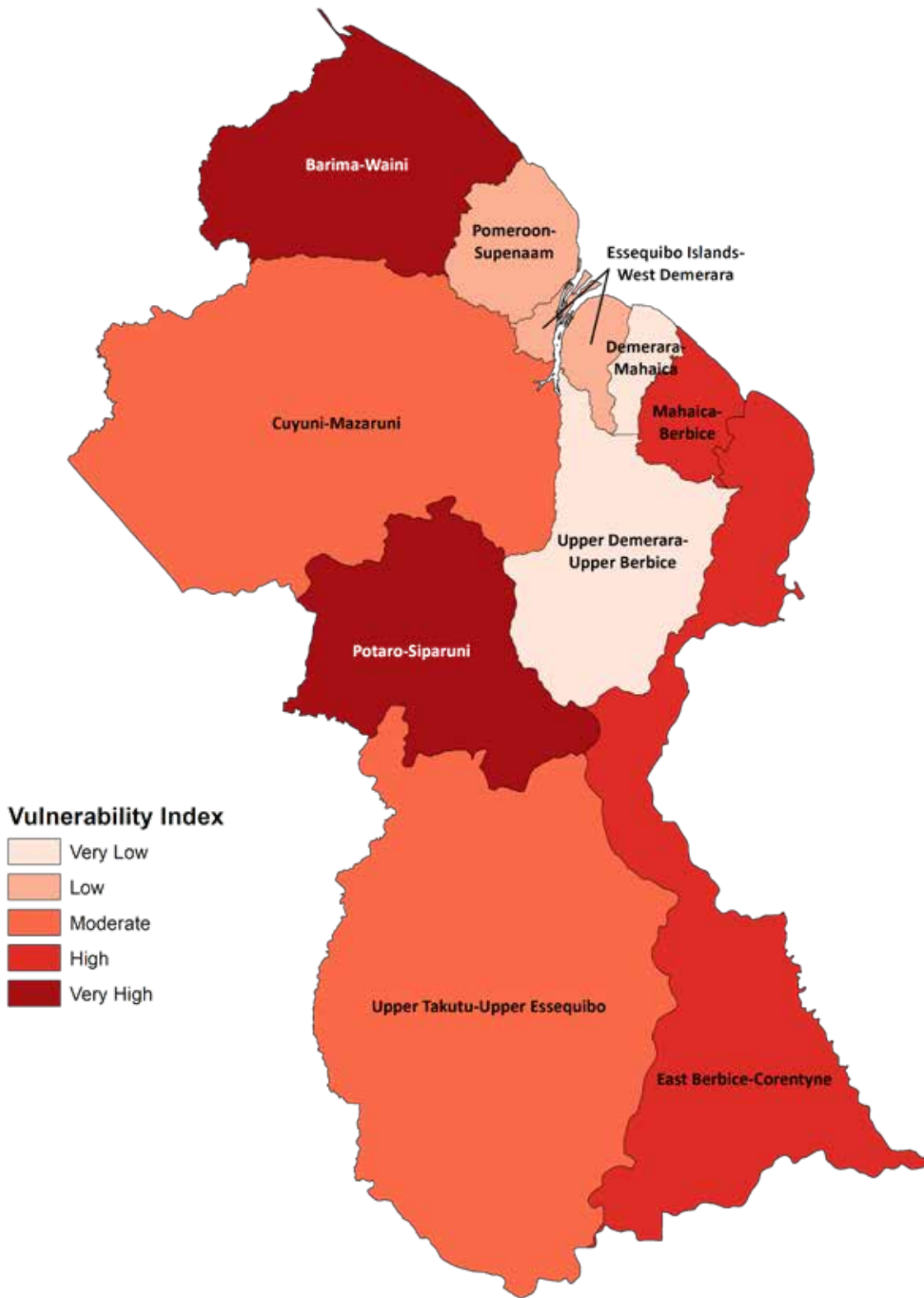
#### Vulnerable Health Status

- Infant Mortality Rate
- Adolescent Birth Rate
- Children Under Age 5 Wasting

## VULNERABILITY BY REGION

	RANK	REGION	INDEX SCORE
VERY HIGH	1	Barima-Waini	0.597
	2	Potaro-Siparuni	0.535
HIGH	3	East Berbice-Corentyne	0.485
	4	Mahaica-Berbice	0.456
MEDIUM	5	Cuyuni-Mazaruni	0.444
	6	Upper Takutu-Upper Essequibo	0.420
LOW	7	Essequibo Islands-West Demerara	0.397
	8	Pomeroon-Supenaam	0.370
VERY LOW	9	Upper Demerara-Upper Berbice	0.337
	10	Demerara-Mahaica	0.324







**THE RVA**

# **COPING CAPACITY**

# COPING CAPACITY

Coping Capacity measures the systems, means, and abilities of people and societies to absorb and respond to disruptions in normal function.

## Global Coping Capacity Rank (PDC Global RVA)

**128** OUT OF 198 COUNTRIES /  
TERRITORIES ASSESSED

## Coping Capacity Rank within Latin America and the Caribbean

**28** OUT OF 33  
COUNTRIES

### COPING CAPACITY COMPONENTS



#### Economic Capacity

- Concentration of Wealth
- Population Receiving Remittances
- Households with a Bank Account



#### Transportation Capacity

- Road Density
- Average Distance to Port/Airport



#### Governance

- Crime Rate
- Trust in Government
- Community Involvement
- Local Government Participation
- Prevalence of Corruption



#### Emergency Services and Health Care Capacity

- Average Distance to Police Station
- Average Distance to Fire Station
- Average Distance to Hospital
- DPT Immunization Coverage



#### Environmental Capacity

- Percent Protected Area
- State Managed Forest Area
- Average Annual Net Carbon Flux



#### Energy Capacity

- Households with Electricity
- Households Using Gas as Main Cooking Fuel
- Fuel Stations per 10,000 Persons

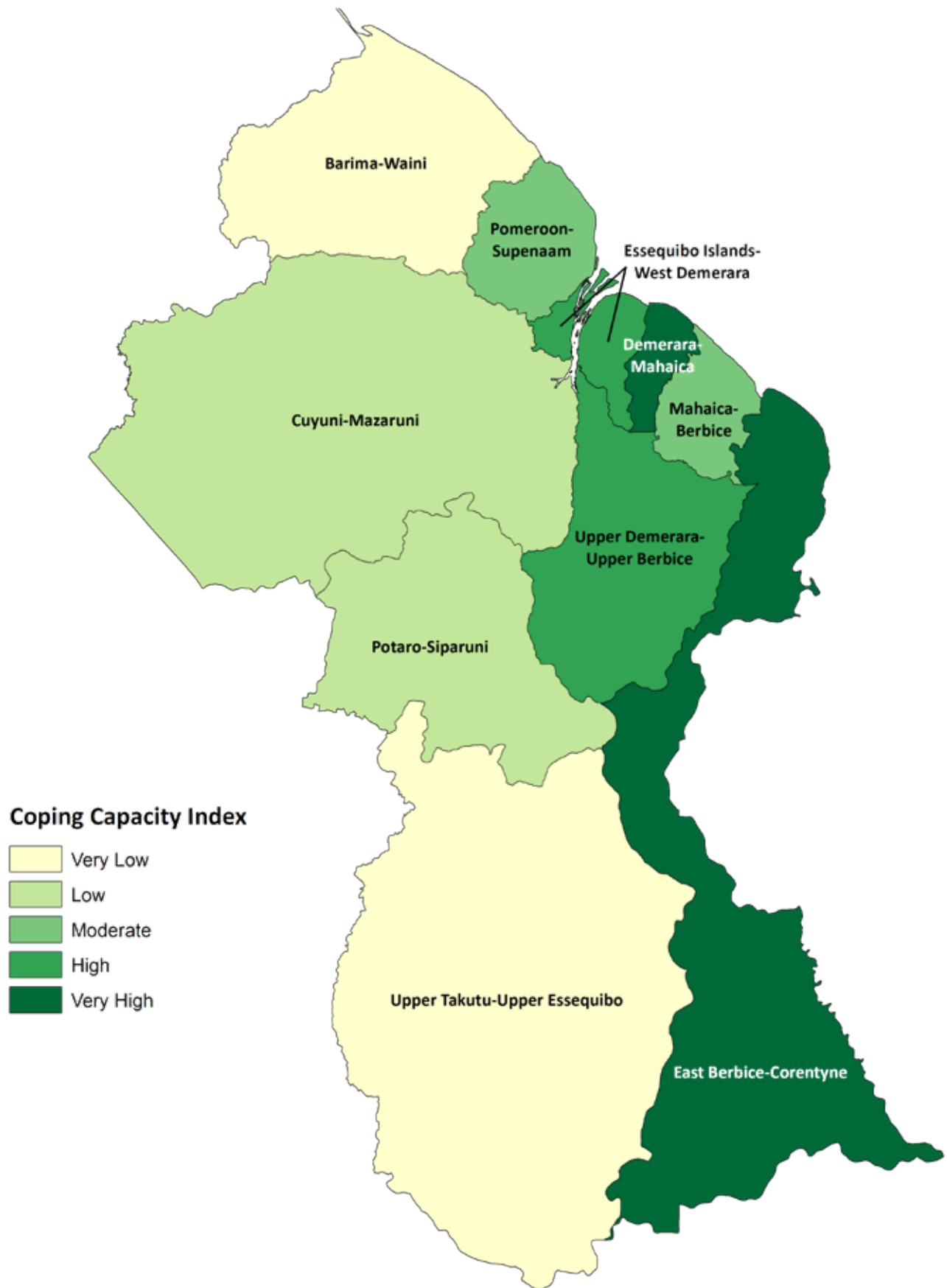


#### Communications Capacity

- Households with Fixed Phone
- Households with Mobile Phone
- Cell Tower Coverage Area

## COPING CAPACITY BY REGION

	RANK	REGION	INDEX SCORE
VERY HIGH	1	East Berbice-Corentyne	0.676
	2	Demerara-Mahaica	0.621
HIGH	3	Upper Demerara-Upper Berbice	0.606
	4	Essequibo Islands-West Demerara	0.596
MEDIUM	5	Pomeroon-Supenaam	0.567
	6	Mahaica-Berbice	0.491
LOW	7	Potaro-Siparuni	0.464
	8	Cuyuni-Mazaruni	0.395
VERY LOW	9	Upper Takutu-Upper Essequibo	0.357
	10	Barima-Waini	0.343







**THE RVA**

# **RESILIENCE**

# RESILIENCE

Resilience in Guyana was calculated by averaging Vulnerability and Coping Capacity. Results are displayed in forthcoming pages, while the main drivers of resilience with detailed recommendations are provided in the subnational profiles.

**Global Resilience Rank  
(PDC Global RVA)**

**127** OUT OF 194 COUNTRIES /  
TERRITORIES ASSESSED

**Resilience Rank within Latin America  
and the Caribbean**

**28** OUT OF 33  
COUNTRIES

## RESILIENCE COMPONENTS



**Vulnerability**



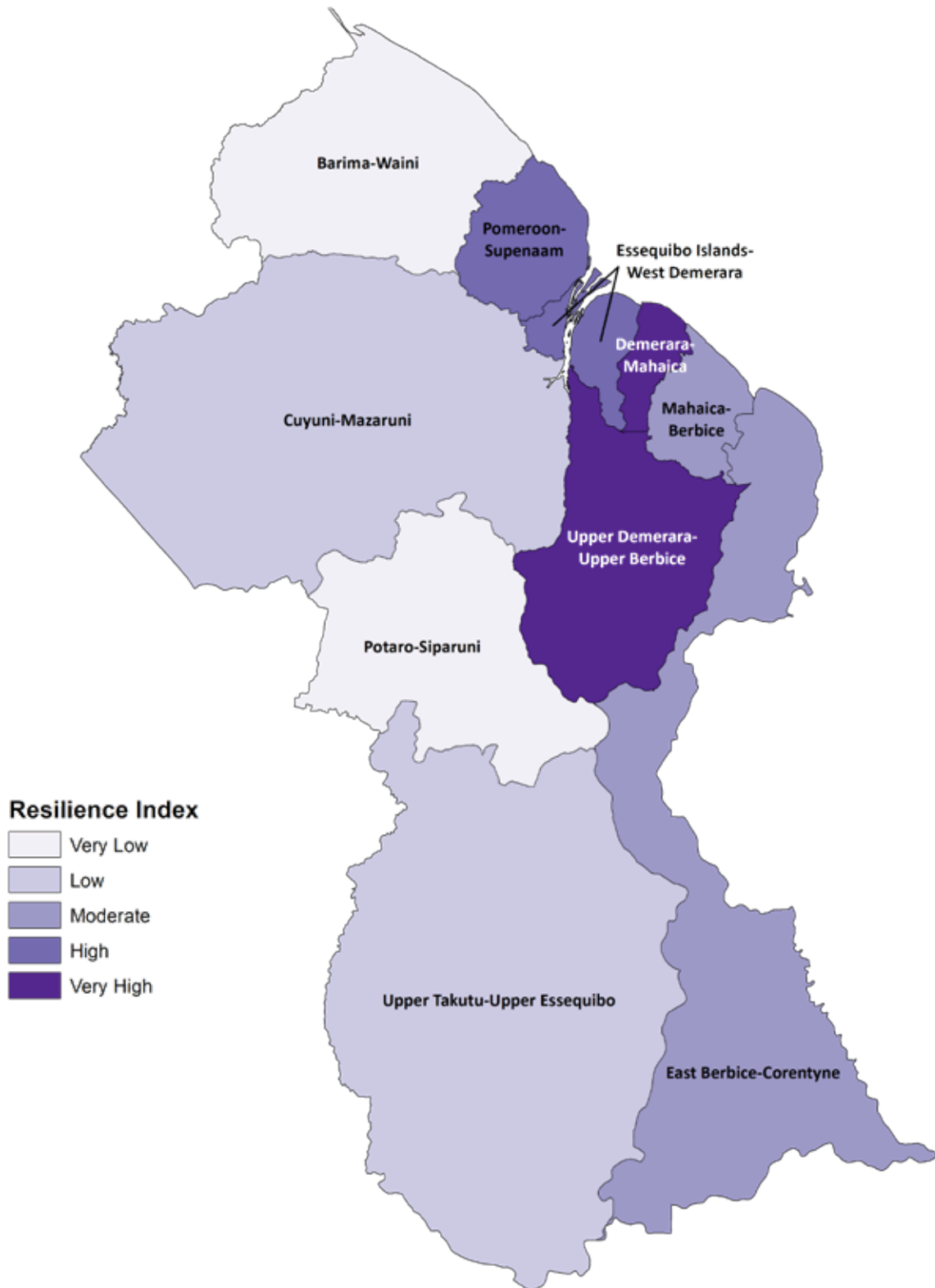
**Coping Capacity**



## RESILIENCE BY REGION

	RANK	REGION	INDEX SCORE
VERY HIGH	1	Demerara-Mahaica	0.648
	2	Upper Demerara-Upper Berbice	0.635
HIGH	3	Essequibo Islands-West Demerara	0.599
	4	Pomeroon-Supenaam	0.599
MEDIUM	5	East Berbice-Corentyne	0.595
	6	Mahaica-Berbice	0.518
LOW	7	Cuyuni-Mazaruni	0.475
	8	Upper Takutu-Upper Essequibo	0.468
VERY LOW	9	Potaro-Siparuni	0.464
	10	Barima-Waini	0.373







**THE RVA**

# **MULTI-HAZARD RISK**



# MULTI-HAZARD RISK

Multi-hazard risk combines hazard exposure, susceptibility to impact, and the relative ability to absorb negative disaster impacts to provide a collective measure of how each region may be affected by hazards and disasters as a whole over time. Analyzing risk information throughout all phases of disaster management – mitigation, preparedness, response, recovery – improves operations and promotes efficient resource allocation.

Multi-hazard risk was calculated by averaging multi-hazard exposure, vulnerability, and coping capacity. Results are displayed below, while additional detailed analysis of risk is provided in the subnational profiles report.

**Global Multi-Hazard Risk Rank  
(PDC Global RVA)**

**103** OUT OF 193 COUNTRIES /  
TERRITORIES ASSESSED

**Multi-Hazard Risk Rank within Latin  
America and The Caribbean**

**25** OUT OF 33  
COUNTRIES

## MULTI-HAZARD RISK COMPONENTS



**Multi-Hazard Exposure**



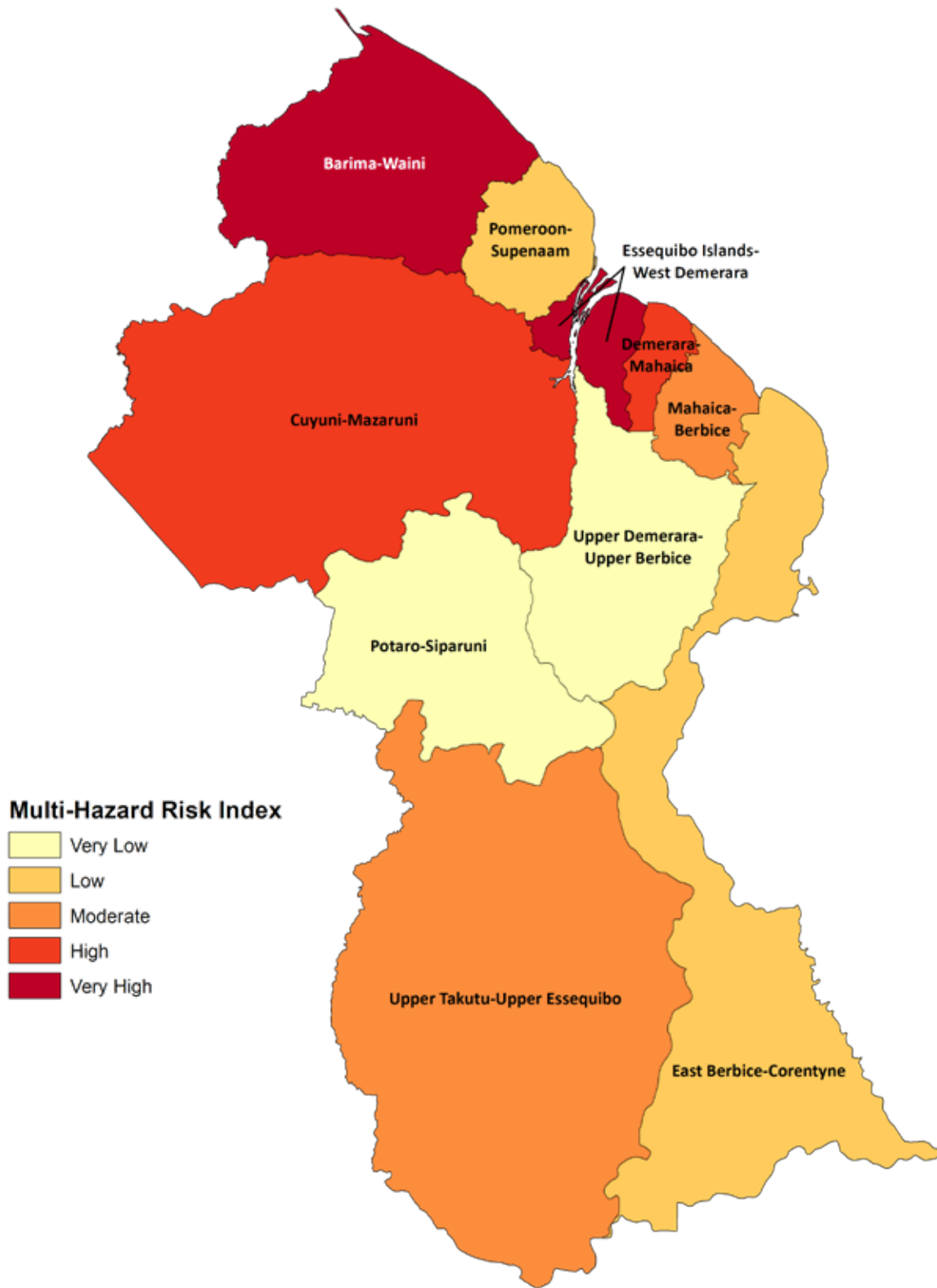
**Vulnerability**



**Coping Capacity**

## MULTI-HAZARD RISK BY REGION

	RANK	REGION	INDEX SCORE
VERY HIGH	1	Barima-Waini	0.558
	2	Essequibo Islands-West Demerara	0.552
HIGH	3	Demerara-Mahaica	0.490
	4	Cuyuni-Mazaruni	0.482
MEDIUM	5	Upper Takutu-Upper Essequibo	0.468
	6	Mahaica-Berbice	0.465
LOW	7	East Berbice-Corentyne	0.427
	8	Pomeroon-Supenaam	0.421
VERY LOW	9	Upper Demerara-Upper Berbice	0.384
	10	Potaro-Siparuni	0.357





**THE DMA**

# **DISASTER MANAGEMENT ANALYSIS**

**SUMMARY OF FINDINGS**

# DISASTER MANAGEMENT ANALYSIS

Provided in this section are the results of the Disaster Management Analysis (DMA) conducted as part of the Guyana National Disaster Preparedness Baseline Assessment. If adopted, the recommendations in this analysis will enable more effective prioritization of risk-reduction and resilience-building initiatives and investments.

Considering diverse operational successes and barriers, the DMA examined six core disaster management themes: Enabling Environment; Institutional Arrangements; Disaster Governance Mechanisms; Capabilities and Resources; Capacity Development; and Communication and Information Management. Understanding that disaster management is a continuum where nations will progress from Limited to No Capacity to Advanced Capacity, the results of the Guyana DMA analysis show that the nation has reached Achievement with Significant Limitations (yellow).





# DISASTER MANAGEMENT ANALYSIS RESULTS

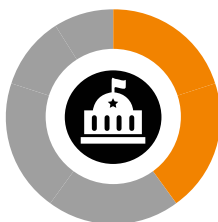
## CURRENT STATUS

Limited or No Capacity



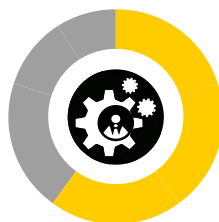
Advanced Capacity

## DISASTER MANAGEMENT ANALYSIS THEME AND SUBTHEMES



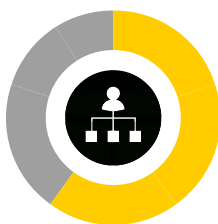
### A. Enabling Environment

- Legal Instruments
- Financial Resources
- Strategies
- Public Confidence and Political Support
- Attitudes and Experience



### D. Capabilities and Resources

- Dedicated Facilities and Equipment
- Human Resources
- Inventory of Commodities and Supplies
- Targeted Functional Capabilities



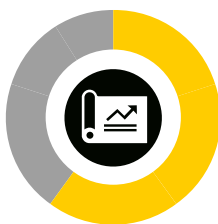
### B. Institutional Arrangements

- Organizational Structures
- Leadership Arrangements
- Mechanisms for Stakeholder Engagement



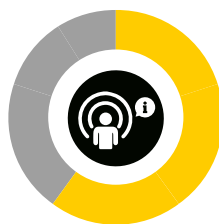
### E. Capacity Development

- Capacity Development Plans and Strategies
- Training and Education Programs and Facilities
- After-Action Reporting
- Monitoring and Evaluation Processes and Systems



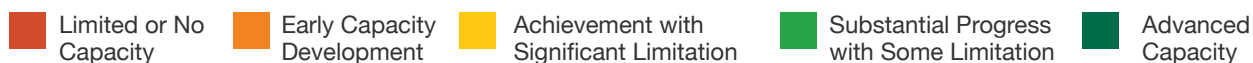
### C. Disaster Governance Mechanisms

- Plans and Standard Operating Procedures
- Command, Control, and Coordination Systems
- Emergency Operations Centers



### F. Communication and Information Management

- Hazard and Risk Analysis Systems
- Monitoring and Notifications Disaster Assessment
- Information Collection, Management, and Distribution
- Media and Public Affairs



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# DISASTER MANAGEMENT ANALYSIS RESULTS

Major strengths for Guyana include the Civil Defense Commission (CDC)'s dedicated personnel, current leadership arrangements, and positioning with direct access to the Prime Minister. Limiting factors to Guyana reaching advanced capacity primarily pertain to the absence of a ratified DRM Law and chronic underfunding. These factors impede the CDC's ability to hire needed personnel, constrain efforts to advance disaster management strategies that would achieve risk reduction and resilience goals, and hamper the ability to support capability and capacity development.

As the lead national disaster management agency, the CDC has a strong footing in the country's disaster management operations with established protocols incorporating various stakeholders into decision-making and policy-making at the national and regional levels. The CDC is supported by the Caribbean Disaster Emergency Management Agency (CDEMA) and leverages the technical and policy know-how CDEMA offers to its member states, primarily in the response area. However, there is still room for improvement in developing national-level preparedness capacities, which should be tailored to the specific and unique nature of the land of Guyana and the rich and diverse Guyanese population. While the policies, strategies, and plans address the key areas in ensuring Guyana's disaster readiness, more needs to be done especially legislating and mandating the roles of key stakeholders in each of the DM cycles and emphasizing and integrating climate change adaptation into sectoral policies for more robust disaster preparedness and resiliency.

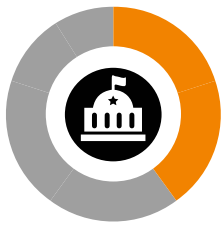
The current capacities and capabilities of the Government of Guyana (GoG) are advancing in the right direction while facing significant challenges. For Guyana to reach advanced levels of disaster management capacity, a more rigorous attempt is necessary to collect and map hazard and risk data, share that across all the stakeholders generously, especially to the key sectors, and in a more standardized, systematic way with periodic updates with a high level of data management standards. There is a need to adopt a national alert system and evacuation protocols that consider the hazard data as well as climate data to reflect the increasing intensity and frequency of weather-related hazards to keep vulnerable populations out of harm's way and build resilience across communities and across the critical sectors that ensure the vitality of Guyana.

This study establishes Guyana's baseline disaster management preparedness levels presented in six interconnected themes. It is a step towards tracking progress while setting clear and coherent objectives aligned with Guyana's commitment to Sendai Framework for Disaster Risk Reduction, the Sustainable Development Goals (SDGs), and the Paris Agreement for Climate Change.



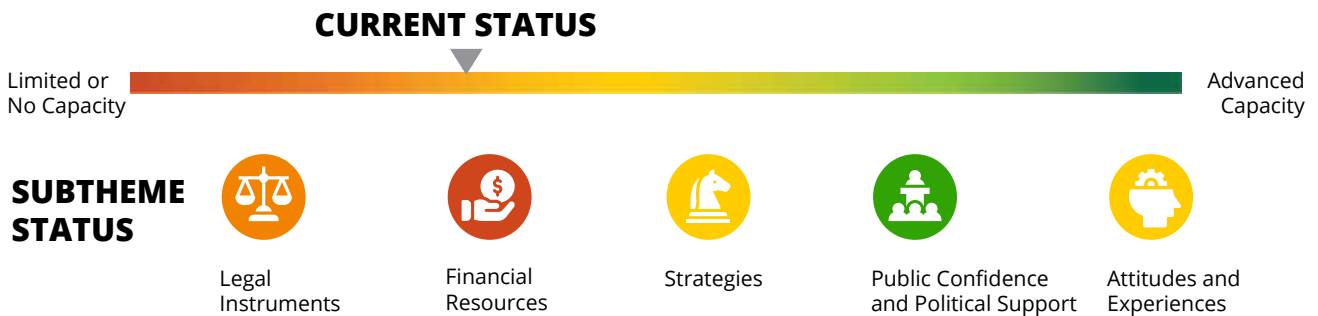
**THE DMA**

# **ENABLING ENVIRONMENT**



# ENABLING ENVIRONMENT

Findings indicate the country’s current Enabling Environment is in the early capacity development stage.



A country’s legal, institutional, financial, and social instruments enable disaster management structures, authorities, processes, and capabilities. These rules, laws, policies, and other parameters allow capacities to develop and achieve an effective risk reduction vision. The DMA analyzed the following sub-themes that characterize the enabling environment of Guyana: Legal Instruments; Financial Resources; Strategies; Public Confidence and Political Support; and Attitudes and Experiences.

A significant gap in the disaster management legal structure has resulted in a weakened operational environment. At the national level, CDC serves as the focal point for disaster management and has the statutory power to execute the coordination and operation of activities through Cabinet Note 97. At the subnational levels, the Local Democratic Organs Act of 1980 (amended in 2006) designates the Regional Democratic Councils and Neighborhood Democratic Councils to carry out DRRM activities.

The failure of the National Assembly to ratify the Disaster Risk Management Bill (DRM Bill) has prevented the formation of a modern and well-coordinated system that effectively serves the disaster management needs of the nation. The DRM Bill, if ratified, would serve as the legal foundation to guide officials and stakeholders. Legal codified structures, processes, and dedicated budgets are required to ensure progress toward advanced capacity. The lack of a formalized legal structure has created an environment lacking appropriate accountability mechanisms and protections.

# ENABLING ENVIRONMENT



## A1

### FINDINGS

Legal Instruments – DM Law:

The Draft Disaster Risk Management Bill (DRM Bill) has not been ratified.

### RECOMMENDATIONS



Conduct a formal review and update of the DRM Bill. The DRM Bill should include clarity on the roles, responsibilities, and structure of the CDC and appropriate institutional arrangements and authorities. It should also be consistent with current international and regional disaster management guidance. This includes establishing a cabinet-level stand-alone structure with direct access to the highest levels of government. Implementing this recommendation will result in an updated Disaster Risk Management Bill 2023 (DRM Bill 2023), to be delivered to the National Assembly for consideration and ratification by the end of 2023. o

- Update and define the operational structure of the CDC in the DRM Bill 2023.
  - Include support for staff expansion and benefits and allow career development based on competencies.
- Establish and maintain an office dedicated to engagement with bilateral, international, and other humanitarian actors.
- Define the regionalized disaster management structure and minimum capacity at local and subnational levels.
- Include clarity on the integration, implementation, and maintenance of Disaster Risk Reduction, Sendai Framework, Sustainable Development Goals, and Climate Change programs to ensure a comprehensive whole-of-government approach.

■ Limited or No Capacity

■ Early Capacity Development

■ Achievement with Significant Limitation

■ Substantial Progress with Some Limitation

■ Advanced Capacity



# ENABLING ENVIRONMENT

- Define the roles of and relationships between the CDC, the military, first responders, government ministries, non-governmental organizations, academic institutions, and the private sector.



Widely circulate and communicate the updated DRM Bill 2023 for consideration by a broad inter-agency group of stakeholders.



Facilitate a discussion and feedback period for stakeholders. The outcome of those sessions should be a formalized DRM Bill 2023 for consideration by the National Assembly. Implementing this recommendation should result in the DRM Bill 2023 becoming law before the end of 2023.

## SUPPORTS U.N. SENDAI FRAMEWORK

### Priorities for Action

2, 3

---

### Global Target(s)

B, C, D, E

---

### Guiding Principle(s)

(a), (b), (e), (f), (h), (j)

---

## U.N. SUSTAINABLE DEVELOPMENT GOALS

11, 13, 16

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# ENABLING ENVIRONMENT



## A2

### FINDINGS

#### Financial Resources

Financial resources and formal budgetary processes are currently limited.

### RECOMMENDATIONS



Expand base funding for CDC to support the growing need for disaster management services.

Implement a National Disaster Risk Management Fund (NDRMF) as elucidated in the Draft DRM Bill with provisions for:

Minimum annual contribution equal to 2% of GDP.

- Incorporating probable maximum losses and average annual loss into the budgeting parameters.
- The use of the NDRMF toward mitigation, prevention, and preparedness at the national and sub-national levels.
- Expanding programmatic, administrative, and operational needs.
- Personnel training.
- Education and R&D.
- Limitations on non-disaster uses.

■ Limited or No Capacity

■ Early Capacity Development

■ Achievement with Significant Limitation

■ Substantial Progress with Some Limitation

■ Advanced Capacity

# ENABLING ENVIRONMENT



Introduce streamlined and documented steps to expedite the management of public funds in post-disaster situations.



Assign budget categories in the national FY budget to properly track resources in DRRM efforts for specific sectors.



Build capacity to monitor, track, and report on aggregate spending on disaster relief and response.

## SUPPORTS U.N. SENDAI FRAMEWORK

### Priorities for Action

2, 3

### Global Target(s)

B, C, D, E

---

### Guiding Principle(s)

(a), (b), (e), (f), (h), (j)

---

# ENABLING ENVIRONMENT




## A3


### FINDINGS


Financial Resources – Insurance mechanisms:

A catastrophic risk insurance market that reduces fiscal vulnerability to disasters does not exist.

### RECOMMENDATIONS

- 

Develop a comprehensive disaster risk financing policy and strategy.
  
- 

Evaluate insurance policies offered by the Caribbean Catastrophe Risk Insurance Facility (CCRIF) to reduce the financial impacts of weather-related disasters – especially flooding.
  
- 

Develop and disseminate guidelines for best practices to facilitate access to agricultural and building insurance.

### SUPPORTS U.N. SENDAI FRAMEWORK

#### Priorities for Action


2, 3

#### Global Target(s)


B, C, D, E


#### Guiding Principle(s)


(a), (b), (e), (f), (h), (j)

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# ENABLING ENVIRONMENT



## A4

### FINDINGS

Financial Resources – Public procurement:

There is a lack of data-driven procurement planning.

### RECOMMENDATIONS

- 
 Strengthen procurement planning using data analytics to inform and optimize purchasing decisions to proactively enhance response.
  
- 
 Review and update procurement law to ensure it addresses identified shortcomings.

### SUPPORTS U.N. SENDAI FRAMEWORK

#### Priorities for Action

2, 3

---

#### Global Target(s)


C

---


#### Guiding Principle(s)


(b), (e), (f), (h), (j)

---

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity



# ENABLING ENVIRONMENT





## A5

### FINDINGS

Financial Resources - Availability of Low-interest Loans to Support Recovery:

The Draft DRM Bill states that when a declaration of disaster is made, the Cabinet Sub-Committee may, in collaboration with the Commission, recommend granting no-interest or low-interest loans by government financing or lending institutions to the most affected sectors of the population through their cooperatives. The 2021 Country Work Programme (CWP) CDM audit cited this area needing attention.

### RECOMMENDATIONS

- 
 Maintain a well-established government low-interest loan program that supports the recovery expenses of a diverse range of stakeholder groups.
  
- 
 Create a regulatory framework to compensate households, businesses, and farmers for disaster loss.

### SUPPORTS U.N. SENDAI FRAMEWORK

#### Priorities for Action

2, 3

---

#### Global Target(s)

C

---


#### Guiding Principle(s)


(b), (e), (f), (k)


---

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# ENABLING ENVIRONMENT





## A6

### FINDINGS

Financial Resources – Microcredits:

Guyana has a very small microfinance sector that provides investment opportunities for the working poor who do not have access to the formal financial market. The Bank of Guyana regulates the sector.

### RECOMMENDATIONS

- 
 Incentivize the creation and proliferation of microfinance institutions to provide affordable low-interest micro-loans for small businesses, especially those owned by women.
  
- 
 Create disaster microfinance credit schemes and expedited remittances through those institutions and regulate them, and inform the citizens through active campaigns about their availability.

### SUPPORTS U.N. SENDAI FRAMEWORK

#### Priorities for Action

2, 3

---

#### Global Target(s)

C

---


#### Guiding Principle(s)


(b), (e), (f), (k)

---

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# ENABLING ENVIRONMENT





## FINDINGS

Strategies:

Standalone or distinct DM and DRR strategic plans, strategies, and policies exist, but not for all DM phases, and the policy documents need updating.

# A7

## RECOMMENDATIONS

- 
 Update the key policies and plans to reflect the hazard spectrum and exposure data at both the national and subnational levels.
  
- 
 Establish a mechanism to review and update all DM and DRR plans biennially.

## SUPPORTS U.N. SENDAI FRAMEWORK

### Priorities for Action

1, 2

---

### Global Target(s)

B, E, F

---

### Guiding Principle(s)


(c), (d), (g), (h)

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## U.N. SUSTAINABLE DEVELOPMENT GOALS


11


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 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# ENABLING ENVIRONMENT



# ENABLING ENVIRONMENT



**A8**


## FINDINGS

Strategies – Mitigation policies and mandates:


There is a lack of a land use plan or map for communities/local authorities; less than 80% of communities/local authorities reportedly have these in place. The National Land Use Plan cites many issues pertaining to lack of planning, poor planning, and poor coordination, including land use conflicts, particularly in the interior regions.


While there is also no national land policy for Guyana, there is a National Land Use Plan (2017) and a Mainstreaming Sustainable Land Development and Management (MSLDM) (2017) initiative from the GLSC and FAO. The MSLDM, a REDD+ initiative, observes many causes and consequences of inappropriate land use in Guyana:

- Uncontrolled small-scale mining leaves open pits and contaminates water resources.
- Unsustainable agricultural systems (monocultures, inefficient irrigation, and chemical inputs)
- Deforestation causes soil erosion, excess runoff, landslides (on sloping land), and flash floods with associated loss of production and damage to infrastructure.
- Degradation and deforestation negatively affect soil and water resources (quantity and quality), biodiversity, and ecosystem services.
- Guyana’s land use planning shows few links to the Sendai Framework. Land degradation is a significant problem in Guyana due to infrastructure development, mining, forestry, agriculture, and other human uses. As a result, coastal mangroves that protect the shorelines have been severely depleted.
- While early recovery is comprehensively addressed in the DRM Bill, long-term planning recommendations for resilient reconstruction are not.

 Limited or No Capacity

 Early Capacity Development


 Achievement with Significant Limitation


 Substantial Progress with Some Limitation


 Advanced Capacity





## RECOMMENDATIONS

- 

Mandate mitigation planning based on exposure figures and statistics by DRR policies and enforcement mechanisms.
  
- 

Create local and community land use policies aligning with the national land use plan to limit the settlements in hazard-prone areas or mandate strict mitigation policies and codes.
  
- 

Include disaster mitigation provisions in recovery and reconstruction legal and planning frameworks.
  
- 

Develop and institutionalize the required policies for integrated land use, especially in areas most vulnerable to land degradation where mining and forestry overlap (GoG-DoE, 2019).
  
- 

Integrate and harmonize development and land use plans for all sectors and align with legislation. Clarify roles and responsibilities.

## SUPPORTS U.N. SENDAI FRAMEWORK

### Priorities for Action

1, 2, 3, 4

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### Global Target(s)

A, B, C, D, E

---

### Guiding Principle(s)

(c), (d), (g), (h)

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## U.N. SUSTAINABLE DEVELOPMENT GOALS

1, 2, 3, 4, 5, 6, 9, 11, 13, 14, 15

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## PARIS AGREEMENT ARTICLES

7, 8

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# ENABLING ENVIRONMENT



## A9

### FINDINGS







Clear and Comprehensive Policies - Gender and Vulnerable Population Inclusion:

The Draft DRM Bill stipulates a human rights-based approach (including gender considerations) in DRM, which is also part of the National Disaster Management Policy. Although they are suggested activities, provisions for this are not found in the National Integrated Disaster Risk Management Plan (or any other plan).

Women in the agricultural sector in Guyana are disproportionately affected by the loss of assets and crops after a disaster. The agricultural sector tends to be male-dominated; women are often not recognized as farmers but as beneficiaries.

Gender Sensitive & Equitable Distribution of Resources: The recovery and rehabilitation phases provide opportunities to promote gender equality within communities, more evenly distributed ownership of assets, and improve the condition and position of women and other vulnerable groups. However, inclusiveness and gender-sensitive considerations are absent in allocating resources for disaster response.

### RECOMMENDATIONS

-  Include women, children, persons with disabilities, the elderly, and minority communities in local governments' development and planning process.
-  Assess the needs of women, the elderly, the disabled, and indigenous minorities through the help of NGOs; develop a curriculum for literacy and disaster preparedness training for those groups based on the assessments.
-  Incorporate in preparedness plans the past experiences that include provisions to address the barriers and biases that prevent marginalized groups. Include logistical challenges, leveraging the work of NGOs and community-based organizations (CBOs).
-  Continue the efforts to provide women and girls equal access to resources and decision-making opportunities.
-  DM and DRR strategies and policies should explicitly address gender and vulnerable groups.
-  Design and implement gender-specific guidelines for disaster response and relief.

### SUPPORTS U.N. SENDAI FRAMEWORK

#### Priorities for Action

1, 2, 3, 4

#### Global Target(s)

A, B, E

#### Guiding Principle(s)


(c), (d), (g), (h)

### U.N. SUSTAINABLE DEVELOPMENT GOALS


5, 11


### PARIS AGREEMENT ARTICLES


7.1, 8.1

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# ENABLING ENVIRONMENT







## A10

### FINDINGS

Public Confidence and Political Support:

Public Confidence and Political Support have made substantial progress with some limitations.

### RECOMMENDATIONS

-  Capitalize on gains made with public engagement in the aftermath of recent flooding with a continued focus on nurturing public trust and confidence.
-  Strengthen governance structures, institutions, and administrative tools to increase effectiveness and accountability in implementing activities within their purview.
-  Continue to promote and expand the Ministry of Home Affairs' Citizen Security Strengthening Programme (CSSP) to reduce crime and improve citizen security.
-  Collaborate with the Community Action Councils (CACs) in selected at-risk communities to build public confidence and citizen support of measures to reduce violence, improve safety and security, and coordinate the implementation of community-based crime prevention strategies.
-  Implement programs that engage youth in violence reduction and prevention and promote the development and empowerment of young people through vocational skills training and employment opportunities.

### SUPPORTS U.N. SENDAI FRAMEWORK

#### Priorities for Action

1, 2, 3

#### Global Target(s)

A, B, D, E, F

#### Guiding Principle(s)


(a), (b), (c), (d), (e), (f), (g), (h)


### U.N. SUSTAINABLE DEVELOPMENT GOALS


11

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

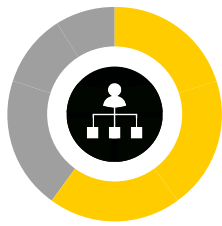
 Substantial Progress with Some Limitation

 Advanced Capacity



**THE DMA**

# **INSTITUTIONAL ARRANGEMENTS**



# INSTITUTIONAL ARRANGEMENTS

**Findings indicate the country’s current Institutional Arrangements have made achievements with significant limitations.**



**SUBTHEME STATUS**



Organizational Structures



Leadership Arrangements



Mechanism for Stakeholder Engagement

The organizational and institutional structures through which disaster management capacity develops are indications of Guyana’s institutional arrangements. Examining the organization and composition of diverse agencies and individuals that constitute a nation’s disaster management capacity—detailing the relationships and collaboration between them—reveals tangible opportunities for increased effectiveness. The DMA examined the existing disaster management Organizational Structures, Leadership Arrangements, and Mechanisms for Stakeholder Engagement.

Guyana’s DM organizational and leadership arrangements are well structured and functional despite the lack of a ratified DRM Law. The Civil Defence Commission (CDC) is the focal agency charged with DRM in Guyana. The CDC is under the direct management of and directly reports to the Office of the Prime Minister (PM).



# INSTITUTIONAL ARRANGEMENTS



## B1

### FINDINGS

Organizational Structures – Civil Defence Commission’s role:

While the CDC’s role as the national focal agency charged with DRM is acknowledged in Guyana, a proper legal mandate is lacking; their status in the government structure is operational but informal. It needs to be strengthened and formalized through the update and passage of disaster management legislation.

### RECOMMENDATIONS



As detailed in the previous section’s recommendations (Enabling Environment), conduct a formal review, update the Draft DRM Bill, and deliver it to the National Assembly for ratification.

### SUPPORTS U.N. SENDAI FRAMEWORK

#### Priorities for Action

1, 2

#### Global Target(s)

B, C, D, E

#### Guiding Principle(s)

(a), (b), (e), (f), (h), (j)

### U.N. SUSTAINABLE DEVELOPMENT GOALS

11, 13, 16

■ Limited or No Capacity

■ Early Capacity Development

■ Achievement with Significant Limitation

■ Substantial Progress with Some Limitation

■ Advanced Capacity

# INSTITUTIONAL ARRANGEMENTS



## B2

### FINDINGS

#### Organizational Structures – Regional Offices:

The CDC launched RDRMCs in all 10 regions beginning in 2019. This initiative has effectively strengthened Guyana’s institutional arrangements, organizational structure, and capability to manage multiple hazards across multiple jurisdictions. RDRMCs are the lead agencies for the implementation of standardized plans for DRM at the regional level. Daily operations focus on local-level preparedness and contingency planning. While the RDRMCs are currently limited in their operational function, as of late 2022 seven of the ten regions have developed multi-hazard preparedness and response plans – an unprecedented step forward in four years while also managing COVID-19.

### RECOMMENDATIONS

- Continue the development, activation, and full implementation of all 10 RDRMCs.
- Ensure that necessary resources (financial and human) are available to build capacity and establish fully functioning Regional Emergency Operations Centers (REOCs).
- Establish procedures for the annual review and update of Regional Multi-Hazard Preparedness and Response Plans.
- Conduct annual exercises to test the Preparedness and Response Plans for each Region.

### SUPPORTS U.N. SENDAI FRAMEWORK

#### Priorities for Action

2

#### Global Target(s)

E

#### Guiding Principle(s)

(f), (i), (j)

Limited or No Capacity

Early Capacity Development

Achievement with Significant Limitation

Substantial Progress with Some Limitation

Advanced Capacity

# INSTITUTIONAL ARRANGEMENTS



## B3

### FINDINGS

Organizational Structures – Socialization of DRRM Throughout Government:

Organizational linkages exist between the CDC and other governmental ministries, including Local Government and Regional Democratic Councils. These are established through the National Multi-Hazard Disaster Preparedness and Response Plan but are not currently supported by an existing legal framework

### RECOMMENDATIONS



Define the roles, relationships, and necessary mechanisms for engagement between RDRMCs and the national structure. A decentralized disaster management approach should be supported to facilitate local disaster management growth to meet the unique and emerging needs of each region.



Support the growth of regional disaster management capacity to strengthen each local government’s ability to effectively prepare for, respond to, and recover from disasters.

### SUPPORTS U.N. SENDAI FRAMEWORK

#### Priorities for Action


2

#### Global Target(s)


E


#### Guiding Principle(s)


(f), (i), (j)

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity





# INSTITUTIONAL ARRANGEMENTS

**B4**



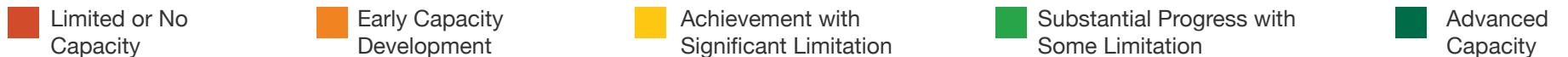
**FINDINGS**

Organizational Structures - Integration of DRR, CCA, SD:

Currently, there is no dedicated office or position for implementing, integrating, and sustaining the Sendai Framework for Action, Sustainable Development Goals (SDGs), or the Climate Change Adaptation Agreement (Paris Agreement). Elements of these international agreements are being partially addressed through the following strategies, policies, and plans:

- Green State Development Strategy Vision 2040
- Agriculture Disaster Risk Management Plan (ADRM Plan)
- National Climate Change Policy and Action Plan 2020-2030 (NCCPAP 2020-2030)
- National Development Strategy for Guyana
- Climate Resilience Strategy and Action Plan (CRSAP)
- The Country Work Programme (2021)

Elements of each international agreement are partially addressed but have not been fully implemented and lack the necessary corresponding and cross-cutting support from the government.





## RECOMMENDATION



A whole-of-government approach is needed to ensure a coordinated effort to manage and integrate SFDRR, CCA, and SDG goals and commitments across Guyana.



Institute a primary government office with the explicit responsibility of ensuring the implementation and integration of the Sendai Framework, Sustainable Development Goals, and climate change adaptation across Guyana.



Explicitly integrate the SDGs, Sendai Framework, and CCA into any updates of the Green State Development Strategy Vision 2040. A dedicated position or office responsible for the implementation, integration, and sustainment of that Strategy will formalize Guyana’s commitment to these international agreements.

- Conduct a systematic review of all plans and policies pertaining to disaster risk reduction and management, land-use and development planning, and climate change adaptation across the whole of government with the explicit goal of harmonization of DRR, SDGs, and CCA.
- Include various stakeholders and representatives from government agencies and ministries, NGOs, and the private sector in plans and policies to develop cohesion and ensure shared goals and outcomes.
- As laid out in the Country Work Programme, the Ministry of Natural Resources, the Department of Environment and Climate Change, and the CDC should lead this effort.

## SUPPORTS U.N. SENDAI FRAMEWORK

### Priorities for Action

2

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### Global Target(s)

E, F

---

### Guiding Principle(s)

(a), (h), (l), (m)

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## U.N. SUSTAINABLE DEVELOPMENT GOALS

1, 2, 3, 4, 5, 6, 9, 11, 13, 14, 15

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## PARIS AGREEMENT ARTICLES

7, 8

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# INSTITUTIONAL ARRANGEMENTS





## B5

### FINDINGS

Organizational Structures – International Partnerships:

Guyana would benefit from strengthening its international partnerships.

### RECOMMENDATIONS

-  Strengthen international relationships and working partnerships by reviewing the formal agreements.
-  Identify areas where there are more potential benefits from existing partnerships, including strengthening the relationships through exercises, training, workshops, and activities that reaffirm and expand the working relationships.
  - Explicitly reiterate/rearticulate existing agreements and find ways to expand upon the partnerships.

### SUPPORTS U.N. SENDAI FRAMEWORK

#### Priorities for Action


2

#### Global Target(s)


F


#### Guiding Principle(s)

(a), (l), (m)

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# INSTITUTIONAL ARRANGEMENTS



## B6

### FINDINGS

Organizational Structures – Integration of Military into DRRM:

The Guyana Defence Force (GDF) is active in disaster response, but this is not legally supported or sanctioned.

### RECOMMENDATIONS

- The DRM Bill 2023 should formally and explicitly articulate the role(s) of the Guyana Defence Force in disaster management.

### SUPPORTS U.N. SENDAI FRAMEWORK

#### Priorities for Action

2

#### Global Target(s)

D

#### Guiding Principle(s)

(a), (b), (e), (f)

Limited or No Capacity

Early Capacity Development

Achievement with Significant Limitation

Substantial Progress with Some Limitation

Advanced Capacity

# INSTITUTIONAL ARRANGEMENTS



## B7

### FINDINGS

Leadership Arrangements:

As of October 2020, CDC is under direct management of, and reports directly to, the Office of the Prime Minister (PM). The PM is the National Disaster Coordinator.

### RECOMMENDATIONS



Ensure that the updated DRM Bill 2023 formally and explicitly articulates roles, relationships, and necessary reporting and requisitioning mechanisms regarding leadership positions, especially the PM as the National Disaster Coordinator.

### SUPPORTS U.N. SENDAI FRAMEWORK

#### Priorities for Action

2

#### Guiding Principle(s)

(a), (b)

■ Limited or No Capacity

■ Early Capacity Development

■ Achievement with Significant Limitation

■ Substantial Progress with Some Limitation

■ Advanced Capacity

# INSTITUTIONAL ARRANGEMENTS





## B8

### FINDINGS

Leadership Arrangements - Competencies:

The Draft DRM Bill briefly addresses considerations for CDC employment to include “the highest standards of competence,” however, the minimum competency requirements for all positions within the CDC have not been established.

### RECOMMENDATIONS

- 
 The DRM Bill 2023 should formally and explicitly articulate minimum competency requirements for all CDC positions.
  
- 
 The DRM Bill 2023 should formally establish continuing education programs and annual training requirements.


### SUPPORTS U.N. SENDAI FRAMEWORK

#### Priorities for Action


2


#### Guiding Principle(s)


(a), (b)

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity



# INSTITUTIONAL ARRANGEMENTS



## B9

### FINDINGS

Stakeholder Engagement:

The National Disaster Risk Reduction Coordination Platform (NDRRCP) includes a Technical Advisory Committee (TAC) and a Policy Level Committee. The TAC is charged with implementing the Country Work Programme (CWP) 2021.

The CDC's CWP 2021 consulted 24 stakeholder agencies in partnership with UNDRR and CDEMA. The stakeholder engagement methodology was well-defined, and stakeholder input was incorporated into the CWP.

**Gender Sensitive & Equitable Distribution of Resources:**  
The recovery and rehabilitation phases provide opportunities to promote gender equality within communities, more evenly distributed ownership of assets, and improve the condition and position of women and other vulnerable groups. However, inclusiveness and gender-sensitive considerations are absent in allocating resources for disaster response.

### RECOMMENDATIONS

- 

The DRM Bill 2023 should formally and explicitly endorse the dictates of the CWP, giving the CWP Expert Working Group full legal support for the monitoring, evaluation, and implementation of the CWP.
- 

All stakeholder engagement articulations from the CWP should be explicitly supported.

### SUPPORTS U.N. SENDAI FRAMEWORK

#### Priorities for Action


2


#### Guiding Principle(s)

(a), (b)

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# INSTITUTIONAL ARRANGEMENTS



## B10



### FINDINGS

Stakeholder Engagement – NGOs:

There are no formal NGO associations with defined DM program areas/missions; no known registry lists such organizations.

There are sample efforts to build such capacity in general, such as the NGO National Coordinating Coalition (NCC), which defines its vision as “Assisting Non-Governmental Organisations to accomplish their mission for a healthy, cooperative, and just society.”

### RECOMMENDATIONS

-  Establish a national repository of NGO disaster management stakeholders with information on capabilities and resources possessed by each.
-  Make this repository widely available and accessible to all stakeholders.


### SUPPORTS U.N. SENDAI FRAMEWORK

#### Priorities for Action


2


#### Guiding Principle(s)


(a), (b), (e), (f)

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# INSTITUTIONAL ARRANGEMENTS







## B11

### FINDINGS

Stakeholder Engagement – Private Sector:

A Public-Private Partnership (PPP) policy framework does exist in Guyana, but PPPs remain limited in number and scope.

### RECOMMENDATIONS

-  Engage the private sector in disaster management strategies and planning frameworks to develop capacity, especially those engaged in key infrastructure sectors such as port operations, oil, mining, energy, construction, banking and commerce, healthcare, and hospitality.
  -  Leverage the PPP legal framework for procuring goods and services for response and recovery activities.
  -  Develop PPPs before disasters strike. Develop mutual assistance agreements with industry to establish the availability of equipment, supplies, and expertise in the event of an emergency (e.g., debris removal, rehabilitation with the construction and mining sector, shelter/accommodation/warehouse planning with the hotel sector, transportation of relief materials with transportation/shipping sector, etc.).
  -  Instill accountability, transparency, fairness, legal compliance, dispute resolution, reasonable regulation, fair and timely payment, and transfer/termination for PPPs, including qualification and the tender process.
- Incentivize the use of women-owned businesses.
- Create and maintain a database of businesses whose services are relevant to DM.


### SUPPORTS U.N. SENDAI FRAMEWORK

#### Priorities for Action


2


#### Guiding Principle(s)


(a), (b), (e), (f)

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# INSTITUTIONAL ARRANGEMENTS




## B12


### FINDINGS

Stakeholder Engagement –Academia:

Academia in Guyana does not formally align with the National Disaster Risk Reduction Coordination Platform or with official DRRM strategies and plans.

### RECOMMENDATIONS

- 

The DRM Bill 2023 defines the roles, relationships, and necessary mechanisms for participatory and proactive engagement of academia in official disaster risk reduction and management efforts through R&D, training, and degree-granting.
- 

Update existing policies and strategies to support the inclusion of the academic community in official DRRM efforts through R&D, training, and degree-granting.


### SUPPORTS U.N. SENDAI FRAMEWORK

#### Priorities for Action


2


#### Guiding Principle(s)


(a), (b), (c), (d), (e), (f)

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

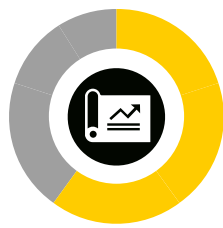
 Advanced Capacity



**THE DMA**

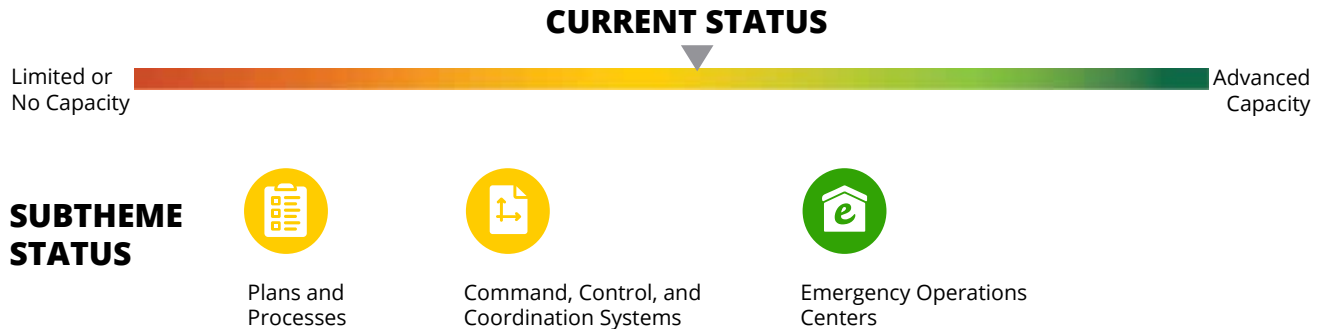
# **DISASTER GOVERNANCE MECHANISMS**





# DISASTER GOVERNANCE MECHANISMS

The country’s current Disaster Governance Mechanisms have shown achievements with significant limitations.



The effectiveness of all disaster management phases, including disaster preparedness, hazard mitigation, response, and recovery, is dependent on establishing and documenting such mechanisms. Disaster management efforts are most effective when guided by standard, formalized systems and procedures that dictate how and by whom activities are conducted. The DMA analyzed the following sub-themes that characterize the disaster governance mechanisms of Guyana: Plans and Processes; Command, Control, and Coordination Systems; and Emergency Operations Centers.

Legal mandates to support Disaster Governance Mechanisms are absent. Guyana employs a three-tiered disaster management system consisting of national, regional, and community/local levels. While the National Multi-Hazard Preparedness and Response Plan (NMHPRP) covers an early recovery and a long-term recovery framework through mitigation planning, vulnerability reduction, capacity enhancement for recovery, and environmental management, a separate recovery and rehabilitation plan is needed. Government agencies, the private sector, NGOs, CBOs, and volunteers through the Civil Defence Commission Volunteer Corps (CDCVC) support the overall concept of operations (CONOPS) of the NMHPRP and carry out their respective functional responsibilities.

# DISASTER GOVERNANCE MECHANISMS



## C1

### FINDINGS

Plans and Processes:

National and regional plans and processes are established but are not regularly updated and do not consistently incorporate lessons learned.

### RECOMMENDATIONS



Prioritize annual reviews and updates of plans and processes.

### SUPPORTS U.N. SENDAI FRAMEWORK

#### Priorities for Action

1, 2, 3, 4

#### Global Target(s)

A, B, C, D, E, F, G

#### Guiding Principle(s)

(a), (b), (c), (d), (e), (f), (g), (h), (i), (j), (k)

### U.N. SUSTAINABLE DEVELOPMENT GOALS

11

■ Limited or No Capacity

■ Early Capacity Development

■ Achievement with Significant Limitation

■ Substantial Progress with Some Limitation

■ Advanced Capacity

# DISASTER GOVERNANCE MECHANISMS




## C2


### FINDINGS

Plans and Processes – COOP and COG planning:

Plans and policies do not exist for business continuity, rehabilitation, and physical and social reconstruction initiatives.

### RECOMMENDATIONS

- 

Develop and implement Continuity of Operations Planning (COOP) and Continuity of Government (COG) planning for all critical sectors and infrastructures and make it a requirement to exercise the plans.
- 

The plans incorporate the consideration of key climate change risks that include periods of more intense rainfall, longer dry periods, sea level rise and resulting coastal inundation, salinization of aquifers and agricultural land, increased flooding and dam breaches, water deficits, food insecurity, increased temperatures, habitat loss, drought, wildfire, and health risks.

### SUPPORTS U.N. SENDAI FRAMEWORK

#### Priorities for Action

1, 2

#### Global Target(s)

B, C, D, E

#### Guiding Principle(s)


(a), (b), (d), (e), (f), (g)


### U.N. SUSTAINABLE DEVELOPMENT GOALS


11

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# DISASTER GOVERNANCE MECHANISMS






**C3**

**FINDINGS**

Plans and Processes:

The recovery phase is the weakest of all DM phases in Guyana

**RECOMMENDATIONS**

-  Create a national recovery plan to include policies for removing and disposing of debris and human casualties of the disaster, with assigned responsibilities for each undertaking.
-  Develop a methodology to assess priorities for the reconstruction of critical infrastructure and housing stock; consistent mandate application of the methodology.
-  Develop a national disaster recovery framework for long-term sustainable development.
-  Integrate sectoral plans into long-term community recovery plans.
-  Address long-term community recovery in plans and policies.
-  Integrate sectoral plans with community recovery plans through stakeholder engagement processes, including non-governmental and private industry partners, for more cohesive planning and coordination in community recovery.

**SUPPORTS U.N. SENDAI FRAMEWORK**

**Priorities for Action**

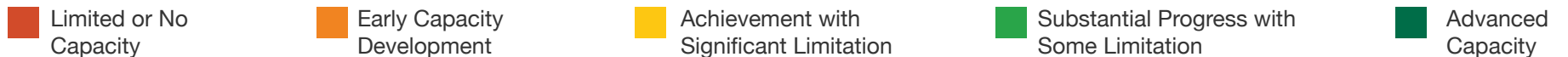
1, 2

**Global Target(s)**

B, C, D, E

**Guiding Principle(s)**

(a), (b), (d), (e), (f), (g), (i), (j), (k)



# DISASTER GOVERNANCE MECHANISMS





## C4

### FINDINGS

Plans and Processes:

Although most plans are easily found via an internet search, there are no direct links to access the plans via the CDC site.

### RECOMMENDATIONS

- 
 Make all plans and SOPs accessible to the public; publish all plans with direct links via the CDC site.
- 
 Create non-classified versions of sectoral plans and allow public access.

### SUPPORTS U.N. SENDAI FRAMEWORK

#### Priorities for Action

1, 2

#### Global Target(s)


B, C, D, E

#### Guiding Principle(s)


(a), (b), (d), (e), (f), (g), (i), (j), (k)


### U.N. SUSTAINABLE DEVELOPMENT GOALS


11

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity



# DISASTER GOVERNANCE MECHANISMS





**C5**

**FINDINGS**

Plans and Processes – External Assistance:

There is a need to establish new and strengthen existing protocols for external assistance.

**RECOMMENDATIONS**

- 
 Develop a national donation policy or plan that establishes guidelines for emergency donations that potential donors understand well.
  
- 
 Develop a volunteer policy that includes health coverage, insurance, and compensation for international volunteers.

**SUPPORTS U.N. SENDAI FRAMEWORK**

**Priorities for Action**

2

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**Global Target(s)**

B, C, D, E

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**Guiding Principle(s)**

(a), (b), (d), (e), (f), (g), (l)

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**U.N. SUSTAINABLE DEVELOPMENT GOALS**


11


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 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# DISASTER GOVERNANCE MECHANISMS



## C6

### FINDINGS

Command, Control, and Coordination Systems:

The integration of non-traditional partners into the command-and-control structure to support primary responders have not been formally implemented.

### RECOMMENDATIONS



Consistently apply formalized integration of non-traditional partners to ensure the efficiency and effectiveness of operations.

### SUPPORTS U.N. SENDAI FRAMEWORK

#### Priorities for Action

2

#### Global Target(s)

B, D, E

#### Guiding Principle(s)

(a), (b), (d), (e), (f), (g), (h), (l)

### U.N. SUSTAINABLE DEVELOPMENT GOALS

11

Limited or No Capacity

Early Capacity Development

Achievement with Significant Limitation

Substantial Progress with Some Limitation

Advanced Capacity

# DISASTER GOVERNANCE MECHANISMS



## C7

### FINDINGS

Emergency Operations Centers:

The location of primary and secondary EOCs adequately support response for the nation, but the efforts to establish EOCs in each Region have stalled.

### RECOMMENDATIONS



Continue the ongoing effort to establish regional EOCs to ensure a local and decentralized approach to strengthen local capacity to manage emergencies quickly.

### SUPPORTS U.N. SENDAI FRAMEWORK

#### Priorities for Action

2

#### Global Target(s)

B, D, E

#### Guiding Principle(s)

(a), (b), (c), (d), (e), (f), (h), (l)

### U.N. SUSTAINABLE DEVELOPMENT GOALS

11

■ Limited or No Capacity

■ Early Capacity Development

■ Achievement with Significant Limitation

■ Substantial Progress with Some Limitation

■ Advanced Capacity

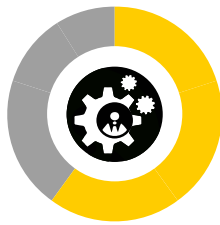






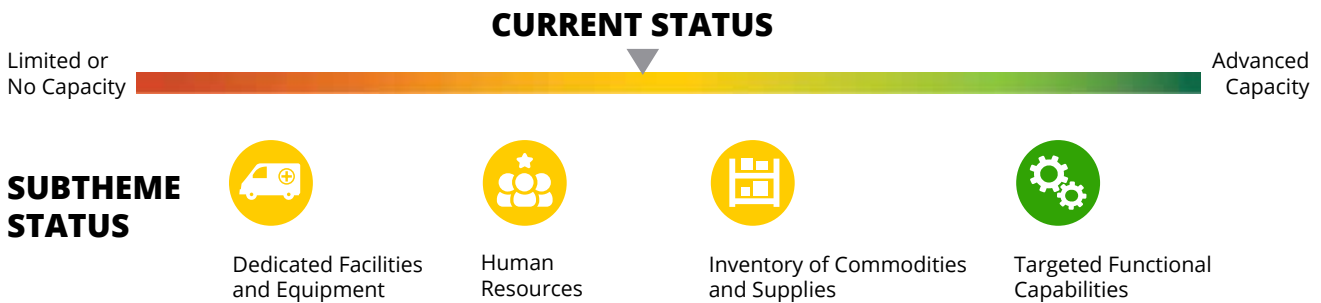
**THE DMA**

# **CAPABILITIES AND RESOURCES**



# CAPABILITIES AND RESOURCES

The country’s current Capabilities and Resources have shown achievements with significant limitations.



The nature and extent of skills, knowledge, supplies, resources, equipment, facilities, and other capacity components dedicated to meeting disaster management needs indicate Guyana’s overall capabilities and resources. The DMA examined the source and size of surge capacities available in times of disaster and a broad array of disaster-focused functional capabilities like search and rescue, sanitation, and security. For this analysis, the following sub-themes were reviewed: Dedicated Facilities and Equipment; Human Resources; Inventory of Commodities and Supplies; and Targeted Functional Capabilities

For Guyana to reach advanced capacity in these sub-themes, the following will need to be implemented: (i) systematic initiatives for proper resource acquisition and the prepositioning of them through strategic placement of fire stations and warehouses, (ii) workforce training in firefighting, fire prevention, disaster preparedness, and response operations, (iii) significant investment in DRRM human resources (personnel) at the CDC, (iv) the incorporation of scientific data to simulate the impacts of climate change on the Guyanese land, shore, and populations to predict impacts on critical sectors, and (v) the development of proper planning instruments that can lend themselves to legal and financial instruments and mandates.



# CAPABILITIES AND RESOURCES



## D1

### FINDINGS

Dedicated Services, Facilities, and Equipment – Firefighting:





Guyana does not have adequate firefighting capabilities to control fires that engulf wooden buildings.

Building codes and regulations pertaining to adequate drainage, allowing 10 feet between buildings, and storing hazardous materials are not adequately enforced.

The Neighborhood Democratic Councils (NDCs) have legal authority (Local Democratic Organs Act) and are responsible for enforcing building codes.

Communities throughout Region 1 lack adequate firefighting resources and the capacity to guard against significant fires.

### RECOMMENDATIONS

-  Expand fire service coverage based on statistical data, including household fire statistics, wildfire hazard exposure (see this report’s Risk and Vulnerability Assessment (RVA) section), and population dispersions and densities.
-  Prioritize investments in fire capacity building based on capacity assessments for each Region.
-  Enlist the NDCs to ramp up enforcement of fire codes.
-  Encourage NGOs and the private sector to take the initiative to create funding and equipment resources for fire brigades at municipal levels.

### SUPPORTS U.N. SENDAI FRAMEWORK

#### Priorities for Action

1, 2, 3

#### Global Target(s)


A, B, C, D, E

#### Guiding Principle(s)


(a), (b), (c), (f), (k)


### U.N. SUSTAINABLE DEVELOPMENT GOALS


11

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# CAPABILITIES AND RESOURCES



## D2


### FINDINGS


Dedicated Services, Facilities, and Equipment:


Facilities meet the base requirements to function adequately but are not fully outfitted with state-of-the-art equipment.

There is a great need for more equipment: CDC needs more boats, trucks, and other response vehicles. Currently, they cooperate with other agencies to address those shortages.

### RECOMMENDATIONS

- 

Ensure facilities are fully and adequately equipped for staff to carry out their jobs efficiently and effectively.
- 

Encourage NGOs and the private sector to take the initiative to create funding and equipment resources.
- 

Explore international funding mechanisms to supplement efforts to scale up DRRM equipment capabilities.

### SUPPORTS U.N. SENDAI FRAMEWORK

#### Priorities for Action

2, 3

#### Global Target(s)


A, B, C, D, E, F

#### Guiding Principle(s)


(a), (b), (c), (d), (f)


### U.N. SUSTAINABLE DEVELOPMENT GOALS


11

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# CAPABILITIES AND RESOURCES






## D3

### FINDINGS

Dedicated Services, Facilities, and Equipment – Shelters:

Shelters are identified only for Georgetown. For the other regions, CDC is working to support Regional Democratic Councils to evaluate and identify shelters next year (2023).

### RECOMMENDATIONS

-  Continue the CDC effort of building shelter lists/plans in every region.
-  Tie the EWS and alerting protocols to evacuation and shelter plans.
-  Prioritize vulnerable groups in evacuation and sheltering plans, particularly the disabled, elderly, children, and low-income groups. Explicitly address topics of gender and the needs of disabled persons.

### SUPPORTS U.N. SENDAI FRAMEWORK

#### Priorities for Action

1, 2, 3

#### Global Target(s)

A, B, C, D, E, F

#### Guiding Principle(s)


(a), (b), (c), (d), (e), (f)


### U.N. SUSTAINABLE DEVELOPMENT GOALS


11

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# CAPABILITIES AND RESOURCES



## D4

### FINDINGS (Human Resources):

The CDC identified its most pressing need as personnel. They need more staff with boots-on-the-ground experience with disasters, creditable academic degrees, understanding of the culture of Guyana, ability to handle stress, strong ethical values, and commitment to their mission.

The CDC does not have full-time GIS staff due to a lack of financial support. Several key staff have GIS skills, but CDC needs dedicated GIS personnel. CDC does not have computers that can handle the capacity to run ArcGIS.

There is an apparent shortage of staff with technical skills and staff in general.

There is no structured orientation for new hires. There is no specialization of the cadre; everybody does everything. When new hires join CDC, they are sent in pairs to the field to perform tasks such as managing a shelter or conducting impact assessments.

Psychosocial assistance for CDC staff is needed due to extreme job stress.

### RECOMMENDATIONS

- ✓ Hire and train staff solely dedicated to civil protection planning.
- ✓ Establish minimum training requirements for all DM staff.
- ✓ Train and maintain sufficient skilled staff and resources to manage risk assessment needs.
- ✓ Work on capacity building for healthcare by providing incentives to doctors with competitive pay and other benefits.
- ✓ Recruit and train SAR and Damage Assessment and Needs Analysis (DANA) teams by creating a community volunteer system to assist professional responders on site.
- ✓ Create procurement systems for equipment.
- ✓ Hire and train staff for Hazardous Materials (HAZMAT) response.
- ✓ Create/upgrade and maintain rosters of trained professionals for critical post-disaster needs.
- ✓ Leverage existing NGO, private sector, and volunteer stakeholder agreements to address surge staffing needs.

### SUPPORTS U.N. SENDAI FRAMEWORK

#### Priorities for Action

1, 2, 3

#### Global Target(s)

A, B, C, D, E, F

#### Guiding Principle(s)

(a), (b), (c), (d), (e), (f)

### U.N. SUSTAINABLE DEVELOPMENT GOALS

11

■ Limited or No Capacity

■ Early Capacity Development

■ Achievement with Significant Limitation

■ Substantial Progress with Some Limitation

■ Advanced Capacity

# CAPABILITIES AND RESOURCES



## D5

### FINDINGS

Human Resources:

Currently, CDC staff fall within the category of general public officers, which does not entitle them to benefits such as risk allowance and health insurance.

### RECOMMENDATIONS

- Include the DRM Law 2023 provisions to support staff expansion, benefits, and career development based on competencies (see recommendations in the Institutional Arrangements section).

### SUPPORTS U.N. SENDAI FRAMEWORK

#### Priorities for Action

1, 2, 3

#### Global Target(s)

A, B, C, D, E, F

#### Guiding Principle(s)

(a), (b), (c), (d), (e), (f)

### U.N. SUSTAINABLE DEVELOPMENT GOALS

11

Limited or No Capacity

Early Capacity Development

Achievement with Significant Limitation

Substantial Progress with Some Limitation

Advanced Capacity

# CAPABILITIES AND RESOURCES



## D6

### FINDINGS

Targeted Functional Capabilities:

Private sector and NGO resources are not formally integrated into response planning.

### RECOMMENDATIONS



Strengthen partnerships through establishing strategic advisory groups to facilitate participation in strategic decisions and increase accountability amongst organizations.



Deconflict roles in receiving and stockpiling disaster resources. Incorporate transparent processes into plans.

Institutionalize proactive engagement of participating organizations.

Compile a list of relief item stockpiles with stakeholders and update it regularly.

Organize regular briefings onboarding new stakeholders to determine logistics capabilities.

### SUPPORTS U.N. SENDAI FRAMEWORK

#### Priorities for Action

1, 2, 3

#### Global Target(s)

A, B, C, D, E, F

#### Guiding Principle(s)

(a), (b), (c), (d), (e), (f)

### U.N. SUSTAINABLE DEVELOPMENT GOALS

11

Limited or No Capacity

Early Capacity Development

Achievement with Significant Limitation

Substantial Progress with Some Limitation

Advanced Capacity



# CAPABILITIES AND RESOURCES





## D7

### FINDINGS

Inventory of Commodities and Supplies – DM Inventories:

The real-time status of government inventories and commodities is lacking.

### RECOMMENDATIONS

- 
 Establish a digital system for data storage and information sharing that lays out all DM material, equipment, and supply inventory from all partner agencies with DM resources.
  
- 
 Assign liaison(s) to assess the material resources needed for emergency response and establish procurement and maintenance mechanisms at regional and subnational levels.

### SUPPORTS U.N. SENDAI FRAMEWORK

#### Priorities for Action

1, 2, 3

#### Global Target(s)


A, B, C, D, E, F

#### Guiding Principle(s)


(a), (b), (c), (d), (e), (f)


### U.N. SUSTAINABLE DEVELOPMENT GOALS


11

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# CAPABILITIES AND RESOURCES



## D8






### FINDINGS

Targeted Functional Capabilities – Logistics:

Lack of human resources is the main impediment to national logistics planning. Regions are not self-sufficient yet.

Due to the terrain, it takes 1-2 days to get specific supplies to disaster areas.

### RECOMMENDATIONS

-  Hire and train staff dedicated to logistics/logistics planning.
-  Create/increase organized and dedicated sub-national level warehousing facilities that anticipate road and river conditions during flooding for prepositioning goods.
-  Calculate the standard delivery time of orders based on means of transport and road conditions for efficient emergency response.
-  Integrate shelter and warehousing planning into the logistics plan.
-  Create and maintain a logistics database.

### SUPPORTS U.N. SENDAI FRAMEWORK

#### Priorities for Action

1, 2, 3

#### Global Target(s)


A, B, C, D, E, F

#### Guiding Principle(s)


(a), (b), (c), (d), (e), (f)


### U.N. SUSTAINABLE DEVELOPMENT GOALS


11

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# CAPABILITIES AND RESOURCES



## D9

### FINDINGS




Targeted Functional Capabilities – Agricultural recovery:

Agriculture makes up slightly more than 15% of Guyana’s economy. Climate change is severely affecting the agriculture sectors in the Caribbean region, where most of the low-income population rely on agriculture for their livelihoods. The effects of drought and hurricane-induced floods mainly affect sugar cane production, which is already shrinking in Guyana.

Climate model projections indicate that Guyana’s agricultural yield will decline 7%-8% in the next 25 years due to climate change. Likewise, the fisheries sector is threatened by climate change due to rising sea levels, rising sea temperatures, and coastline erosion.

Since insurance penetration in Guyana is very low (around 1.5%), recovery of public infrastructure, including agriculture assets, remains challenging.

### RECOMMENDATIONS

-  Use data-driven projection models of the effects of climate change, specifically its impact on the agriculture and fisheries sectors.
-  Tie the models to fiscal policies, including DRRM budgets and insurance policies.
-  Leverage PDC’s DisasterAWARE Pro® platform for data analysis and modeling.

### SUPPORTS U.N. SENDAI FRAMEWORK

#### Priorities for Action

1, 2, 3

#### Global Target(s)

A, B, C, D, E, F

#### Guiding Principle(s)


(a), (b), (c), (d), (e), (f)

### U.N. SUSTAINABLE DEVELOPMENT GOALS


11


### PARIS AGREEMENT ARTICLES


7, 8

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# CAPABILITIES AND RESOURCES






## D10

### FINDINGS

Targeted Functional Capabilities:

The availability of fresh water is already being impacted by changes to seasonal rain patterns, drought, sea water intrusion into aquifers, and flooding. Water service disruptions are a common occurrence due to power outages.

### RECOMMENDATIONS

-  Continue to invest in water infrastructure systems to upgrade the existing water network. Ensure infrastructure resilience using data and science-based approaches.
  
-  Integrate post-disaster WASH plans with water sector plans.
  
-  Enable legislation to improve water quality; advocate for gender- and disability-inclusive sanitation facilities; mainstream DRR and CCA into existing WASH policies.

### SUPPORTS U.N. SENDAI FRAMEWORK

#### Priorities for Action

1, 2, 3

#### Global Target(s)

A, B, C, D, E, F

#### Guiding Principle(s)


(a), (b), (c), (d), (e), (f)

### U.N. SUSTAINABLE DEVELOPMENT GOALS


5, 6, 9, 11, 13


### PARIS AGREEMENT ARTICLES


7, 8

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# CAPABILITIES AND RESOURCES



## D11

### FINDINGS



Targeted Functional Capabilities:

In Guyana, primarily in Region 9 Upper Takutu-Upper Essequibo, it is the responsibility of women to collect water for the family in daily life and emergencies. Women’s safety, security, and privacy should be guaranteed in WASH planning and execution.

Preparedness and response plans in all regions address the protection and security of displaced persons, particularly women, children, elderly people, persons with disabilities, single-headed households, members of religious and ethnic minorities, and indigenous people.

Nurses and physicians in Guyana express a notable lack of trained security in hospitals stemming from staff and training shortages.

### RECOMMENDATIONS

-  Invest in the safety and security of disaster-affected populations through exercises and drills of the existing regional and national preparedness plans with a particular focus on vulnerable populations.
  
-  Develop hospital security plans through structural and non-structural means to ensure staff and patient safety and security.

### SUPPORTS U.N. SENDAI FRAMEWORK

#### Priorities for Action

1, 2, 3

#### Global Target(s)

A, B, C, D, E, F

#### Guiding Principle(s)


(a), (b), (c), (d), (e), (f)

### U.N. SUSTAINABLE DEVELOPMENT GOALS


5, 11, 13


### PARIS AGREEMENT ARTICLES


7, 8

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# CAPABILITIES AND RESOURCES



## D12



### FINDINGS

Targeted Functional Capabilities:

HAZMAT response is addressed in Guyana’s Oil Spill Contingency Plan for both onshore and offshore oil spills. The response framework is based on an incident command system that foresees layers of response activation with corresponding national and international agencies and the private sector, NGOs, and other stakeholders, depending on the severity of the incident.

The CDC has identified the need for improved tracking of mining accidents to inform and enhance preparedness and response activities.

### RECOMMENDATIONS

- 
 Leverage a GIS-based mapping platform such as PDC’s DisasterAWARE for plan preparation and exercises.
  
- 
 Update and expand existing equipment and technical assistance agreements for HAZMAT and oil spills.

### SUPPORTS U.N. SENDAI FRAMEWORK

#### Priorities for Action

2, 3

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#### Global Target(s)

B, C, D, E, F

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#### Guiding Principle(s)


(a), (b), (c), (d), (e), (f)

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### U.N. SUSTAINABLE DEVELOPMENT GOALS


11


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 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity





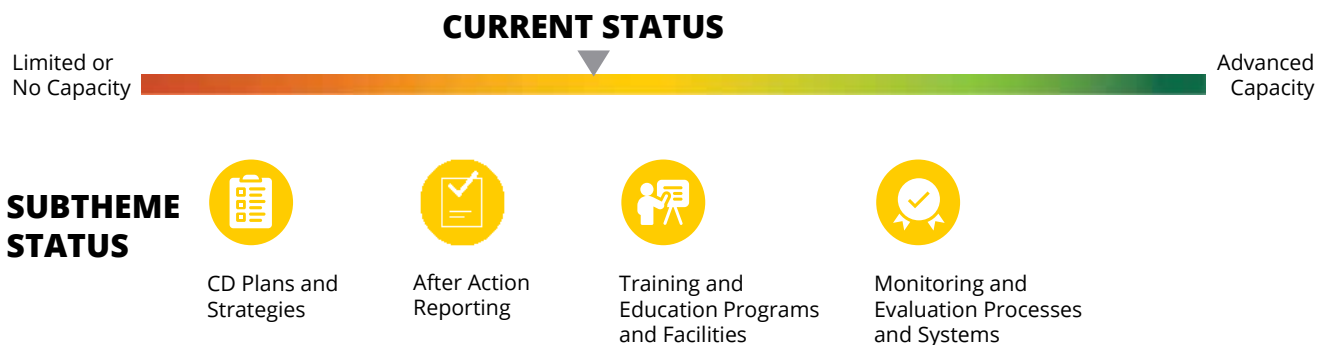
**THE DMA**

# **CAPACITY DEVELOPMENT**



# CAPACITY DEVELOPMENT

**The country’s current Capacity Development has achievements with significant limitations.**



Guyana’s ability to advance disaster management strategies that achieve risk reduction and resilience goals ultimately depends on its ability to support capacity development. From training and education that supports the advancement of knowledge and skills to the institutionalization of appropriate attitudes and cultures, capacity development requires the continuous advancement of assessments, strategic plans, programs, facilities, and many other sub-themes. The DMA analyzed these sub-themes, looking at resources and opportunities for all stakeholders and all sectors, from individuals and special-needs groups to government responders. Sub-themes examined include Capacity Development Plans and Strategies; Training and Education Programs and Facilities; After-Action Reporting; and Capacity Development Monitoring and Evaluation.

Guyana has been making the necessary advancements in creating the capacity to deal with the hazard risks the country faces. While policies and planning documents call for comprehensive education, training, and exercise requirements, capacity issues persist.

Guyana’s training program should be strengthened by conducting annual exercises and simulations to test national response plans and sector capabilities and installing monitoring and evaluation processes and systems.

For Guyana to reach advanced capacity in these sub-themes, specific actions need to be taken: (i) establish a schedule for the review of DM/DRR capacity and needs assessments; (ii) allocate government budget to support DM/DRR training; (iii) update the National Science, Technology, and Innovation Policy and standardized curriculum to include DM/DRR needs; (iv) establish annual training and exercise schedules and maintain a training and exercise program; (v) ensure the community is engaged with disaster awareness, preparedness, and training; and (vi) implement standardized procedures and agendas for the review of plans, strategies, SOPs, and DM legislation.

# CAPACITY DEVELOPMENT



## E1




### FINDINGS

DM and DRR Capacity and Resource Need Assessments:

The NMHPRP identifies vulnerabilities within Guyana, such as the lack of institutional capacity to deal with DRR.

The NMHPRP does not establish a schedule for reviewing DM and DRR capacity and needs assessments.

### RECOMMENDATIONS

-  Establish a schedule to guide the periodic review of DM and DRR capacity and needs assessments through deliberative planning.
-  Implement the recommendations from the gap analysis provided in the Guyana Country Work Programme for CDM 2021-2025.
-  Develop a strategic approach to expanding capacity at the national and local levels. A comprehensive strategy for the nation is needed to ensure that the growing demand can be met.

### SUPPORTS U.N. SENDAI FRAMEWORK

#### Priorities for Action

2, 3, 4

#### Global Target(s)


A, B, C, D, E

#### Guiding Principle(s)


(b), (e), (f), (i), (j), (l), (m)


### U.N. SUSTAINABLE DEVELOPMENT GOALS


11

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# CAPACITY DEVELOPMENT



## E2




### FINDINGS

Capacity Development – Training:

There is no recurring annual budget for training.

There are sporadic specialized training requirements, such as tailored mapping and GIS courses by the Guyana Lands and Surveys Commission (GLSC).

### RECOMMENDATIONS

- 
 Develop a set training program for CDC personnel with one or more facilities, a dedicated staff, and an annual budget for both onboarding and during their tenure.
- 
 Develop position-specific competency requirements, address all the immediate capacity needs, and implement them.
- 
 Increase NGO and private sector participation in training and exercises.

### SUPPORTS U.N. SENDAI FRAMEWORK

#### Priorities for Action

2, 3, 4

#### Global Target(s)


A, B, C, D, E

#### Guiding Principle(s)


(b), (e), (f), (i), (j)


### U.N. SUSTAINABLE DEVELOPMENT GOALS


11, 13, 15

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# CAPACITY DEVELOPMENT



**E3**

## FINDINGS

Capacity Development – Training:

There are significant training gaps in most sectors.

A noted exception is the agriculture sector which promotes and invests in disaster prevention and mitigation through education, training, and public awareness as keys to building resilience.

## RECOMMENDATIONS



As an internal exercise program is created, develop evaluation standards based on laws, plans, policies, etc.



Train personnel on how to properly evaluate exercises.

## SUPPORTS U.N. SENDAI FRAMEWORK

### Priorities for Action

2, 3, 4

### Global Target(s)


A, B, C, D, E

### Guiding Principle(s)


(b), (e), (f), (i), (j)


## U.N. SUSTAINABLE DEVELOPMENT GOALS


11, 13, 15

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# CAPACITY DEVELOPMENT



## E4

### FINDINGS







Capacity Development – Training:

Guyana’s Disaster Risk Management Policy aims to improve capabilities by institutionalizing DM training through national and regional educational programs.

The DRR framework in Guyana includes mitigation, preparedness, and prevention, but gaps remain in addressing training for all DM phases.

There is a robust training and education capability in Guyana, but there are limitations to the capacity and sustainment of programs stemming from a shortage of human and financial resources.

### RECOMMENDATIONS

-  Update government standardized curricula regularly to ensure they include emergent DM/DRR issues and needs.
-  Identify position-specific competencies and link them to training and education curricula.
-  Develop and implement training for all DM stakeholders.
-  Develop focused training for vulnerable groups, including indigenous populations.
-  Ensure accommodations can be made to pivot to deliver training via various methods, including online delivery.
-  Prioritize an effort to support a standardized program to keep pace with growing demand.

### SUPPORTS U.N. SENDAI FRAMEWORK

#### Priorities for Action

2, 3, 4

#### Global Target(s)


A, B, C, D, E

#### Guiding Principle(s)


(b), (e), (f), (i), (j)


#### U.N. SUSTAINABLE DEVELOPMENT GOALS


11

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity



# CAPACITY DEVELOPMENT



**E5**

**FINDINGS**

Capacity Development:

The NIDRMP includes a specific plan and process for updates to the NIDRMP plan, but procedures and practices are not standardized.

**RECOMMENDATIONS**



Implement standardized procedures for evaluating and revising plans, strategies, and SOPs.

**SUPPORTS U.N. SENDAI FRAMEWORK**

**Priorities for Action**

2, 3, 4

**Global Target(s)**

A, B, C, D, E

**Guiding Principle(s)**

(b), (e), (f), (i), (l), (m)

**U.N. SUSTAINABLE DEVELOPMENT GOALS**

11

Limited or No Capacity

Early Capacity Development

Achievement with Significant Limitation

Substantial Progress with Some Limitation

Advanced Capacity

# CAPACITY DEVELOPMENT



## E6


### FINDINGS


Capacity Development:

Though scheduled training is likely provided throughout the year, there is no evidence of an annual training schedule or catalog.

Training records are maintained, but not in a centralized system.

### RECOMMENDATIONS

- 

Set up a widely accessible and structured annual training schedule with an accompanying catalog of available courses with dates that support comprehensive training throughout the year.
  
- 

Expand the CDC-maintained Skilled Emergency Response Personnel volunteer database, including training records for government personnel.

### SUPPORTS U.N. SENDAI FRAMEWORK

#### Priorities for Action

2, 3, 4

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#### Global Target(s)

A, B, C, D, E

---

#### Guiding Principle(s)


(b), (e), (f), (i), (j), (l), (m)

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### U.N. SUSTAINABLE DEVELOPMENT GOALS


11


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 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# CAPACITY DEVELOPMENT



**E7**

**FINDINGS**

Capacity Development – After-Action Reporting:

After-Action Reporting is completed but is not currently resulting in updated plans or policies.

**RECOMMENDATIONS**



Establish a consistent and transparent approach to the integration of AAR findings.

**SUPPORTS U.N. SENDAI FRAMEWORK**

**Priorities for Action**

2, 3, 4

**Global Target(s)**


A, B, C, D, E

**Guiding Principle(s)**


(b), (e), (f), (i), (l), (m)


**U.N. SUSTAINABLE DEVELOPMENT GOALS**


11

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# CAPACITY DEVELOPMENT





## E8

### FINDINGS

Capacity Development:

The Guyana Country Work Programme for CDM 2021-2025 found several gaps in its capacity assessment for DM and DRR, which need to be addressed.

### RECOMMENDATIONS

- 
 Establish a schedule to guide the periodic review of DM and DRR capacity and needs assessments through deliberative planning.
  
- 
 Implement the findings and recommendations from the gap analysis provided in the Guyana Country Work Programme for CDM 2021-2025.

### SUPPORTS U.N. SENDAI FRAMEWORK

#### Priorities for Action

2, 3, 4

---

#### Global Target(s)

A, B, C, D, E

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#### Guiding Principle(s)


(b), (e), (f), (i), (j), (l), (m)

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### U.N. SUSTAINABLE DEVELOPMENT GOALS


11


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 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

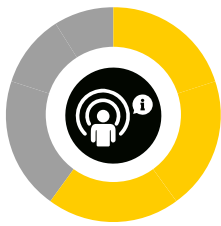
 Substantial Progress with Some Limitation

 Advanced Capacity



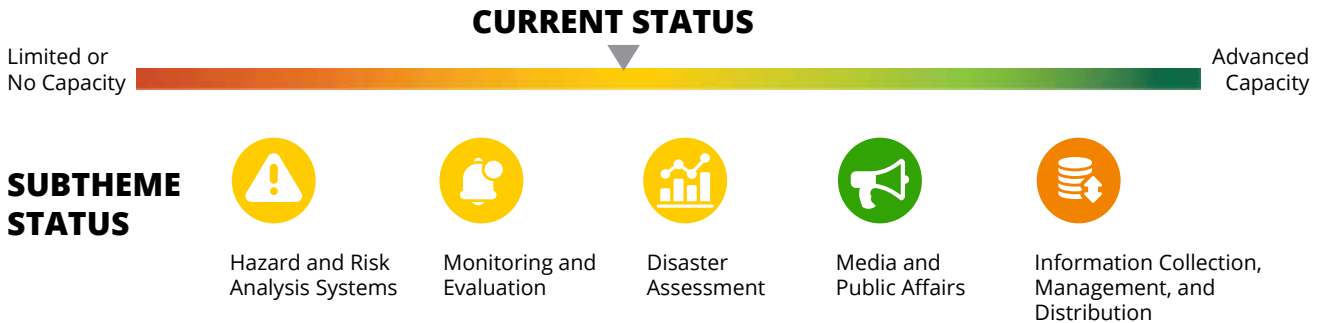
**THE DMA**

# **COMMUNICATION AND INFORMATION**



# COMMUNICATION AND INFORMATION MANAGEMENT

The country's Communication and Information Management capacity has made achievements with significant limitations.



Disaster management is a risk-based endeavor, and as such, the capacity of stakeholders to generate, manage, and share risk and incident-related information is critical. This analysis looked at the systems, processes, and procedures established in Guyana to inform pre- and post-disaster activities: Hazard and Risk Analysis Systems; Monitoring and Notification; Disaster Assessment; Information Collection, Management, and Distribution; and Media and Public Affairs.

Guyana's communication and information management shows some variation across the categories assessed. While hazard and risk analysis systems, monitoring and notification, and disaster assessments have made improvements with significant limitations, information collection, management, and distribution are in the early capacity development stage, and media and public affairs are at a moderately advanced stage.



# COMMUNICATION AND INFORMATION MANAGEMENT






## F1

### FINDINGS

Communication and Information Management – Hazard and Risk Analysis:

Challenges regarding risk assessment processes and standards and conducting hazard and vulnerability analysis are mainly related to the lack of systematic data collection, low levels of disaggregation of data, the time lapse between the collection and release of data, and the fact that valuable information is not georeferenced, which limits its applicability.

### RECOMMENDATIONS

- 
 Integrate the NDPBA findings into operations as the baseline for program development.
- 
 Implement a standard risk assessment process with adherence protocols and requirements at the national and sub-national levels.
- 
 Improve the risk assessment process by implementing data collection, disaggregation, dissemination and georeferencing standards at the national and sub-national levels.

### SUPPORTS U.N. SENDAI FRAMEWORK

#### Priorities for Action

1, 2, 3

#### Global Target(s)


A, B, C, D, E, F, G

#### Guiding Principle(s)


(a), (b), (c), (d), (e), (f), (g), (h), (i), (j)


### U.N. SUSTAINABLE DEVELOPMENT GOALS

11

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# COMMUNICATION AND INFORMATION MANAGEMENT




## F2

### FINDINGS

Communication and Information Management – Hazard and Risk Analysis:

The NIDRMP requires risk assessments for DM and DRR planning efforts, but there are no enforcement mechanisms in place, and there is no evidence that risk assessments are used for planning purposes.

### RECOMMENDATIONS

- 
 Establish enforcement mechanisms that require risk assessments for DM and DRR planning efforts.

### SUPPORTS U.N. SENDAI FRAMEWORK

#### Priorities for Action

1, 2, 3

#### Global Target(s)


A, B, C, D, E, F, G

#### Guiding Principle(s)


(a), (b), (c), (d), (e), (f), (g), (h), (i), (j)


#### U.N. SUSTAINABLE DEVELOPMENT GOALS


11

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# COMMUNICATION AND INFORMATION MANAGEMENT





## F3

### FINDINGS

Communication and Information Management – Hazard and Risk Analysis:

Risk assessment staff have limited capacity to perform digital mapping and modeling to identify and predict risks. There is also a lack of coordination among the various stakeholders involved in hazard identification and mapping for identifying types of maps, software, hardware, and mechanisms needed for the data gathering and availability to conduct risk identification and assessments.

### RECOMMENDATIONS

- 
 Provide regular training to GLSC, CDC, and government staff to enable them to conduct risk assessments, manage risk assessment needs efficiently, and facilitate coordination among stakeholders to conduct risk assessments.
  
- 
 Provide training and resources to the Hydromet Service for producing drought hazard maps.

### SUPPORTS U.N. SENDAI FRAMEWORK

#### Priorities for Action

1, 2, 3

#### Global Target(s)


A, B, C, D, E, F, G

#### Guiding Principle(s)


(a), (b), (c), (d), (e), (f), (g), (h), (i), (j)


#### U.N. SUSTAINABLE DEVELOPMENT GOALS


11

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# COMMUNICATION AND INFORMATION MANAGEMENT



## F4

### FINDINGS

Communication and Information Management: Guyana has limited GIS capabilities; risk assessment information is not centralized or accessible to all sub-jurisdictions. Regions with limited access to electricity and internet service have limited or no access to GIS services. GLSC is responsible for providing GIS service and maintaining an online GIS database, but the website is periodically offline with pages unavailable, indicating a lack of advanced capability or bandwidth.

### RECOMMENDATIONS



Establish a centralized GIS system hosted and managed by GLSC to support risk assessment reporting, and ensure all sub-jurisdictions have access to and training support on the system.

### SUPPORTS U.N. SENDAI FRAMEWORK

#### Priorities for Action

1, 2, 3, 4

#### Global Target(s)

A, B, C, D, E, F

#### Guiding Principle(s)

(a), (b), (c), (d), (e), (f), (g), (h), (i), (j), (k)

### U.N. SUSTAINABLE DEVELOPMENT GOALS

11

Limited or No Capacity

Early Capacity Development

Achievement with Significant Limitation

Substantial Progress with Some Limitation

Advanced Capacity

# COMMUNICATION AND INFORMATION MANAGEMENT







## F5

### FINDINGS

Communication and Information Management:

Local governments lack the capability, resources, and training to conduct practical risk assessments

### RECOMMENDATIONS

-  Establish risk mapping support for all levels of government.
-  Incorporate indigenous knowledge into risk assessments.
-  Incorporate climate change data into risk assessments.
-  Engage with indigenous communities and local governments on understanding, collecting, and cataloging information on indigenous knowledge relevant to risk assessments.

### SUPPORTS U.N. SENDAI FRAMEWORK

#### Priorities for Action

1, 2, 3

#### Global Target(s)

A, B, C, D, E

#### Guiding Principle(s)

(a), (b), (c), (d), (e), (f), (g), (h), (i), (j)

#### U.N. SUSTAINABLE DEVELOPMENT GOALS


11, 13


#### PARIS AGREEMENT ARTICLES


7, 8

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# COMMUNICATION AND INFORMATION MANAGEMENT



## F6



### FINDINGS

Communication and Information Management:

Guyana has risk mapping capacity, but there are limitations in creating hazard assessment maps and models and conducting sector-level risk assessments.

GLSC offers a training course in GIS, GPS, CAD, and mapping skills for staff from government departments, the private sector, NGOs, and local authorities, but additional resources and training are needed for CDC and other relevant DM stakeholders.

### RECOMMENDATIONS

-  Provide training and technical resources to CDC and RDRMC staff in producing hazard assessment maps and models for sector-level risk assessments.
  
-  Provide access to risk assessment training for all relevant stakeholders and ensure training requirements are enforced.

### SUPPORTS U.N. SENDAI FRAMEWORK

#### Priorities for Action

1, 2, 3

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#### Global Target(s)

A, B, C, D, E

---


#### Guiding Principle(s)

(a), (b), (c), (d), (e), (f), (g), (h), (i), (j)


### U.N. SUSTAINABLE DEVELOPMENT GOALS


11, 13


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 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity



# COMMUNICATION AND INFORMATION MANAGEMENT



## F7

### FINDINGS

Communication and Information Management – Monitoring and Notification: Guyana has hazard monitoring for some major hazards.

### RECOMMENDATIONS



Expand hazard monitoring capabilities to cover all hazards.

### SUPPORTS U.N. SENDAI FRAMEWORK

#### Priorities for Action

1, 2

#### Global Target(s)

A, B, C, G

#### Guiding Principle(s)

(b), (c), (d), (e), (f), (g), (i), (j)

### U.N. SUSTAINABLE DEVELOPMENT GOALS

11, 13

■ Limited or No Capacity

■ Early Capacity Development

■ Achievement with Significant Limitation

■ Substantial Progress with Some Limitation

■ Advanced Capacity

# COMMUNICATION AND INFORMATION MANAGEMENT



## F8

### FINDINGS

Communication and Information Management – Monitoring and Notification:

There is a significant absence of a national alert system and evacuation protocol relevant to the country’s priority hazards; disparate EW systems are in place.

There is no testing of EWSs.

Non- English-speaking people are excluded, such as the Venezuelan refugees.

The CDC has conducted an EWS gap analysis.

### RECOMMENDATIONS

- Implement EWS communication capabilities, which include the national emergency broadcast system, siren warnings, and remote broadcast connections.
- Conduct testing of early warning systems for all hazards with warning capabilities on a routine basis.
- Expand early warning system coverage to at least 75% of the country’s population.
- Incorporate mobile (cellular) phones into EWS communication capabilities.
- Provide training and education on flood early warning systems and mitigation to communities living in the Low Coastal Plain region of the country.
- Incorporate EWS and mitigation training for warning recipients into the community and formal education programs.
- Strengthen the capacity of EWS messaging to address the needs of all locations and the needs of specific populations, especially vulnerable groups, including women, children, the elderly, people with disabilities, and refugee and migrant populations.

### SUPPORTS U.N. SENDAI FRAMEWORK

#### Priorities for Action

1, 2

#### Global Target(s)

A, B, C, G

#### Guiding Principle(s)

(b), (c), (d), (e), (f), (g), (i), (j)

### U.N. SUSTAINABLE DEVELOPMENT GOALS

11, 13

Limited or No Capacity

Early Capacity Development

Achievement with Significant Limitation

Substantial Progress with Some Limitation

Advanced Capacity

# COMMUNICATION AND INFORMATION MANAGEMENT



## F9

### FINDINGS

Communication and Information Management – Information Collection and Management:

Challenges exist with data gathering, collection, storage, and dissemination at multiple scales to adequately support local, regional, and national governments.

Data in Guyana are collected, standardized, and stored based on individual agencies’ standards and procedures.

Not all data are in digital format; data are mixed at the subregional level.

### RECOMMENDATIONS



Establish national policies and procedures to ensure that all data collection is coordinated, and storage is standardized, shared, and accessible.

### SUPPORTS U.N. SENDAI FRAMEWORK

#### Priorities for Action

1, 2

#### Global Target(s)

A, B, C, G

#### Guiding Principle(s)

(b), (c), (d), (e), (f), (g), (i), (j)

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■ Advanced Capacity

# COMMUNICATION AND INFORMATION MANAGEMENT



## F10

### FINDINGS

Communication and Information Management – Information

Collection and Management:

A central GIS-based data management information system or standard operating picture (COP) is not currently utilized in Guyana. The NIDRMP proposes deploying a National GIS database, developing and improving the GIS-based flood and drought risk information system, and incorporating regional and local-level information into the GIS database.

### RECOMMENDATIONS

- ✓ Establish a centralized GIS-based management system or COP.
- ✓ Utilize PDC’s DisasterAWARE Pro® platform as a centralized GIS-based management system.

### SUPPORTS U.N. SENDAI FRAMEWORK

#### Priorities for Action

1, 2

#### Global Target(s)

A, B, C, G

#### Guiding Principle(s)

(b), (c), (d), (e), (f), (g), (i), (j)

### U.N. SUSTAINABLE DEVELOPMENT GOALS

11

■ Limited or No Capacity

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# COMMUNICATION AND INFORMATION MANAGEMENT





## F11

### FINDINGS

Communication and Information Management – Disaster Assessment:

UNDRR maintains a DesInventar disaster loss database for Guyana, but no national disaster loss database is linked to Guyana’s Bureau of Statistics or the CDC.

### RECOMMENDATIONS

- 
 Establish a national disaster loss database linked to the Bureau of Statistics, the CDC, and the DANAC.
  
- 
 Link the UNDRR DesInventar disaster loss database for Guyana to the Bureau of Statistics.

### SUPPORTS U.N. SENDAI FRAMEWORK

#### Priorities for Action


1, 2

#### Global Target(s)


A, B, C, G


#### Guiding Principle(s)


(b), (c), (d), (e), (f), (g), (i), (j), (l), (m)

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity







**THE NDPBA**

# **NATIONAL RECOMMENDATIONS**

# THE NDPBA NATIONAL RECOMMENDATIONS

## 1

### **CONDUCT A FORMAL REVIEW AND UPDATE OF THE DRM BILL.**

---

- Clarify the CDC's roles, responsibilities, and structure and appropriate institutional arrangements and authorities. Align with current international and regional disaster management guidance.
- Establish the CDC as a cabinet-level stand-alone structure with direct access to the highest levels of government.
- Include plans for staff expansion and benefits and allow career development based on competencies.
- Establish and maintain an office dedicated to engagement with bilateral, international, and other humanitarian actors.
- Define the regionalized disaster management structure and minimum capacity at local and subnational levels.
- Define how Disaster Risk Reduction, Sendai Framework, Sustainable Development Goals, and Climate Change programs will be integrated, implemented, and maintained to ensure a comprehensive whole-of-government approach.
- Define the roles of and relationships between the CDC, the military, first responders, government ministries, non-governmental organizations, academic institutions, and the private sector.
- Widely circulate and communicate the updated DRM Bill 2023 for consideration by a broad inter-agency group of stakeholders.
- Deliver an updated DRM Bill 2023 to the National Assembly for consideration and ratification by the end of 2023.

## NATIONAL RECOMMENDATIONS

## 2

**STRENGTHEN THE INSTITUTIONAL CAPACITY OF THE CIVIL DEFENCE COMMISSION (CDC).**

- Establish a growth plan to expand human, financial, and technical resources to support CDC's service requirements adequately.
- Define the roles, relationships, and necessary mechanisms for engagement between RDRMCs and the national structure. A decentralized disaster management approach should be supported to facilitate local disaster management growth to meet each region's unique and emerging needs.
- Support the growth of regional disaster management capacity to strengthen each local government's ability to effectively prepare for, respond to, and recover from disasters.
- Formalize academic requirements and training to improve disaster management competency at the national and local levels.
- Ensure that CDC staff and CDC Volunteer Corps (CDCVC) personnel are adequately trained, equipped, and prepared to conduct assessments in the immediate aftermath of major events.
- Designate and use a centralized GIS-based event management system (such as PDC's DisasterAWARE Pro® platform) to develop a common operating picture (COP) during disaster events.
- Establish an internet-based platform (such as WebEOC) to facilitate information sharing among all relevant DM stakeholders during all DM phases.

# 3

## **EXPAND BASE FUNDING FOR CDC TO SUPPORT THE GROWING NEED FOR DISASTER MANAGEMENT SERVICES.**

- Implement a National Disaster Risk Management Fund (NDRMF) as elucidated in the Draft DRM Bill with provisions for:
  - i. Minimum annual contribution equal to 2% of GDP.
  - ii. Incorporating probable maximum losses and average annual loss into budgeting parameters.
  - iii. Use of the NDRMF toward mitigation, prevention, and preparedness at national and sub-national levels.
  - iv. Expanding programmatic, administrative, and operational needs.
  - v. Personnel training.
  - vi. Education and R&D.
  - vii. Limitations on non-disaster uses.
- Introduce streamlined and documented steps to expedite the management of public funds in post-disaster situations.
- Assign budget categories in the national FY budget to properly track resources in DRRM efforts for specific sectors.
- Build capacity to monitor, track, and report on aggregate spending on disaster relief and response.

# 4

## **DEVELOP A NATIONAL RISK TRANSFER STRATEGY FOR NATURAL HAZARDS.**

- Develop financial protection mechanisms for the private and public sectors, including national and household-level insurance programs, through partnerships with insurance companies, including the Caribbean Catastrophe Risk Insurance Facility (CCRIF).
- Establish mandatory insurance schemes for housing, agriculture activities, and key/critical infrastructure as provisioned by the DRM Bill.
- Develop risk reduction measures for accessing flood insurance, agricultural insurance, and building insurance.

## NATIONAL RECOMMENDATIONS

# 5

## **STRENGTHEN EXISTING PARTNERSHIPS WITH INTERNATIONAL GOVERNMENTS AND ORGANIZATIONS FOR RESPONSE.**

- Review formal agreements.
  - i. Identify potential areas where additional benefits may be derived from existing partnerships, including strengthening/reaffirming relationships through exercises, training, and workshops
  - ii. Explicitly reiterate/rearticulate existing agreements and explore ways to expand upon the partnerships.
- Advance regional-level readiness, response, and recovery plans and test them through CDEMA.
- Strengthen coordination with regional and international partners to build capacity for disaster assessments at national and local levels.
- Establish protocols for external assistance regarding volunteers and donations.

# 6

## **STRENGTHEN ENGAGEMENTS WITH THE PRIVATE SECTOR, NGOS, ACADEMIA, AND MEDIA IN THE GOVERNMENT DRM FRAMEWORK.**

- Develop procedures for the provision, acceptance, and distribution of support.
- Establish formal assistance agreements with the private sector (to include oil, energy, construction, banking, commerce, healthcare, hospitality, and banking), I/NGOs, CBOs, and others to support DM efforts.
- Establish a national inventory/catalog of NGO and private-sector DM stakeholders with information on capabilities and resources possessed by each, with particular emphasis on wholesalers and distributors of key equipment and supplies for emergencies.
- Leverage the new PPP legal framework to engage private sector partners in capacity building.
- Revise the procurement bill to ensure fast-tracking of the appraisal, selection, and approval mechanisms for urgent disaster response and recovery public investments.
- Fully engage academia in creating and updating DRR/DM academic programs that tie the curriculum to current hazard trends and staffing needs at the national and regional levels.

# 7

## **INCREASE INFORMATION ACCESS AND SHARING AMONG DM STAKEHOLDERS.**

---

- Collaborate with the Bureau of Statistics, Guyana, to expand institutional capacity and engagement for the routine collection, processing, sharing, and maintenance of data holdings in support of DRM and DRR activities among relevant stakeholders.
- Establish and maintain a shared repository of DRM and DRR data, publications, assessments, and plans that support knowledge sharing and collective integration of DRM and DRR into all planning processes.
- Establish a national disaster loss database linked to the Bureau of Statistics, the CDC, and the Damage and Needs Assessment Committee (DANAC). Establish linkages between the national disaster loss database and the UNDRR DesInventar disaster loss database.

# 8

## **DEVELOP A FORMAL MECHANISM TO ASSESS PROGRESS TOWARD ACHIEVING DRR (SENDAI), CLIMATE ADAPTATION, AND SDGS.**

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- Institute a primary government office with the explicit responsibility of ensuring the implementation and integration of the Sendai Framework, Sustainable Development Goals, and climate change adaptation across Guyana.
- Adopt a whole-of-government approach to ensure a coordinated effort to manage and integrate activities. Include various stakeholders and representatives from government agencies and ministries, NGOs, and the private sector in plans and policies to develop cohesion and ensure shared goals and outcomes.
- Explicitly integrate the SDGs, Sendai Framework, and CCA into any updates of the Green State Development Strategy Vision 2040. A dedicated position or office responsible for the implementation, integration, and sustainment of that Strategy will formalize Guyana's commitment to these international agreements.
- Conduct a systematic review of all plans and policies pertaining to disaster risk reduction and management, land-use and development planning, and climate change adaptation, with the explicit goal of harmonization of DRR, SDGs, and CCA. As laid out in the Country Work Programme, the Ministry of Natural Resources, the Department of Environment and Climate Change, and the CDC should lead this effort.



## NATIONAL RECOMMENDATIONS

## 9

**INCREASE VISIBILITY, TRANSPARENCY, AND PUBLIC SUPPORT FOR GOVERNMENT ACTION.**

- Capitalize on gains made with public engagement in the aftermath of recent flooding with a continued focus on nurturing public trust and confidence.
- Strengthen governance structures, institutions, and administrative tools to increase effectiveness and accountability in implementing activities within their purview.
- Continue to promote and expand the Ministry of Home Affairs' Citizen Security Strengthening Programme (CSSP) to reduce crime and improve citizen security.
- Collaborate with the Community Action Councils (CACs) in selected at-risk communities to build public confidence and citizen support of measures to reduce violence, improve safety and security, and coordinate the implementation of community-based crime prevention strategies.
- Implement programs that engage youth in violence reduction and prevention and promote the development and empowerment of young people through vocational skills training and employment opportunities.

## 10

**OPERATIONALIZE DISASTER MANAGEMENT CAPABILITIES AT THE SUBNATIONAL, LOCAL, AND COMMUNITY LEVELS.**

- Define the roles, relationships, and necessary mechanisms for engagement between RDRMCs and the national structure. A decentralized disaster management approach should be supported to facilitate local disaster management growth to meet the unique and emerging needs of each region.
- Continue the development, activation, and full implementation of all 10 RDRMCs.
- Ensure that necessary resources (financial and human) are available to build capacity and establish fully functioning Regional Emergency Operations Centers (REOCs).
- Strengthen the capacity of Neighbourhood Disaster Committees under the management of Neighbourhood Democratic Councils with proper mandates, funding, and human and material resource allocation.
- Ensure that all community-level risk and vulnerability assessments apply a multi-hazard approach that includes localized impacts of climate change.
- Facilitate the establishment of mutual aid agreements between neighboring regions detailing how and when resources are shared, the types of resources to be shared, and mechanisms for reimbursement at the subnational level.

# 11

## **DEVELOP RESILIENCE/COOP/COG PLANS FOR THE COUNTRY'S CRITICAL INFRASTRUCTURE SECTORS AND INTEGRATE PLANS ACROSS SECTORS AND REGIONS.**

---

- Create a National Disaster Recovery Plan/Framework that delineates the roles of key partners and stakeholders with a methodology to assess priorities for reconstruction and long-term recovery.
- Include growth and development factors, population changes, vulnerable populations, environmental factors, and livelihood dependencies in the plans.
- Define critical infrastructure for Guyana and develop sectoral resilience plans (e.g., water, energy, forestry, food, agriculture and fisheries, transportation, healthcare, tourism, education, and telecommunications) that consider key hazards and the effects of climate change.
- Integrate the National Climate Change Policy and Action Plan goals into the sectoral and regional plans in line with financial opportunities from development partners like UN and CDEMA.

# 12

## **PERIODICALLY UPDATE KEY POLICIES, PLANS, AND SOPS.**

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- Periodically assess DRR/DM capacity needs at the national and subnational levels and incorporate findings into capacity planning.
- Update the National Science, Technology, and Innovation Policy to address DM and DRR needs.
- Update key policies and plans (including National Integrated Disaster Risk Management Plan) older than three years to reflect the full hazard spectrum and exposure data at national and subnational levels. Incorporate hazard-specific and multi-hazard scenarios, particularly riverine flooding, coastal flooding, flash flooding, drought, extreme heat, wildfires, and technological hazards such as oil spills.
- Leverage the findings of this study on hazards, vulnerabilities, and risks affecting Guyana's populations, environment, ecosystems, and economy.
- Leverage the DisasterAWARE Pro® platform for data-driven and scenario-based planning.
- Develop and conduct annually scheduled simulated and tabletop exercise and training programs to test plans and require after-action reporting and incorporation of lessons learned into planning and practice.
- Implement standardized procedures for evaluating and revising plans, strategies, and SOPs.

# 13

## **CONTINUE IMPLEMENTING A STANDARD INCIDENT MANAGEMENT SYSTEM AT ALL LEVELS OF GOVERNMENT.**

- Legally define key concepts of the incident management system, such as the State of Emergency, disaster, and disaster area declaration.
- Integrate NGOs and the private sector into the NEOC incident command structure through formal agreements.
- Fully equip and expand the space in the NEOC to ensure continuous and effective incident management, allowing all stakeholders in the same space.
- Test the capabilities of the alternative NEOC, holding regularly scheduled exercises for multi-hazard scenarios.

# 14

## **STRENGTHEN EMERGENCY SERVICE PROVISIONS ACROSS THE NATION.**

- Strengthen the capabilities of both the police force and fire services to better serve disaster-affected populations through the acquisition of new facilities, equipment and supplies, personnel, and training through donor funding and/or public-private partnerships. Utilize risk and vulnerability data to expand firefighting capabilities in the most significant wildfire risk areas.
- Using risk assessment and scenario-based approaches, determine likely scenarios for oil and other HAZMAT spills and invest in the technical, staffing, and equipment capabilities necessary to contain, disperse, and remediate these hazards.
- As part of the Ministry of Health and Regional Democratic Councils' strategic planning processes, periodically assess the adequacy of Guyana's existing health care system to accommodate the emergency health care needs of a disaster-affected population. Work collectively to identify solutions to address human and material resource shortfalls.

# 15

## **CREATE AND MAINTAIN ROBUST INVENTORIES OF DISASTER SUPPLIES LOCALLY AND NATIONALLY THROUGH THE NATIONAL LOGISTICS PLAN/ PROGRAM.**

- Maintain commodity stockpiles at levels that meet estimated requirements by creating specific disaster scenarios and conducting exercises to test those and better estimate and plan for post-disaster commodity needs. Update the status of supply inventories yearly.
- Maintain commodity stockpiles in critical locations that facilitate distribution of supplies to surrounding areas within 24-48 hours.
- Advance the utilization of information and communication software and technologies to improve inventory management. Adopt a digital central database system to manage and organize DM resources and supply inventories.
- Fully fund and provide technical assistance to construct purpose-built warehouses and staging facilities in all 10 regions to meet logistics operations requirements during disaster events.

# 16

## **DEVELOP A NATIONWIDE EVACUATION AND SHELTER PLAN.**

- Develop and implement evacuation plans and connect them to the national shelter plan.
- Continue CDC's efforts to develop shelter plans and build shelter lists for every region.
- Engage schools in evacuation plans but limit the use of schools as shelters.
- Tie the EWS and alerting protocols to evacuation and shelter plans.
- Develop and periodically (annually and in anticipation of disasters) update the shelter inventory (database), including public facilities.
- Assess the suitability of structures designated as shelters and capture and maintain results in a database. Include safety and security, elevation from flood zones, and each structure's access to WASH and stockpiles.
- Prioritize vulnerable groups in evacuation and sheltering plans, particularly the disabled, elderly, children, and low-income groups. Explicitly address topics of gender and the needs of disabled persons.
- Include plans for sheltering migrants and evacuees from neighboring communities.
- Leverage PDC's DisasterAWARE Pro® for hazard resource mapping for evacuation and shelter planning.

## NATIONAL RECOMMENDATIONS

## 17

**STRENGTHEN THE CAPACITY OF EARLY WARNING SYSTEMS FOR HYDROMETEOROLOGICAL EVENTS.**

- Acquire additional Doppler radar instruments to increase coverage to 100% of Guyana's land area.
- Establish a development plan to expand EWS coverage to incrementally include all of the country's population through the following actions:
- Incorporate mobile (cellular) phones into EWS communication capabilities.
- Tailor risk communication to at-risk populations, including women, children, the elderly and the disabled, and refugee and migrant populations. Consider seasonal workers and tourist populations in the messaging.
- Strengthen EWS communication capabilities, including the national emergency broadcast system, siren warnings, and remote broadcast connections.
- Conduct testing of the EWS for all hazards with warning capabilities on a routine basis.
- Provide training and education on flood EWS and mitigation to communities living in the Low Coastal Plain region of the country.
- Incorporate EWS and mitigation training for warning recipients into a community and formal education programs. Focus efforts on improved climate risk management, specifically for sea-level rise, water resource management techniques, preparedness for longer dry seasons, and agriculture and livestock impacts.

## 18

**CONTINUE EFFORTS TO EXPAND ACCESS TO TELECOMMUNICATIONS SERVICES IN AREAS WITH POOR PENETRATION OF INFORMATION AND COMMUNICATIONS TECHNOLOGY (ICT) TO FACILITATE TIMELY RECEIPT AND DISSEMINATION OF INFORMATION BEFORE, DURING, AND AFTER A DISASTER.**

- As expansion efforts are underway in areas without ICT access, identifying opportunities with NGOs, village leaders, schools, and other organizations to increase public awareness and preparedness so that residents understand the hazards, their natural warning signs, and the immediate action to take to protect life and safety.

# 19

## **DEVELOP SUSTAINABLE LAND USE PLANNING POLICIES BY TAKING INTO CONSIDERATION PRIMARY HAZARDS.**

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- Develop/strengthen zoning policies by including hazard risk and vulnerability assessment information and mapping and local and indigenous knowledge to limit settlements in hazard-prone areas.
- Update/mandate and enforce the National Building Code to strengthen critical infrastructure (priority) and the housing sector against hazard impacts.

# 20

## **CONTINUE EFFORTS TO SUSTAINABLY MANAGE GUYANA'S ABUNDANT FOREST RESOURCES THROUGH GOOD STEWARDSHIP, CODES OF PRACTICE, REDD+, AND ADHERENCE TO FORESTRY REGULATIONS AND POLICIES.**

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- Consider establishing additional not-for-profit entities modeled after the Iwokrama International Centre for Rainforest Conservation and Development to offer additional research, preservation, educational, eco-tourism, and employment opportunities.

# 21

## **STRENGTHEN THE CAPACITY OF INSTITUTIONS TO MONITOR AND MANAGE EXTRACTIVE ACTIVITIES TO REDUCE OR ELIMINATE LAND DEGRADATION AND CONTAMINATION, AND THE POLLUTION OF GROUND WATER, STREAMS, AND RIVERS.**

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- Institute and enforce policies requiring post-extraction clean-up and restoration to preserve environmental integrity and protect the health and well-being of surrounding communities.



## NATIONAL RECOMMENDATIONS

## 22

**STRENGTHEN THE PROTECTION OF GUYANA'S LOW-LYING COASTAL ENVIRONMENT BY IMPLEMENTING STRATEGIES TO REDUCE EROSION, COASTAL INUNDATION, AND COASTLINE RETREAT.**

- Where feasible, expand upon existing mangrove forests and strengthen protective measures and policies that prevent mangrove deforestation.
- Institute protective policies and increase public awareness regarding activities that promote shoreline and/or riverbank erosion.
- Invest in acquiring high-resolution imagery and developing a digital elevation model (DEM) for the entirety of Guyana's coastline to monitor shoreline changes and support more accurate coastal flood analysis.

## 23

**FOSTER PUBLIC-PRIVATE STAKEHOLDER ENGAGEMENT IN SHORT- AND LONG-RANGE DEVELOPMENT PLANNING TO PROMOTE ECONOMIC RECOVERY, GROWTH, SUSTAINABILITY, AND INCREASE ECONOMIC CAPACITY.**

- Strengthen financial and support services to assist recovery, growth, and productive capacities of micro- to medium-scale business enterprises affected by the COVID-19 global pandemic.
- Streamline the application and eligibility processes for micro-loans for household industries and small businesses.
- Provide incentives to retain skilled workers and professionals in healthcare and other key sectors to reduce the high percentage of emigration of those with tertiary-level education.
- Strengthen implementation of vocational and technical training programs to align offerings with workforce needs and boost domestic labor force participation in petroleum and extractive sectors.

## 24

**STRENGTHEN PUBLIC-PRIVATE AND MULTI-AGENCY ENGAGEMENT IN PLANNING AND IMPLEMENTING NEW TRANSPORTATION INFRASTRUCTURE TO EXPAND INTO UNDERSERVED AREAS, AND FACILITATE RELATED INFRASTRUCTURE IMPROVEMENTS (E.G., WATER, ELECTRICITY, TELECOMMUNICATIONS).**

- Secure investments for implementing risk reduction measures in all transportation infrastructure improvements to alleviate hazard impacts, particularly flood-related.
- Develop comprehensive management plans to improve and maintain road surfaces and drainage systems.

# 25

## **EXPAND ENERGY CAPACITY IN REMOTE AND UNDERSERVED AREAS.**

- Expand efforts to increase energy capacity in areas with limited access to electricity (i.e., hinterland) through infrastructure expansion and alternative energy sources (e.g., solar). Increasing household access to electricity will facilitate access to information and offer expanded economic opportunities for those whose livelihoods rely on artisanal fishing, hunting, and bringing agricultural products to market.

# 26

## **INCREASE HOUSEHOLD ACCESS TO IMPROVED WATER AND SANITATION THROUGH INVESTMENTS IN CLEAN WATER INFRASTRUCTURE ENHANCEMENTS IN UNDERSERVED AREAS.**

- Given the prevalence of flooding, institute measures to protect water supplies and reduce potential public health risks from exposure to untreated sewage.

# 27

## **STRENGTHEN, REPAIR, AND/OR REPLACE AGING OR DAMAGED WATER CONTROL STRUCTURES AND SYSTEMS, PRIORITIZING DEVELOPED COASTAL AREAS AND AGRICULTURAL LAND. ENSURE THAT MITIGATION MEASURES ANTICIPATING HAZARD AND CLIMATE CHANGE IMPACTS ARE INCORPORATED INTO NEW CONSTRUCTION AND RETROFITS.**

- Increase efforts to regularly maintain waterways, drainage canals, and spillways, removing blockages due to solid waste and debris collection.

## NATIONAL RECOMMENDATIONS

## 28

**REDUCE MARGINALIZATION AND PROMOTE GENDER EQUALITY.**

- Strengthen efforts to reduce the marginalization of vulnerable groups and promote gender equality, including equal labor force participation and wages, political involvement, access to education, and sexual and reproductive health services.
- Actively engage marginalized groups in developing and promoting policies that support economic and educational opportunities for women, indigenous populations, and other underserved populations.
- Increase opportunities to expand women's participation in economic activities by implementing programs that provide quality, affordable childcare, and health care services.
- Strengthen programs to reduce domestic violence, provide health services, and empower adolescent girls and young women through education or vocational training.
- Expand the services offered to disabled populations and their caregivers in support of health care, vocational training, transportation, and disaster preparedness.

## 29

**ENGAGE INTERNATIONAL NGOS AND DONORS TO INVEST IN PROGRAMS TO ALLEVIATE POVERTY AMONG GUYANA'S MOST VULNERABLE POPULATIONS.**

- Consider earned income tax credits and conditional cash transfers to improve the standard of living of households and supplement subsistence-based livelihoods to allow greater access to education and healthcare and afford opportunities to increase disaster preparedness and resilience.

## 30

**PROVIDE EDUCATION, INFORMATION, AND INCENTIVES TO HOMEOWNERS, RESIDENTS, AND INDUSTRY REGARDING IMPLEMENTING FLOOD PROTECTION AND/OR REDUCTION MEASURES TO REDUCE ENVIRONMENTAL STRESS. IN ADDITION TO STRUCTURAL ENHANCEMENTS, INCLUDE STRATEGIES TO IMPROVE DRAINAGE, REDUCE SOIL EROSION, PROTECT VEGETATED SLOPES, AND REDUCE WATER CONTAMINATION.**

- Launch national and local campaigns to educate the public about the harm resulting from the indiscriminate dumping of solid waste in waterways and locations other than designated disposal sites. Expand and communicate options for disposal and/or recycling of old vehicles, non-working appliances, and hazardous materials to minimize environmental impacts and reduce random dumping.
- Empower local governments to improve solid waste collection and management levels by allocating additional funding.
- Implement extra protective measures in high-density livestock rearing, slaughtering, and processing areas to prevent contamination of flood waters with animal wastes or by-products.

# 31

## **CONTINUE TO PURSUE LONG-TERM GOALS AND STRATEGIES TO ENHANCE GUYANA'S HEALTH CARE CAPACITY AND IMPROVE THE OVERALL HEALTH OF ITS CITIZENS.**

- Strengthen Guyana's health information system to improve the monitoring and reporting of service delivery and the incidence of communicable and non-communicable diseases and health conditions to target health care interventions better and identify needs for special program funding. Provide staff training to ensure that system use and data entry is consistent across all health care service delivery points. Establish regular reporting intervals for monitoring and evaluation.
- Increase investments in community health education and outreach, including best practices for promoting reproductive and family health and expanding education and delivery of pre- and ante-natal care for pregnant women.
- Reduce high out-of-pocket health care costs by expanding risk pools for health spending to distribute costs across a broader population segment. Provide affordable health insurance to reduce morbidity and prevent catastrophic household expenditures for surgical care and other procedures.

# 32

## **IMPROVE PUBLIC ACCESS TO LOCALLY RELEVANT HAZARD INFORMATION TO SUPPORT COMMUNITY-BASED HAZARD AWARENESS AND PREPAREDNESS CAMPAIGNS, REDUCE VULNERABILITY AND INCREASE COPING CAPACITY.**

- Develop a web-based information-sharing network through which hazard, health, and safety-related resources, brochures, and plans are made available to residents and stakeholders for community outreach and education.
- Periodically collect political approval ratings and conduct surveys to assess household preparedness levels to determine core DRR/DM needs and gaps within communities and among vulnerable populations.
- Engage the public in first response and readiness through training campaigns offered by Guyana Red Cross and IFRCS, and other local and international NGOs.

# 5-YEAR PLAN



## GUYANA NATIONAL RECOMMENDATIONS

YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
<b>RECOMMENDATION 1</b>		<b>RECOMMENDATION 4</b>		
Conduct a formal review and update of the DRM Bill.		Develop a national risk transfer strategy for natural hazards.		
<b>RECOMMENDATION 2</b>				
Strengthen the institutional capacity of the Civil Defence Commission (CDC).				
<b>RECOMMENDATION 3</b>				
Expand base funding for CDC to support the growing need for disaster management services.				
	<b>RECOMMENDATION 5</b>			
	Strengthen existing partnerships with international governments and organizations for response.			
	<b>RECOMMENDATION 7</b>			
	Increase information access and sharing among DM stakeholders.			
	<b>RECOMMENDATION 10</b>			
	Operationalize disaster management capabilities at the subnational, local, and community levels.			
	<b>RECOMMENDATION 13</b>			
	Continue implementing a standard incident management system at all levels of government.			
<b>RECOMMENDATION 15</b>				
Create and maintain robust inventories of disaster supplies locally and nationally through the National Logistics Plan/Program.				
	<b>RECOMMENDATION 16</b>	<b>RECOMMENDATION 9</b>		
	Develop a nationwide evacuation and shelter plan.	Increase visibility, transparency, and public support for government action.		
			<b>RECOMMENDATION 8</b>	
			Develop a formal mechanism to assess progress made toward the achievement of DRR (Sendai), Climate Adaptation, and SDGs.	
				<b>RECOMMENDATION 21</b>
				Strengthen the capacity of institutions to monitor and manage extractive activities to reduce or eliminate land degradation and contamination, and the pollution of ground water, streams, and rivers.

# 5-YEAR PLAN

## GUYANA NATIONAL RECOMMENDATIONS



YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
		<b>RECOMMENDATION 6</b>		
		Strengthen engagements with the private sector, NGOs, academia, and media in the government DRM framework.		
		<b>RECOMMENDATION 11</b>		
		Develop resilience/COOP/COG plans for the country's critical infrastructure sectors and integrate plans across sectors and regions.		
		<b>RECOMMENDATION 12</b>		
		Periodically update key policies, plans, and SOPs.		
		<b>RECOMMENDATION 14</b>		
		Strengthen emergency service provisions across the nation.		
<b>RECOMMENDATION 17</b>		<b>RECOMMENDATION 18</b>		
Strengthen the capacity of early warning systems for hydrometeorological events.		Continue efforts to expand access to telecommunications services in areas with poor penetration of information and communications technology (ICT).		
		<b>RECOMMENDATION 19</b>		
		Develop sustainable land use planning policies by taking into consideration primary hazards.		
		<b>RECOMMENDATION 20</b>		
		Continue efforts to sustainably manage Guyana's abundant forest resources through good stewardship, Codes of Practice, REDD+, and adherence to forestry regulations and policies.		
			<b>RECOMMENDATION 22</b>	
			Strengthen the protection of Guyana's low-lying coastal environment.	
				<b>RECOMMENDATION 23</b>
				Foster public-private stakeholder engagement in short- and long-range development planning.



# 5-YEAR PLAN

## GUYANA NATIONAL RECOMMENDATIONS



YEAR 3	YEAR 4	YEAR 5
		<b>RECOMMENDATION 24</b> Strengthen public-private and multi-agency engagement in planning transportation infrastructure.
	<b>RECOMMENDATION 25</b> Expand energy capacity in remote and underserved areas.	
<b>RECOMMENDATION 26</b> Increase household access to improved water and sanitation through investments in clean water infrastructure		
<b>RECOMMENDATION 27</b> Strengthen, repair, and/or replace aging or damaged water control structures and systems,		
	<b>RECOMMENDATION 28</b> Reduce marginalization and promote gender equality.	
<b>RECOMMENDATION 29</b> Engage international NGOs and donors to invest in programs aimed at the alleviation of poverty.		
	<b>RECOMMENDATION 30</b> Provide education, information, and incentives to homeowners, residents, and industry regarding implementing flood protection.	
		<b>RECOMMENDATION 31</b> Continue to pursue long-term goals and strategies to enhance Guyana's health care capacity,
	<b>RECOMMENDATION 32</b> Improve public access to locally relevant hazard information to support community-based hazard awareness and preparedness campaigns, reduce vulnerability and increase coping capacity.	

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**NDPBA**

# **REGIONAL RISK PROFILES**

**SUBNATIONAL ASSESSMENT RESULTS**

**Download Here:**

**<https://www.pdc.org/wp-content/uploads/NDPBA-Guyana-Subnational-Profiles-Merged.pdf>**

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