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### Administration

[Dashboard](#) | 
 [Demo Account](#) | 
 [Reports by Indicator](#) | 
 [Generate PDF Reports](#)

[2011-2013](#) | 
 [2009-2011](#) | 
 [2007-2009](#)

**Dashboard > Grenada**

[\[ back \]](#)

## Grenada: National Progress Report on the Implementation of Hyogo Framework for Action (2011-2013)

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**Title/Position:**

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### Strategic goals

#### 1. Integration of disaster risk reduction into sustainable development policies and planning

**Strategic Goal Statement 2009-2011:**

Strengthened policy framework and programming capacities for Comprehensive Disaster Management that integrates prevention, mitigation, preparedness, response and recovery approaches at both national and local levels.

#### 2. Development and strengthening of institutions, mechanisms and capacities to build resilience to hazards .

**Strategic Goal Statement 2009-2011:**

Enhanced capacities at the institutional and community levels for early warning, preparedness and response towards building greater community resilience.

#### 3. Systematic incorporation of risk reduction approaches into the implementation of emergency preparedness, response and recovery programmes.

**Strategic Goal Statement 2009-2011:**

Improved institutional capabilities at national, sectoral and community levels to monitor and respond to all hazards including climate risks.

### Priority for action 1

#### 1. National policy and legal framework for disaster risk reduction exists with decentralised responsibilities and capacities at all levels.

**Level of Progress achieved:**

4

**Description:**

The Government of Grenada articulated a Hazard Mitigation Policy and Plan in 2003 and 2006 respectively as part of its mandate to mainstream hazard risk reduction into national development planning. Risk reduction and stakeholder empowerment were represented as major components of the above instruments. No overarching legislation on disaster risk reduction (DRR) exists at the national level. However, the Government of Grenada is presently partnering with the Caribbean Disaster Emergency Management Agency (CDEMA) to develop related legislation.

A well established institutional framework for DRR exists at all administrative levels through the National Disaster Management Agency (NaDMA). The Agency originally established in 1985 as the National Emergency Relief Organization and renamed by a Cabinet Conclusion in 2005 to more adequately reflect its new mandate for comprehensive disaster management (CDM), represents a major achievement in risk reduction. The multi-tier organization chaired by the Prime Minister (Minister of National Security) is responsible for coordination of CDM within the State. It comprises an executive group made up of key members of Cabinet and senior policy makers; the National Disaster Office which acts as the Agency's Secretariat; 13 National and 17 District Committees and other key partners.

The 2012-2015 Grenada Growth and Poverty Reduction Strategy identified CDM and climate resilience as one the four strategic orientations for achieving the nation's medium term development vision. Other sectoral policies and plans have also integrated DRR to some extent including the Climate Change, National Environmental Management and Water Policies. Also available are the Ministry of Education's Location Vulnerability Assessment for Schools, the Health Sector Disaster Management Plan and the Police Risk Identification and Mitigation Matrix. The National Disaster Management Plan is currently being revised with support from the CDEMA Coordinating Unit.

**Context & Constraints:**

The following represents the key factors constraining attainment of the above indicator:

1. Inadequate human and financial capital, with an emphasis on the latter.
2. Limited collaboration and cooperation at both inter and intra-sectoral levels.
3. Inadequate political will to allocate adequate financial and human resources for disaster risk reduction.
4. Unsatisfactory advocacy of the need to mainstream DRR in all sectoral policies and plans. This could be linked to a limited understanding of practical mainstreaming approaches.
5. Lack of a succession plan in critical institutions (example the National Disaster Office) which creates knowledge gaps subsequent to movement of senior officials from the organization.
6. Absence of DRR policies for specific vulnerable groups, for instance, persons with disabilities, orphans and the elderly.

The following are promoted as key recommendations to mitigate existing challenges:

1. Pursue in a structured approach alternative financial resources for policy and legislative development including mainstreaming efforts through grants, existing projects and other innovative avenues.
2. Build capacities at all levels.
3. Foster improved information sharing and communication within and between key institutions.
4. With respect to succession planning and knowledge management, improve information sharing emanating from the Management Board level to include all other stakeholders.
5. Greater buy-in from the political directorate through increased public awareness and education, and enhanced engagement in disaster risk reduction activities.

## **2. Dedicated and adequate resources are available to implement disaster risk reduction plans and activities at all administrative levels**

**Level of Progress achieved:**

2

**Description:**

Clearly some progress has been made in resource allocation for disaster risk reduction as evident by the number of new policies and vulnerability assessment tools developed, programmes implemented at the national and community levels, and the designation of disaster management coordinators in key institutions. During the period post Hurricanes Ivan and Emily (2004 and 2005), a number of interventions were implemented in key sectors with the object of reducing risk as outlined below:

1. The Food and Agriculture funded "Assistance to improve local agricultural preparedness in

Caribbean countries highly prone to natural disasters" project in 2007. The project was designed to augment the institutional framework for DRR in the agriculture sector and encourage adoption of best practices among the farming community.

Added to this, the Ministry of Agriculture established a Disaster Management Coordinator and Disaster Management sub-committee to provide strategic direction to the development of an Agriculture Disaster Risk Management Policy. A number of challenges however, are impacting effectiveness of the above interventions.

2. Disaster Mitigation and Restoration Rockfall and Landslip Project funded by the Caribbean Development Bank for the period 2006 to 2011. One component focused on restoration and preservation of road infrastructure including slope stabilization to mitigate landslips and rock-fall related risks. A total of EC\$ 19.634 million expended. Works were also undertaken in a number of high risk communities to address rockfall risks.

3. Ministry of Housing, Lands and Community Development executed a Turn key operation project with financing from the Chinese Government to construct 350 homes to relocate families from vulnerable squatting during 2011 to 2012.

The private utility companies are also involved in ongoing mitigation work.

Budgetary allocation for DRR through national avenues has been low. In most cases, DRR programming was largely linked to external funding and not necessarily to a cohesive integrated human resources and financial strategy adopted at national and sectoral levels.

#### **Context & Constraints:**

Resource constraints, both human and financial represents one of the fundamental hindrances to disaster risk reduction programming at national, sectoral and community levels. This has been negatively impacted by the global financial crisis, increased frequency and intensity of disasters at the international level, and the high national indebtedness of Grenada. The latter is significant since it limits government's spending on critical prevention and mitigation work outlined in national and sectoral policies and strategic plans. In addition, change in government can potentially result in the adoption and implementation of sectoral priorities that are not necessarily congruent with a sustainable development agenda.

There is therefore an urgent need for Grenada to develop an integrated financial mobilization strategy for disaster risk reduction that outlines plans for mobilization of finances from external, internal and innovative sources (e.g. through existing programmes/projects and climate change possibilities).

Strengthening capacities in key technical areas in DRM is also necessary.

### **3. Community Participation and decentralisation is ensured through the delegation of authority and resources to local levels**

#### **Level of Progress achieved:**

4

#### **Description:**

Local Government is not part of the State's administrative protocol. However, community participation and decentralization are central pillars in the operation of the National Disaster Management Agency. A well established and formalized district disaster management program headed by a volunteer District Coordinator is operational in each of the 17 administrative districts. Moreover seventeen (17) district disaster management sub-committees are also structured in each of the administrative zones mimicking the organizational structure at the national level. Vested interest and authorities are provided for at the community and village level through the organizational structure of the NaDMA. To date, there are in place 17 functional District Disaster Management Committees throughout the State of Grenada.

This government coordinated platform is ably supported by a number of community based organizations which run an effective grass roots preparedness and response programme. The most important community based institutions are as follows:

- Grenada Red Cross Society;
- St. John's Ambulance Brigade;
- Volunteer Firefighters and Coastguard Auxiliary;
- Local churches, particularly the Grenada Mission of Seventh Day Adventist;
- Principals and teachers attached to the Ministry of Education who provide the use of schools for safe

shelter during emergency situations.

**Context & Constraints:**

Volunteerism represents the main approach to programming at the district and community levels. However, there are a number of challenges faced with ensuring an effective and highly motivated team of volunteers. Due to limited incentives, personal and sometimes selfish motives and other factors, interest among volunteers has faded in the past hindering proper functioning of committees. Added to this, inadequate finances hinder the work of the National Disaster Office and other key stakeholders such as the Grenada Red Cross Society in mounting and sustaining effective community based disaster management programmes.

The following are recommended to prevent and mitigate identified challenges:

1. Improve volunteer programmes at all levels through innovation and participation in the Italian Development Cooperation funded project "Enhancing Resilience to Reduce Vulnerability in the Caribbean."

The initiative adopts an integrated approach to building resilience to climate change, natural hazards and poverty through enhanced civil protection. Augmenting capacities for increased volunteerism to support community development is a key component of the intervention (refer to <http://www.bb.undp.org/index.php?page=enhancing-resilience-to-reduce-vulnerability>).

2. Where feasible provide incentives for voluntary involvement.

**4. A national multi sectoral platform for disaster risk reduction is functioning.**

**Level of Progress achieved:**

5

**Description:**

The State of Grenada has in place a functional multi-sectoral mechanism for decision making with respect to disaster management through the National Disaster Management Advisory Council (NaDMAC). Headed by the Prime Minister, the Council is the principal policy and control directorate of the National Disaster Management Agency (NaDMA). It's membership includes over thirty institutions and/or Ministries to include:

1. Sectoral Agencies: Ministries with responsibilities for National Security, Foreign Affairs, Tourism, Agriculture, Finance, Education, Communication and Works, Customs and Excise, Police, National Water and Sewerage Authority, Government Information Service, Grenada Ports Authority, Maurice Bishop International Airport, National Telecommunications Regulatory Authority and Marketing and National Importing Board.
2. Civil Society Organizations: Grenada Red Cross Society, Conference of Churches, National Trades Union Council, National Youth Council and the Services Clubs (Rotary and Salvation Army).
3. Private Sector: Grenada Electricity Services, telephone, cable and gas companies.

The chief functions of the NaDMAC are as follows:

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

The Council is expected to meet at least once per month, and as necessary during emergency situations.

**Context & Constraints:**

The functioning of the Advisory Council is sometimes encumbered by the inability of some members to attend meetings due to conflicting responsibilities. In addition, the operation and sustainability of the National Sub-Committees are also challenging.

To ensure more effective involvement of all members in the operation of the NaDMAC, it is

recommended that meeting times be institutionalized so that members can proactively plan attendance and other professional related schedules.

## Priority for action 2

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### 1. National and local risk assessments based on hazard data and vulnerability information are available and include risk assessments for key sectors.

#### Level of Progress achieved:

2

#### Description:

No comprehensive risk assessments based on hazard and vulnerability information are available at the national level or for key economic sectors. Moreover, a standard methodology for risk assessments is not yet adopted and/or utilized by practitioners. Albeit this, a number of hazard mapping initiatives were undertaken within the last decade at the national level including two major risk assessments at select sites as summarized below:

1. Coastal erosion, flood and landslide mapping exercises were carried out to inform development of Grenada's Hazard Mitigation Plan (GHMP) in 2006. Maps for mainland Grenada are available for all three hazards. Hydrological analysis for the St. John's River Catchment including some limited vulnerability assessment particularly with respect to infrastructure were also undertaken.
2. The impact of sea level rise on the Southwestern peninsular in Grenada was determined in 2001 through a pilot Coastal Vulnerability and Risk Assessment project implemented as part of the Caribbean Planning for Adaptation to Climate Change (CPACC) Project. This represents the most comprehensive risk assessment available locally.

The outputs from mapping and assessments above are stored in Grenada Land Information System housed in the Ministry of Agriculture. However, very little analysis of this data is carried out or used to inform national or local policy decisions. Importantly, gender has not been prioritized as a key component of the aforementioned exercises.

To address the above capacity constraints, the Government of Grenada is presently participating in implementation of the Regional Disaster Vulnerability Project funded by the World Bank and the Climate Investment Fund at a cost of US\$26.2 million, inclusive of a grant of US\$ 8 million. Component 2 of the project aims to build capacity for risk assessments and integrate the outputs into policy and decision making for land development, disaster risk mitigation and response planning. Similarly, the Risk Atlas project will augment capacities for risk assessment in three pilot countries including Grenada.

The Government of Grenada administered the Safe Hospital Index developed by the Pan American Health Organization in 2010 to provide a rapid assessment of the hospital's safety during and immediately following the impact of a natural hazard.

#### Context & Constraints:

Principal constraints include:

1. Human and financial capacity limitations: Due to the newness of disaster risk reduction, there is limited personnel available at the local level who are trained to conduct the required risk assessments. This is further aggravated by low focus on financial resource mobilization and the limited pool of competent professionals to address development needs in Small Island Developing State like Grenada.
2. Inadequate stakeholder consultation and collaboration to foster greater sharing and use of available information. The responsibilities for land management and DRR are shared by a multitude of agencies which lack formal mechanisms for collaboration and sharing of information. This therefore creates situations where institutions though complementary are not aware of the work programme of others, which hinders opportunities for synergies. For example, during preparation of the National Water Policy, approximately 60 stakeholder groups were identified. Yet, very little engagement with these groups is organized annually or biannually to support integrated water management.
3. Low levels of political will to take action where it is perceived to negatively impact parliamentarians return into political office.
4. Low priority placed on research and evidence based analysis.

The following are recommended as urgent mitigation measures:

1. Develop a standardized methodology that is gender sensitive to guide the conduct of vulnerability and risk assessments.
2. Conduct risk analysis of the key hazards for each economic sector using the approved methodology.
3. Guided by the outputs of the Regional Disaster Vulnerability Reduction Project currently implemented with additional technical support, upscale existing skills sets in key ministries and partner agencies to integrate risk assessments into national development planning.
4. Implement training on gender mainstreaming targeting key stakeholders within the public , private and NGO communities.
5. Integrate hazard mapping and vulnerability and risk assessments into the work activities of sectoral ministries.

## 2. Systems are in place to monitor, archive and disseminate data on key hazards and vulnerabilities

### Level of Progress achieved:

2

### Description:

Existing institutional mechanisms are in place to monitor, archive and disseminate data on key hazards, with specific emphasis on hydro-meteorological (e.g. floods, droughts and tropical systems), geological (e.g. earthquakes and Tsunami) and biological (pest and diseases) hazards. The following outlines the responsible institutions for monitoring the above hazards:

1. Flood and drought: Land Use Division, Ministry of Agriculture (In partnership with the Caribbean Institute for Meteorology and Hydrology - CIMH);
2. Tropical Storms and hurricanes: Meteorological Services, Maurice Bishop International Airport;
3. Earthquakes and Tsunami: University of the West Indies Seismic Research Centre and the University of Hawaii (monitors sea level rise).
4. Pest and Diseases including invasive species: Ministry of Agriculture, Forestry and Fisheries with partnering institutions.

Dissemination of data to end users has improved with more effective use of information technology equipment.

With respect to monitoring drought and flood at the national level, a well established Water Information System (WIS) is institutionalized in the Land Use Division, Ministry of Agriculture established through the CARIWIN project led by the Centre for Water Resources Management at McGill University, Canada and the CIMH based in Barbados. The Grenada WIS uses an up-to-date Web based platform to provide reliable and easy access to water related data (Refer to <http://cariwin.gd/webmap/app/db/index.php>).

Data and information generated from monitoring priority hazards are used to some extent by sectoral ministries such as the Ministry of Agriculture for drought preparedness. However, the extent of utilization across all line ministries was not determined during preparation of this report, although it is perceived to be low.

Very little vulnerability assessments is undertaken, with some localized work done by the Grenada Red Cross Society. A disaster loss database is not yet available.

### Context & Constraints:

A number of factors negatively impacts national capacities for monitoring, archiving and disseminating data on key hazards and vulnerabilities. These include inter alia:

1. Inadequate human and financial capital;
2. Limited integration of vulnerability assessments in the work programme of public sector agencies;
3. Low priority focused on vulnerability assessments by policy makers possibly due to limited understanding of its importance;
4. Low capacity for monitoring key indicators at community level;

5. Lack of institutionalization of data and information sharing between line ministries;
6. Limited use of modern technologies for hazard mapping, archiving and disseminating relevant data and information sets. This is compounded by inadequate maintenance and use of old and outdated equipment.
7. Inadequate use of regional and international partners in building national and community based competence in critical thematic areas.

Key recommendations are as follows;

1. Institutionalize systems for data and information sharing within the public sector, particularly with respect to land information system;
2. Offer training in hazard mapping, vulnerability assessments, and database management.
3. Scale up partnerships at regional and international levels to facilitate capacity building and technology transfer for hazard mapping and vulnerability assessments.
4. Train key officials (including extension staff and other field officers, damage and loss team members and NGOs) in the use and adoption of an Integrated Baseline Livelihood Damage and Loss Assessments.
5. Improved equipment maintenance and replacement where needed.

### 3. Early warning systems are in place for all major hazards, with outreach to communities.

#### Level of Progress achieved:

3

#### Description:

An effective and complete early warning system comprises four interdependent elements namely, knowledge of risks, monitoring and warning, dissemination and communication, and response capability.

From a governance perspective, the NaDMA is committed to comprehensive disaster management which incorporates early warning as a pivotal pillar. However, as previously discussed in Core Indicator 1, the risk knowledge for a number of priority hazards and sectors are non-existent, which limits planners awareness of vulnerability patterns and likely impacts. A well established monitoring and warning mechanism is institutionalized as discussed in Core Indicator 2. In most cases, the correct parameters are monitored and generally forecasting is accurate and timely. Partnerships with regional and international institutions such as the Caribbean Institute for Meteorology and Hydrology, the Universities of the West Indies and Hawaii significantly augment national capabilities for effective monitoring and early warning. Limitations in equipment and modeling capacity however, hinder to some extent the lead time forecasting possible in some cases.

Dissemination and communication of early warning information is well administered. This is facilitated through enhanced Internet access points for the general population including remote rural areas, increased number of radio and television stations and use of telecommunication solutions. For instance, The Government of Grenada and the National Telecommunications Regulatory Authority implemented the "Information and Communication Technology Roadshow and USF Broadband Telecommunications Services Remote Areas" Project in 2011 to establish and monitor Community Access Points offering Internet and related services and providing training in ICT to community members.

The response capability is not very effective especially at the community level. Response plans in most cases are not available and/or regularly tested. Moreover, search and rescue is also hampered by a dormant secondary airport in the eastern part of the island.

#### Context & Constraints:

Main limitations of the early warning system in Grenada are as follows inter alia:

1. Inadequate focus on risk assessments, particularly within the context of addressing sectoral needs;
2. Lack of early warning mechanisms for transboundary nuclear and chemical waste.

3. Lack of standardization in reporting early warning information by FM radio stations resulting in inaccuracies of the risk involved. This problem is also aggravated by the populace ease of access to information on social media networking sites such as Face Book and Twitter.
4. Inadequate institutional and community based early warning systems.
5. Unavailability of testable preparedness plans by key economic sectors and at the community level.
6. Limited human and material resources to support search and rescue.
7. Reactive approach to early warning information among the populace.

**Recommendations:**

1. Develop culturally appropriate institutional and community based early warning systems.
2. Develop a protocol with clear Standard Operating Procedures and responsibilities for all priority hazards.
3. Train media professionals on best practices for disseminating early warning information and maintaining credibility in reporting sensitive information.
4. Advocate for and provide technical assistance where needed to support the development of sector specific and community preparedness plans that are routinely tested.
5. Train 2-3 officials each from the Land Use Department, Ministry of Agriculture and the Meteorological Services, Maurice Bishop International Airport to customize early warning information to more effectively represent end users needs (e.g. the farming community).

**4. National and local risk assessments take account of regional / trans boundary risks, with a view to regional cooperation on risk reduction.**

**Level of Progress achieved:**

3

**Description:**

National and local risk assessments where available take account of regional risks with a view to regional cooperation on disaster risk reduction. For instance, Grenada participates actively in executing the protocol on disaster management within the Regional Security System. Similarly, there are established protocols within the Caribbean Community (CARICOM) for sharing Priority Early Warning Information on pest and diseases, thus improving capacities for risk reduction.

In addition, Grenada participates actively at the regional and international level on various aspects of risk identification particularly with the CIMH, UWI and CDEMA. More specifically, with respect to hazard monitoring and early warning, Grenada submits monthly rainfall and other key weather related data sets to CIMH to allow for monitoring trends in weather and climate. Importantly, due to on-going collaboration with regional counterparts and agencies, the country benefits substantially in terms of equipment, capacity building and institutional strengthening on an ongoing basis.

The State is also a dynamic participant in a range of regional vulnerability assessments projects including the Regional Vulnerability Reduction and the Caribbean Risk Atlas projects. The latter to be implemented in Grenada, Jamaica and Barbados is designed to build capacity within the Caribbean to conduct hazard and risk assessments and to improve application of the results in disaster risk management planning and decision making. The project is implemented by the University of the West Indies with funding provided by the World Bank.

**Context & Constraints:**

Grenada's collaboration in risk identification is hampered to some extent by its non payment of fees and dues to partnership institutions. Example the country's annual contribution of US\$ 1500 to the World Meteorology Organization is not paid due to inadequate budgetary allocation from the Ministry of Finance. This results in Grenada not receiving expected benefits from available programs and projects.

Other constraints include use of obsolete equipment and inadequate capacity.

**Priority for action 3**

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**1. Relevant information on disasters is available and accessible at all levels, to all stakeholders (through networks, development of information sharing systems etc)**

**Level of Progress achieved:**

4

**Description:**

The Government of Grenada through the National Disaster Management Agency has made significant strides in increasing the availability and accessibility of disaster information at all levels. This is facilitated through implementation of a structured National Disaster education programme that utilizes an integrated approach to information dissemination. Community Programme Officers hosts a weekly television session on the Government Information Service which is also shared with the two other local television stations. This is augmented with weekly radio programmes and active engagement of social media sites users, which are largely young people. The aforementioned officials are also involved in training businesses and NGOs in development of Disaster Risk Management and Contingency Plans, and delivering presentations at the District and Community levels.

Simulation exercises conducted at national and community levels offer a powerful medium for communicating the messages of prevention, preparedness and response to mock actors and onlookers.

Although no formal evaluation has been conducted, anecdotal evidence points to the effectiveness of the public awareness and education initiatives. Specifically, an increase in the adoption of best practices for disaster risk reduction and preparedness among the general public have been observed. Similarly, a rise in community's involvement in drainage maintenance, retrofitting homes (with hurricane straps and appropriate roof foundations), and more frequent feedback from district and community residents are noticed. According to the Community Programme Officer at the National Disaster Office, "Persons are taking heed to the messages that we have been disseminating."

**Context & Constraints:**

Major constraints in ensuring availability and accessibility of disaster information includes the following:

1. Inability to reach some rural residents through the electronic media (TV and Internet) due to limited or no connectivity indicative of greater need for expanding information and communication technologies.
2. Misinformation and "panic bells" messages disseminated to the general populace particularly through unregulated forums such as Social Media sites and FM radio stations. The latter is aggravated by lack of a National Media Policy to guide professional behaviour and reporting before, during and after a natural disaster or other emergency situation.
3. Absence of an official website for the National Disaster Management Agency. At present, the institution has access to a web-page that is linked to the Government of Grenada's website which seriously limits its capability as a communication tool.
4. Utilization of persons who are not trained in social marketing or behaviour change communications to implement the public awareness and education campaign.
5. Limited financial resources available for comprehensive disaster risk reduction awareness and education. This is further stressed by lack of sustainability in financing.

**Recommendations:**

1. Completion and adoption of the National Media policy, particularly sections that addresses professional behaviour prior to and during emergency situations.
2. Train media professionals in sensitive emergency reporting, particularly Disk Jockeys (DJs) and radio announcers.
3. Recruit trained professionals to coordinate the public awareness and education programme on disaster risk reduction.
4. Develop a toolkit for schools and the general public on disaster risk reduction. This will augment the existing work that NaDMA has been doing with respect to DRR awareness and development of School Emergency Plans.
5. Incorporate into the job description of select staff at the national disaster office and other key

economic sector responsibility for financial resource mobilization.

## **2. School curricula , education material and relevant trainings include disaster risk reduction and recovery concepts and practices.**

### **Level of Progress achieved:**

3

### **Description:**

Disaster risk reduction and recovery concepts and practices are available to some limited extent in the primary and secondary school curriculum through the Geography, Social Studies and Health and Family Life curricula. In addition, the National Disaster Office also promotes integration of the above through hosting of its innovative Comprehensive Disaster Management Youth Champion programme at the secondary level and the national quiz targeting primary schools. These interventions were principally designed to raise awareness of DRR in the school system and not necessarily formally change the existing curriculum. Curriculum officials attached to the Ministry of Education and Human Resources notes that although some work is been done, the integration into the curriculum is not systematic nor impactful.

At the tertiary level, the University of the West Indies has in place a Master level degree programme in Disaster Risk Management that is available to students within the Caribbean region including Grenada. There is no degree programme of this nature at the St. George's University, Grenada. In addition, no professional programmes exist at the national level on disaster risk management or disaster risk reduction.

### **Context & Constraints:**

Key constraints identified were as follows:

1. The recent focus on the importance of disaster Risk Reduction.
2. Absence of a systematic curriculum on DRR and DRM from Kindergarten to Grade 12.
3. Lack of teacher training in the area of disaster risk reduction.
4. Insufficient resource materials available on disaster risk reduction that are easily accessible to teachers.

### **Recommendations:**

1. Train a cadre of teachers on disaster risk reduction to include recovery and rehabilitation concepts with the view to developing lessons plans for rolling out in the school system.
2. Integrate disaster risk reduction and recovery concepts and practices into the national teacher education curriculum.
3. Develop disaster risk reduction materials and distribute to the wider population, with an emphasis on learning institutions.
4. Working in partnership with local universities, develop professional training on disaster risk reduction and disaster risk management at Diploma, Bachelor and Master levels.

## **3. Research methods and tools for multi-risk assessments and cost benefit analysis are developed and strengthened.**

### **Level of Progress achieved:**

1

### **Description:**

Research methods and tools for multi-hazard assessments and cost benefit analysis are very limited. However, two initiatives are currently been implemented which are anticipated to develop and strengthen national capacity for multi-hazard risk assessment (1) the Regional Disaster Vulnerability project and (2) the Caribbean Disaster Risk Atlas (Refer to Priority 2).

A well crafted out research agenda on DRR is not available at the national level which could forestall efforts at more intensive research. During preparation of this report, no studies were identified on the economic costs and benefits of DRR. This is an area that has been advocated in a number of national and regional forum as an urgent priority particularly in championing resource allocation from policy makers into risk reduction.

**Context & Constraints:**

Clearly research on disaster risk reduction and associated themes has not been prioritized within the public sector, NGO or academic community at the national level. For instance, a senior officer attached to the National Disaster Office noted that "NaDMA is not predisposed to conducting research due to capacity constraints." This is further compounded by limited mobilization of financial resources and establishment of strategic partnerships for sustained research activities.

The undermentioned are prioritized for short and medium term intervention to address the above deficiencies:

1. Develop and communicate a national research agenda on DRR and DRM in collaboration with the public, private, NGO and academic communities inclusive of technical support institutions and donor agencies.
2. Build in-house capacity for research within the National Disaster Management Organization and other key public sector institutions.
3. Source funding and technical assistance from regional and international agencies for research.
4. Establish strategic partnerships with research oriented institutions at national and regional levels (such as the Universities of the West Indies and Hawaii and St. George's University) to increase research activities.

**4. Countrywide public awareness strategy exists to stimulate a culture of disaster resilience, with outreach to urban and rural communities.**

**Level of Progress achieved:**

4

**Description:**

A formal country wide public awareness strategic document on disaster risk reduction is not available. However, as discussed in Core Indicator 1, the National Disaster Office has implemented and continues to execute a targeted integrated public awareness programme to stimulate a culture of disaster resilience, with outreach to both urban and rural communities. In addition to the activities presented in Indicator 1, concerted effort is asserted to train District Disaster Management Committees and provide technical assistance in the development of District and Community Disaster Management Plans.

More importantly, public awareness and education is effectively institutionalize within the National Disaster Management Framework through operationalization of the Public Information and Education Committee (PIEC). The PIEC represents one of the thirteen National Disaster Management Committees. Its membership as listed below includes representation from the print and electronic media, key sectoral line ministries and departments, and the Non-governmental community.

Membership of the PIEC :

1. Director of Information, Government Information System - Chairperson
2. Chief Education Officer– Deputy Chairperson
3. Chief Medical Officer or Nominee
4. Representative, Sports, Community Development and Co-operatives,
5. Representative, Social Development.
6. Representatives, All Radio Stations.
7. Representatives, All Printed Media.
8. Representatives, All TV networks
9. Representative, Grenada Red Cross Society
10. Representative, Voluntary Organizations
11. Representative, Meteorological Service.
12. Representative, Health Service Committee (for psychological advice)

The main responsibilities of the PIEC are as follows:

1. To design/update an emergency public information and education plan for the State of Grenada
2. To use all available media to develop and organize ongoing public awareness and education programmes on all types of hazards as well as the preventative measures to be taken.
3. To disseminate accurate and updated information to the public in an efficient manner before, during and after any type of emergency or disaster situations or threats to Grenada.
4. To alert the population on any impending disaster and the precautionary measures to be taken.
5. To disseminate all decisions of NaDMA to the Public.

6. To design and conduct an annual exercise to test the Public Information and Education Plan.

**Context & Constraints:**

Limited human resource capacities within the National Disaster Office was flagged as the most serious constraint to public education on disaster resilience. Although the Public Information and Education Committee is in place and functional, building awareness on DRR is not necessarily part of their substantive day to day responsibilities. Additionally, there is no official within the National Disaster Office with primary responsibility for public awareness and education. Rather, the important issue of public education is subsumed as part of the Community Disaster Program Department. The limited number of officials in the above department and the diversity of responsibilities hinder the extent of work that can be delivered by the team of professionals.

Secondly, there is an over reliance on volunteerism to drive public education which in some cases restricts the effectiveness of related programmes. This is particularly relevant in the case of the Public Information Education Committee. Financial resources are also limited and affects the development of resource materials for dissemination to the general public.

Key recommendations promulgated are:

1. Source funding to recruit and retain cadre of designated staff members within district, community and National Disaster Office to provide leadership to implementation of a well structured public education programme.
2. Develop proposals to source funding through external agencies to support DRR.

**Priority for action 4**

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**1. Disaster risk reduction is an integral objective of environment related policies and plans, including for land use natural resource management and adaptation to climate change.**

**Level of Progress achieved:**

4

**Description:**

The National Environmental Management Policy developed in 2005 provides an overarching framework for environmental management while optimizing socioeconomic development within the State. Preventing and mitigating the negative impacts of environmental change and natural disasters while building a culture of resilience represents one of the main policy interventions of the instrument. Similarly, the National Water Policy (2007) elaborates a blueprint to maximize the contribution of the water sector to sustainable economic, social and environmental development in an efficient and equitable manner. Reducing vulnerability to natural disasters is promulgated as a major priority. In particular, the Government of Grenada commits to taking on board the potential impacts of natural disasters and climate risk during preparation of water resource management plans and adopting appropriate mitigation and adaptation strategies to minimize the negative impacts of such disasters.

As part of Government's thrust to building a resilient national development framework, a Climate Change Policy and Action Plan for the period 2007-2011 was adopted to "lay the foundation for a structured long term response to climate change." In recognition of the impact of climate variability and change on the intensity and frequency of some natural hazards, Government anticipates that implementation of the Action Plan will begin the analytical and capacity building process to enable the development of a sustained national response to climate change.

The National Physical Development Plan 2003-2021 is concerned with establishing an integrated coherent framework to promote and guide development activity in the State of Grenada in a sustainable manner. It envisions vast improvement in the quality of life within the State through sustainable management of the physical environment. Legislative support for implementation of the Plan is provided via the Physical Planning and Development Control Act 2002 which makes provision for the conduct of Environmental Impact Assessments to promote wise use of environmental resources to include disaster risk mitigation.

**Context & Constraints:**

Albeit the integration of DRR in national environmental policies, implementation is generally weak due to a plethora of factors inter alia:

1. Inadequate human resources assigned to the principals environmental related ministries;
2. Limited financial resources to drive the implementation process;

3. Inadequate political will and environmental champions;
4. Conflicting point of views among technicians.

Active and structured lobbying for desired outcomes was advocated as the main recommendation.

## **2. Social development policies and plans are being implemented to reduce the vulnerability of populations most at risk.**

### **Level of Progress achieved:**

2

### **Description:**

The Government of Grenada instituted a number of social development policies and plans designed to reduce vulnerability of at risk populations. The Grenada Growth and Poverty Reduction Strategy 2012-2015 is the primer macro-economic policy governing social vulnerability reduction. The strategy sets out a transformational path for achieving the national vision through economic diversification, stronger social protection and resilience building with an emphasis on the elderly, young people, the homeless, orphans, girls and the working poor.

Strategic Objective 2.4 seeks to reduce social vulnerability through pursuance of the following operational targets: reduced level of estimated vulnerability and rate of child and youth poverty, increased employment levels among women and youth, increased average income to include women in the non-agricultural sector. Similarly, Strategic Objectives 3.4 and 3.5 focuses on expanding availability and access to housing and enhancing tenure security by increasing the number of homeowners, reducing and/or eliminating informal settlements and reducing land disputes.

Consistent with the above policy, the Ministry of Housing, Lands and Community Development continues to pursue mechanisms to increase access to safe and affordable housing through implementation of the Grenada Home Improvement Scheme. The Scheme represents a consolidated, integrated national approach to housing development post 2008 and includes the House Repair, Soft loan and Emergency Housing programmes and the Turn Key Operation which provides low income housing for relocated informal settlers.

Grenada is also part of a regional financial risk transfer mechanism - the Caribbean Risk Adaptation and Insurance programme. The initiative addresses impacts arising from wind and excess rains with the principal beneficiaries been small farmers and day labourers. The Ministries of Agriculture and Social Development also have in place other safety net programmes to benefit the most vulnerable in society.

### **Context & Constraints:**

Implementation of social policies and safety net programmes to reduce vulnerability continues to be hindered by a range of factors inter alia:

1. Limited available financing in the national budget accredited to macro-economic challenges, high national debt aggravated by the global economic crisis.
2. High prevalence of insecure tenure among the most vulnerable groups.

This constraint was vividly apparent post Hurricane Ivan (2004) during implementation of the USAID Physical Infrastructure (PI) programme. Although restoration of housing among vulnerable persons represented the principal original focus of the project, the extremely high prevalence of tenure insecurity among the target population created major challenges which hindered operationalization of the PI Programme. This was compounded by USAID's non-negotiable policy that prevented construction of new homes on lands which are not legally owned by the homeowner. Similarly, approval for funding was not granted to the Government of Grenada through the Regional Disaster Vulnerability Reduction Project (See above) to retrofit homes of resettled squatters due to tenure insecurity. Common drivers of insecure land tenure within the State includes inadequate knowledge of the importance of regularizing land title, strong culture of family land, squatting, weak and bureaucratic land registration system and increased abandoned lands (as quoted in Roberts, D. 2012. Land tenure and disaster risk management in Grenada - A case study. Prepared for the The Engineering Institute of the University of the West Indies).

Recommendations:

1. Facilitate full implementation of the strategic objectives addressing vulnerability reduction and social protection in the Grenada Growth and Poverty Reduction Strategy 2012-2015.

2. Improve tenure security especially among the most vulnerable coupled with public education on the importance of land title regularization.

### 3. Economic and productive sectorial policies and plans have been implemented to reduce the vulnerability of economic activities

#### Level of Progress achieved:

4

#### Description:

Implementation of sectoral policies and plans to reduce vulnerability of economic activities is a major thrust of the Government of Grenada. This is integral to national efforts to "build back better" in the wake of the devastation resulting from recent natural disasters.

A National Policy and Strategy for Modernizing Agriculture in Grenada articulates government's vision for rejuvenating the agri-sector post Hurricane Ivan. The policy seeks to:

"Improve the livelihood security and economy of the nation by building an efficient and internationally competitive agricultural sector through the promotion of economically viable farming enterprises at all levels, and the development of interactive markets involving private sector investment and coordination, for the sustainable use of our country's natural resource."

It promotes four (4) key policy tenets namely, commercialization of agriculture, market development and price enhancement, increasing private investment in agriculture, and institutional strengthening. Realization of the above foci is anticipated to foster resilience in agricultural enterprises.

Further to this, a Food Security Strategic Plan was articulated in 2009 to provide a coherent national response to the 2008 global food crisis. Pursuance of the four main priorities are central to the response effort: National level food availability, household food accessibility, household/individual nutritional status, and stability of national and household food security. A Food and Nutrition Security Policy is currently been developed.

Augmentation of national infrastructure particularly in areas susceptible to natural hazards is also a principal national focus. During the period 2006-2011, the Ministry of Works implemented the Disaster Mitigation and Restoration Rockfall and Landslip project with funding from the Caribbean Development Bank. A total of EC\$ 19.634 million was expended to restore and preserve road infrastructure including slope stabilization in at risk communities. In addition, the Ministry of Education retrofitted ... and constructed ... new schools post Hurricane Ivan. Plans are in place to relocate the current general hospital to safer location.

#### Context & Constraints:

A plethora of economic and productive sectorial policies and plans are adopted to guide national development. However, realization of the full benefits of these instruments are constraint to a large extent by inadequate implementation catalyzed by

1. Unsatisfactory communication of the benefits of these plans to executing officers.
2. Unsatisfactory and/or unsustainable leadership and selfish motives from parliamentarians and policy makers.
3. Limited human and financial resources;
4. Low culture of innovation within the public sector. This is compounded by a culture of apathy among some employees.
5. Ambiguous national and sectoral Action Plans with unclear implementation or institutional arrangements, unsatisfactory collaboration and integration into existing work programmes.

#### Recommendations:

Mainstreaming Action Plans into the work programme of related Ministries and Departments is of paramount important in building a culture of implementation. Its advisable that clear institutional arrangements be established and lucidly communicated to all stakeholders within a strong leadership framework that integrates innovation in the workplace. Furthermore, the need to prioritize financial resource mobilization as a key component of national development can no longer be understated; rather must become a guiding principle and practice for effective sustained intervention.

### 4. Planning and management of human settlements incorporate disaster risk reduction

## elements, including enforcement of building codes.

### Level of Progress achieved:

3

### Description:

The Government of Grenada through its Ministry of Housing, Lands and Community Development is the lead agency responsible for the planning and management of human settlements in collaboration with the Physical Planning Unit. As presented in Core Indicator 2, establishing human settlements is a core national priority for reducing social vulnerability. Cognizant of the physical and social vulnerabilities of informal settlers, and in some cases the need to use occupied land for other economic activities some effort has been made to house related persons in potentially less vulnerable sites. For instance, Government relocated a coastal flood prone community in Moonshadow in 2009 to a less vulnerable site. Similarly, Government commissioned approximately 350 low income housing in three communities spanning two parishes in 2012. The latter financed by the Chinese Government will be occupied by relocated informal settlers, persons affected by Hurricane Ivan and other vulnerable individuals. Appropriate infrastructure is also a key component of the aforementioned project.

In addition to the above, the Government is currently implementing the Regional Disaster Vulnerability Reduction Project funded by the World Bank and the Climate Investment Fund which is designed to improve infrastructure in two recently established communities of resettled informal settlers.

Reducing vulnerability through wise land use practices in the construction sector represented a major intervention of the recently concluded GEF funded "Capacity Building and Mainstreaming of Sustainable Land Management" project. One hundred (100) leading construction professionals were trained in wise land use practices to limit degradation in the construction sector. This was hailed as a mammoth achievement by policy makers and technicians. Other key policy interventions include the development of Local Area Plans to determine best use of land by the Physical Planning Unit and the regularization of land titles on State lands.

### Context & Constraints:

Integrating DRR in the planning of human settlements is negatively affected by the unsystematic approach adopted by settlement planners. This is particularly evident in the relocation of informal settlers to new areas. In most cases, the infrastructure to support community development and environmental conservation such as drainage, proper sewage, approved building set back, roads and access to emergency vehicles are not in place prior to the move. In addition, government often regularizes land rights in squatting and/or in relocated communities without addressing the inherent infrastructural deficiencies resulting in increase likelihood of land degradation, sanitation problems and man-made hazards such as fires.

Inadequate human capital attached to the Ministry with responsibility for housing and lands is also a major contributing factor. For instance, although a Squatting Unit is institutionalized in the above ministry designed to stop and minimize informal settlement, no staff is recruited due to budgetary constraints, affecting the Unit's effectiveness (As quoted in Roberts, D. 2012. Land tenure and DRM in Grenada).

Government's ability to access funds from international agencies for improvement of housing for resettled informal communities continues to be impeded by informal and/or illegal land tenure arrangements, with negative implications for poverty reduction and national development in the medium and long term (Refer to Core Indicator 2 above).

The following are recommended for short and medium term interventions:

1. Adopt a systematic approach using best planning principles and practices to inform resettlement of insecure land owners in collaboration with the Ministry responsible for works and physical development.
2. Increase national efforts through public education and other planned interventions to increase regularization of land titling.
3. Train officials attached to the Ministry with jurisdiction for lands and housing in the key concepts and principles of DRR and the implications for planning and managing human settlements.

## 5. Disaster risk reduction measures are integrated into post disaster recovery and rehabilitation processes

**Level of Progress achieved:**

4

**Description:**

Significant progress has been realized in integrating DRR into post disaster recovery and rehabilitation processes as evident by sectoral programming outlined below:

1. Agriculture: Articulation of an Agriculture DRM Policy although not totally comprehensive provides an excellent platform to propel the sector's agenda on DRM. Between 2007-2008, the Ministry of Agriculture implemented the FAO funded "Assistance to improve local agricultural emergency preparedness in Caribbean countries highly prone to hurricane related disasters" project to improve resilience of farmers in the most hazard prone areas through improvements of institutional arrangements and adoption of best practices ([http://www.fao.org/fileadmin/templates/tc/tce/pdf/Grenada\\_draft\\_final\\_report\\_May\\_2008.pdf](http://www.fao.org/fileadmin/templates/tc/tce/pdf/Grenada_draft_final_report_May_2008.pdf)).

The sector is presently benefiting from the Small Farmers Vulnerability Reduction project funded by the World Bank. The initiative is expected to improve disaster resilience of at least 1100 small farmers through provision of incentives for purchasing improved agriculture input, water management technology, and adoption of improved livestock practices.

2. Health: The Ministry of Health elaborated a National Health Sector Disaster Management Plan in 2006 with support from the PAHO and Government of the British Virgin Islands. Although the plan does not adequately address all phases in the disaster cycle, it begins the process of integrating risk reduction into the recovery phases of an emergency situation. Moreover, post hurricane Ivan, the Safe Hospital Index developed by PAHO was applied to the General Hospital on the island (Refer to Priority 2, Indicator 1).

3. Environment: The Ministry of Environment is presently implementing the "Strategic Program for Climate Resilience" with the view to improving resilience of infrastructure (housing, schools, institutional homes etc.), forestry resources, the national water supply, coastal zone management, and use of GIS for climate change adaptation. Additionally, the 4-year German funded "Program of Integrated Adaptation Strategies in Grenada" is due to commence in 2013.

**Context & Constraints:**

Lack of an overarching national guideline for building resilience post disasters is the main constraint to attainment of this indicator.

The undermentioned is recommended as a priority for future action:

Develop of guidelines in collaboration with the the National Disaster Management Agency, key sectoral line ministries and resident donor/ technical cooperation agencies to govern the integration of disaster risk reduction principles and practices into the recovery and rehabilitation processes.

This activity could be lead by the National Disaster Management Agency with technical support from the Caribbean Disaster management Agency.

**6. Procedures are in place to assess the disaster risk impacts of major development projects, especially infrastructure.****Level of Progress achieved:**

2

**Description:**

The assessment of disaster risk is only recently identified as a developmental requirement cognizant of the increased prevalence of natural hazards and escalating national and local vulnerabilities. The Physical Planning and Development Control Act 2002 is the principal legislation governing development control within the state. Section 25 stipulates that an Environmental Impact Assessment (EIA) could be deemed necessary as a prerequisite to develop land if the proposed development could significantly affect the environment. The Act states that the responsible Minister may make regulations to provide procedures for settling the scope of an EIA to be carried out by the applicant in respect of any development among other key issues.

Although the EIA is a powerful tool for addressing a myriad of risks, there are no consistent standards that demands the incorporation of disaster risk into the conduct of the impact assessment. More likely than not, priority hazards that could potentially affect the development are highlighted without any detailed studies on the relationship between the hazard and existing vulnerabilities.

An encouraging trend is observed however, in the implementation of infrastructural works funded by

external agencies such as the Caribbean Development Bank. More detail technical assessments are required to inform the EIA process. In fact, although comprehensive risk assessment might not be requested, more rigorous hazard mapping, vulnerability assessment, and cost benefit analysis are used to inform the preferred intervention and/or mitigation measures.

Capacity building in hazard mapping and risk assessment targeting officials attached to the Physical Planning Unit/Ministry of Works offered through the Regional Disaster Vulnerability and the Caribbean Disaster Risk Atlas projects are significant in mitigating present deficiencies (Refer to Priority 3, Core Indicator 3).

**Context & Constraints:**

The high cost implications associated with the conduct of detailed risk assessments is a major deterrent affecting integration of the methodology in the national Environmental Impact Assessment process for self-paying clients. Although environmental specialists and other consultants who undertake EIAs are sometimes cognizant of the need for more detail risk analysis, due to the cost implications and the possibility that the more detail proposal might not be accepted by the client, the minimalist approach is adopted. This is compounded due to the fact that extensive detailed studies in the above thematic area are not necessarily required by the approving authority.

Secondly, expertise in detail risk assessment methodologies are low among national environmental and engineering professionals thus affecting adoption of the approach.

It is therefore recommended that local professionals involved in undertaking EIAs and other similar studies be trained in risk assessment and cost benefit analysis methodologies. The above can also be included as part of the scoping requirements for major developments (particularly infrastructural interventions) by the national competent authority.

## Priority for action 5

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### 1. Strong policy, technical and institutional capacities and mechanisms for disaster risk management, with a disaster risk reduction perspective are in place.

**Level of Progress achieved:**

3

**Description:**

An overarching national policy on disaster risk management (DRM) is not yet available in Grenada. Management of disasters is guided by the National Disaster Management plan (Revised 2012) which focuses heavily on disaster preparedness and response. Similarly, there is no legislation that addresses comprehensive disaster management (Refer to Priority 1, Indicator 1). However, an Emergency Powers Act is available which governs operations during times of crisis.

Albeit the above a host of other instruments are instituted at the national level which addresses various aspects of DRM including the National Hazard Policy and Plan. Similarly, a number of pieces of legislation are enforced, including the Physical Planning and Control Act 2002. However in many cases these instruments do not adequately integrate DRM or DRR, are outdated with a number of substantive deficiencies or are operating without the required supportive regulations.

**Context & Constraints:**

Principal constraints:

1. Lack of a comprehensive policy on DRM with supporting legislative backing.
2. Capacity constraints in a number of technical aspects of DRM including, risk identification and assessments, cost benefit analysis, utilization of disaster risk and risk management tools to evaluate impact of DRM interventions.
3. Inadequate number of DRM sectoral policies governing the main economic and productive sectors.
4. Limited integration of DRM in social development policies catering to the needs of the elderly, persons living with HIV and persons with disability among others.

Recommendations:

1. Upgrade the National Disaster Plan, Health Sector Disaster Management Plan, Agriculture Disaster Management Policy and other key policy instruments to more effectively incorporate DRM principles and best practices guided by the Hyogo Framework for Action and the Comprehensive Disaster management model advocated by the Caribbean Disaster Emergency Management Agency (CDEMA).

2. Continue collaboration with the CDEMA to realize development of DRM legislation for the State of Grenada.

3. As a medium to long term priority, review existing economic, social and environmental policies to determine the extent to which DRM is mainstream and address gaps using innovative sources of financing.

**2. Disaster preparedness plans and contingency plans are in place at all administrative levels, and regular training drills and rehearsals are held to test and develop disaster response programmes.**

**Level of Progress achieved:**

4

**Description:**

Significant progress is achieved in the development of disaster preparedness and contingency plans to ensure proactive disaster preparedness. Through the National Disaster Management framework, the following national committees are institutionalized with clearly defined membership and responsibilities: Shelter Management, Emergency Telecommunications, Disaster Relief Management, Health Services and Search and Rescue among others. Importantly, the private sector is a powerful ally in disaster preparedness and response and provides excellent leadership and resources through participation in the National Disaster Committees.

Disaster preparedness plans are also available at the national level and in select sectoral agencies including some private sector entities (example hotels). At present the National Disaster Office is collaborating with the Ministry of Education to develop specific preparedness plans for individuals schools. Related plans are not available for all districts or communities.

Some limited training drills and rehearsals are conducted to test the effectiveness of preparedness plans and available capacities. During April 11-12, 2012, the National Disaster Management Agency spearheaded a national simulation exercise which involved the passage of a hurricane over the state of Grenada resulting in widespread damage and destruction. Evaluating the effectiveness and compliance of the revised National Disaster Management Plan represented the principal objective. More specifically, the following were assessed: Effectiveness of the National Emergency Operating Center Standard Operating Procedures (SOPs), Mass casualty and Incident Command System, media interaction with the NEOC, emergency communication at the national level and with sub-regional and regional entities, district committees and first responder SOPs and the relief supplies management system. The exercise was deemed as a major achievement cognizant that this was the first time that an exercise of such a level was undertaken. The following were identified as areas for improvement: communication, EOC and first aid capacities of first responders.

The Grenada Red Cross Society has also conducted simulation exercises at the community level.

**Context & Constraints:**

More comprehensive disaster preparedness planning is hindered by a number of factors inter alia, financing, inadequate human resources attached to the National Disaster Office to provide greater technical support, reactive approach to disaster preparedness among public private sector officials. In addition, gender is not integral incorporated into the above plans due to limited knowledge on the subject. Lack of coordination and collaboration and specialize equipment were also viewed as constraints.

**3. Financial reserves and contingency mechanisms are in place to support effective response and recovery when required.**

**Level of Progress achieved:**

2

**Description:**

Grenada benefits from existing contingency funds operated by CDEMA and the Office of the US Foreign Disaster Service (OFDA) and other partners. Financial reserves and contingency mechanisms to support effective response and recovery is not well developed or widespread within the State for all sectors. At the national level, the Government of Grenada through its annual budget assign contingency funds as a line item; however, these are estimates on paper and does not necessarily indicate availability of funds for emergency situation. Typically, in the event of an emergency, monies are reactively reallocated from domestic budgets to address challenges where feasible with a heavy reliance on external sources of funding. Line ministries are not allocated contingency funds during their annual budget.

Availability of insurance for the housing sector represents the most developed contingency/financial reserves available. The Grenada Association of Insurance comprising sixteen (16) insurance companies reported that approximately 10% of the homeowner population was insured during the passage of Hurricane Ivan in 2004. The Association also noted that payments totaling EC\$ 500 million dollars were paid to five thousand (5000) clients (80% homeowners) who were impacted by Hurricane Ivan (as quoted in Roberts, D. 2012. Land Tenure and DRM in Grenada. Prepared for the Engineering Institute of the UWI).

Small farmers in Grenada will soon be eligible for insurance from wind and excess rain through implementation of the innovative "Climate Risk Adaptation and Insurance in the Caribbean programme." (Refer to Priority 4).

Insurance in Grenada is also monitored by the establishment of the Association of Grenada Insurance Companies (ADJEC)

**Context & Constraints:**

Inadequate understanding of the importance of establishing contingency funds or financial reserves as a proactive disaster risk management tool is a major constraint for effective response and recovery. Interestingly, this belief is shared by a wide ranging stakeholder group inclusive of parliamentarians, policy makers particularly in the Ministry of Finance, technicians and other end users.

This reactive approach to financial risk transfer is fueled by a culture of dependence on external sources to fund response and recovery initiatives, macro-economic challenges, and the elevated cost of insurance for high risk economic activities such as farming. Moreover, investment in DRM is only now beginning to be viewed as an investment rather than a liability. It is anticipated that the latter belief will become more widespread within the context of climate change and other environmental degradation concerns.

The follow are recommended as priority interventions:

1. Led by the National Disaster Management Agency in collaboration with CDEMA and other local institutions, present a case to Cabinet and the Ministry of Finance of the cost of reactive financial contingency planning.
2. Advocate to Cabinet and the Ministry of Finance the need to establish fixed contingency funds in the annual budgets of sectoral ministries while also promoting increase insurance among home and other building owners.
3. Continue to champion and search for new and culturally appropriate insurance for the farming and fishing communities.

**4. Procedures are in place to exchange relevant information during hazard events and disasters, and to undertake post-event reviews**

**Level of Progress achieved:**

4

**Description:**

The National Disaster Management Plan makes provision for the conduct of damage and loss and needs assessment through the setting up of the Damage Assessment and Needs Analysis (DANA) Committee, one of thirteen national disaster committees. The Committee comprising representation from statistics, sectoral line ministries including finance, budget and planning and the private sector is charged with a multitude of responsibilities including coordination of the DANA process, maintenance of related databases, training of officials involved in the assessment, and communication of required information to national and external stakeholders within expected timelines.

Capacity exist in all sectors to conduct the damage and needs assessment. In addition, no standardize methodology is employed by sectoral agencies. Livelihood baseline data is available to some limited extent in select sectors. At present the Ministry of Agriculture is updating its farmers and agriculture information system through the conduct of the National Agriculture Census. The output of which will have positive implications for DANA undertakings.

**Context & Constraints:**

Main constraints to the above indicator includes:

1. Lack of a standardize methodology for conducting damage assessments and needs analysis.

2. Outdated baseline data which negatively impacts the credibility of the costs of damages reported by affected individuals particularly in the case of the agriculture sector. In addition, in some instances, livelihood baseline data are not well integrated into the damage assessment process which affects the reliability of data disseminated to external donor and technical assistant agencies in a post disaster situation.

3. Existing legislative instruments limits the sharing of personal or agency specific information during non-disaster periods which will later be important for damage assessments. This is the case with the information emanating from the National Agriculture Census and other similar initiatives.

4. Compensation schemes and select legislative instruments are outdated. For instance, the Crop Compensation Schedule is a legal document which governs payment to farmers based on assets damaged during a disaster. The payment schedules contained within are limited and grossly unrealistic within the context of current input and labour cost.

#### Recommendations:

1. With leadership provided by the Damage Assessment and Needs Analysis Committee, develop a standardized methodology for the conduct of damage assessments in collaboration with partnering agencies.

2. As a medium term priority, update all baseline information (including livelihood baseline data) for all key sectors and integrate into damage and needs assessment analysis.

3. Provide the legal support to allow for the sharing of personal information to partnering institutions to enhance the damage and needs assessment process.

4. Establish a Memorandum of Understanding to support intra and inter-agency data sharing to support the maintenance of up-to-date baseline data and the efficient conduct of damage assessments.

5. Train at least 3-4 officials in each of the key line ministries including representatives from the private sector in approved methodology for damage assessment.

## Drivers of Progress

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### 1. a) ♦ Multi-hazard integrated approach to disaster risk reduction and development

#### Levels of Reliance:

2 - Partial/ some reliance

**>Do studies/ reports/ atlases on multi-hazard analyses exist in the country/ for the sub region? Do studies/ reports/ atlases on multi-hazard analyses exist in the country/ for the sub region?:** Yes

If yes, are these being applied to development planning/ informing policy? : Yes

#### Description (Please provide evidence of where, how and who):

Grenada is committed to implementation of comprehensive disaster management which incorporates all hazards in the planning and response processes. As previously discussed, considerable attention has been given to fostering a multi-hazard integrated approach to disaster risk reduction and development. This is lucidly communicated in the National Hazard Mitigation Policy and Plan and to a lesser extent in the principal environmental and socioeconomic development policies and strategic plans. Moreover, concerted effort was employed during the last five years to map associated hazards particularly floods, landslides and coastal erosion with some limited focus on risk assessment with respect to climate change induced sea level rise.

Main factors hindering significant and continued reliance on this driver are deficiency in technical capacities in the area of multi-hazard analysis and financial limitations. Added to this is the low thrust to utilize available data and information in decision making and national development planning.

In the future more focus is needed to build local capacity for carrying out vulnerability and risk assessment for each economic sector including housing and other critical social assets. More systematic integration of risk information into policy, planning and practice is imperative. Strengthening protocols and infrastructure for risk information management is also a major need.

### 2. b) ♦ Gender perspectives on risk reduction and recovery adopted and institutionalized

**Levels of Reliance:**

1 - No/little reliance

**Description (Please provide evidence of where, how and who):**

Although some level of awareness on the importance of gender in DRR and post disaster recovery and rehabilitation exists, the interest is not sustained. Importantly, government's Poverty Reduction Strategy viewed gender as an emerging issue that will be integrated into disaster preparedness and response planning processes.

A number of inter-related factors as outlined below contribute to this current dynamic.

1. A pervasive low level of understanding of the concepts "gender sensitivity" and "gender mainstreaming." While some officials involved in DRM at the national and district levels have been exposed to gender training, the behaviour and expected outcomes are not yet sustained or institutionalize.
2. Many stakeholders including policy makers and technicians do not grasp the relevance and implications of gender sensitivity to DRM.
3. Lack of a gender policy also fuels current attitudinal and behavioural occurrences. The Ministry of Social Development reported that a national gender policy is been developed but is been slowed by a number of bureaucratic issues.
4. Unavailability of practical actions to integrate gender perspectives into DRR and post disaster recovery and rehabilitation programming.

The following are identified as urgent short and medium term interventions to address the above deficiencies.

1. Advocate to ensure that DRM issues are considered in the gender policy.
2. Develop and implement training with inbuilt refreshers courses on the linkages between gender and DRM targeting key stakeholders in DRM at national, district and community levels including partnering agencies.
3. Working in collaboration with the Gender and Family Department, Ministry of Social Development, other institutions, develop practical examples of how gender can be mainstreamed in DRR and post emergency interventions. Stakeholders were of the opinion that this resource should form a pivotal component of the above training programme .

**3. c) Capacities for risk reduction and recovery identified and strengthened****Levels of Reliance:**

2 - Partial/ some reliance

**Description (Please provide evidence of where, how and who):**

Substantial progress is attained in the areas of risk reduction and recovery especially after the passage of Hurricanes Ivan and Emily and the most recent El-Nino induced drought in 2009-2010.

This is evident in the number of projects and programmes implemented by the Ministries with responsibilities for agriculture, health, education, works, physical planning and environment among others designed to strengthen systematic, institutional and individual capacities for risk reduction and recovery. Furthermore, the National Disaster Management Agency through its National Disaster Office implemented a multiplicity of capacity building ventures targeting the public and private sectors and districts and community disaster committees inclusive of public awareness and education with the goal of engendering a culture of safety and resilience with the tri-island State.

The above indicator continues to be hampered by systemic challenges (e.g. lack of a land and land use policy), technical capacity limitations example in search and rescue, low adoption of best practices for risk reduction among natural resource users, and the sometimes uncoordinated approach to disaster recovery.

Pursuance of the following priorities are necessary as Grenada progresses:

1. Development and implementation of a land use policy.
2. Sustainable financing mechanisms.

3. Capacity building in prevention and mitigation best practices and leadership training.
4. Development of a multi-hazard risk atlas and community based hazard monitoring and early warning system.
5. Culturally appropriate and innovative methods to disseminate hazard maps and related information (e.g. proper identification and signage of hazard/at risk areas).
6. Establishment of seed storage and germplasm facility.
7. Implementation of a structured approach to human settlement planning and development.
8. Augmentation of institutional capacities for search and rescue.
9. Development of an incentive package to facilitate sustainable volunteer programmes.

#### 4. d) Human security and social equity approaches integrated into disaster risk reduction and recovery activities

##### Levels of Reliance:

2 - Partial/ some reliance

##### Description (Please provide evidence of where, how and who):

There is evidence to indicate that human security and social equity approaches are integrated into disaster risk reduction and recovery approaches at both policy and practice levels.

Grenada's growth and poverty reduction strategy highlighted as fundamental priorities reduction of social vulnerability and adoption of comprehensive disaster risk management practices including opportunities to maximize gender roles in the DRM cycle. The importance of ensuing quick and efficient recovery after a disaster are highlighted as a principal operational target of the latter objective including prioritization of vulnerable groups inclusive of women, the elderly and children.

The Food and Nutrition Security Policy currently been developed by the Ministry of Agriculture with technical support from the Food and Agriculture Organization in its preliminary statements committed to the

1. Creation of appropriate mechanisms that guarantee food and nutrition security for all Grenadians, especially vulnerable population;
2. Strengthened food production systems to build resilience to the threats of natural and man-made hazards and climate change.

In addition, the plethora of resilience building interventions implemented by a number of sectoral line ministries targeted as beneficiaries vulnerable groups example small farmers, informal and at risk settlers and homeowners. This is a clear indication of government's commitment to social equity and the achievement of the Millennium Development Goals by 2015.

Key recommendation for advancing the above driver include:

1. More deliberate focus on the integration of the needs of persons with disability into the DRM process.
2. Leadership supported by adequate financing and human resources to facilitate implementation of the 2012-2015 Poverty Reduction Strategy and other key sectoral policies and plans including the soon to be developed Food and Nutrition Security Policy.

#### 5. e) Engagement and partnerships with non-governmental actors; civil society, private sector, amongst others, have been fostered at all levels

##### Levels of Reliance:

2 - Partial/ some reliance

##### Description (Please provide evidence of where, how and who):

One of the strengths of the national disaster management framework is its commitment to, and active engagements and partnerships with non-governmental organization, civil society the private sector among others. For example the above stakeholder groups play a leading role in the functioning of the national disaster committees. Specifically, the private sector is involved in ten (10)

of the thirteen (13) national committees, civil society and NGO in five (5) and six (6) of the committees respectively. In reference to the importance of the private sector it was reported by a participant at the HFA review that the police relies quite extensively on the private sector particularly during the response and recovery phases of a disaster. It was noted however, that more strategic engagement can be made of the private sector in mobilizing financial and technical resources to support prevention and mitigation interventions.

Communities local knowledge are actively incorporated in the development of community based early warning systems. Similarly, the views and capacities of local stakeholders are utilized in monitoring environmental change, example land degradation.

At the community level, the National Disaster Office has in place an excellent partnership with a diversity of NGOs, including the Grenada Red Cross Society, the Conference of Churches and the St. John's Ambulance. In addition, a large group of volunteers are involved in disaster management including a youth base of over 500 cadet officers.

The above is however, challenged by a burnout cohort of volunteers and limited engagement of the private sector in risk reduction. It is the view of national stakeholders that the volunteer framework be review and augmented to ensure sustainability. A private sector engagement strategy focused on risk reduction was also highlighted a central priority.

## 6. Contextual Drivers of Progress

### Levels of Reliance:

1 - No/little reliance

### Description (Please provide evidence of where, how and who):

Development and implementation of integrated financing strategies - this is deemed a critical component of any comprehensive approach to disaster management. Clearly, financing continues to be a constraint to integrating DRR in national development planning. Proactively mobilizing resources as part of program planning and implementation would provide tremendous opportunities for meeting DRR and DRM goals and targets.

## 7. Additional context specific drivers of Progress # 1

Levels of Reliance: 1 - No/little reliance

Drivers of Progress: Disaster Risk Reduction Champion

Description: Stakeholders are adamant of the need for disaster risk reduction champions at national and local levels. This is recommended within the context of the perceived viewpoint among politicians and policy makers that disaster risk management is an expenditure and not an investment. Disaster Risk Reduction Champions are therefore critical in changing existing mindsets and communicating the cost of NO Action on disaster risk management as a hindrance to national development.

## 8. Additional context specific drivers of Progress # 2

Levels of Reliance: 1 - No/little reliance

Drivers of Progress: DRM research

Description: Stakeholders identified research in DRR and DRM as a fundamental deficiency at the national level. It was highly recommended that as the State of Grenada moves forward with its DRR and DRM mandates, that greater effort be placed on research. This is important in evaluating planned interventions, while also providing evidence based information to inform policy and programmes.

Stakeholders proposed that collaboration between the national DRM coordinating agency, NaDMA and key partners such as private and public tertiary institutions, technical cooperation and funding agencies will be instrumental in realizing research targets.

## Future Outlook

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### 1. Integration of disaster risk reduction into sustainable development policies and planning

#### Overall Challenges:

The following were identified as the chief challenges to attainment of Outlook Area 1:

1. Lack of a comprehensive policy on disaster risk management with supporting legislative instruments for the State of Grenada.
2. Inadequate individual and institutional capacities to drive the DRM process (Refer to Outlook area 2 for specific constraints).
3. Unsustainable financing to support the mainstreaming process.
4. Low focus on integration of disaster risk reduction considerations in social policies targeting persons with a disability and the elderly.
5. Inadequate leadership on disaster risk reduction and disaster risk management provided by the political directorate including policy makers.
6. Failure to adequately institutionalize disaster risk management in the sectoral work programme of line ministries.
7. Very low focus on establishing financial risk transfer schemes including financial contingency planning.
8. Unsystematic approach to disaster risk reduction integration into human settlement planning and management.

**Future Outlook Statement:**

Strengthen capacities for disaster risk reduction through policy development, institutional enhancements and stakeholder coordination and cooperation.

**2. Development and strengthening of institutions, mechanisms and capacities to build resilience to hazards .**

**Overall Challenges:**

Principal challenges are listed below:

1. Unsustainable volunteer programme leading to reduced effectiveness and burnout.
2. Lack of an Integrated Financing Strategy to propel the disaster risk management agenda.
3. Low individual and institutional capacities in the following technical areas:
  - Hazard mapping, vulnerability and risk assessments;
  - Cost benefit analysis;
  - Application of vulnerability and risk assessment information into national development decision making and planning processes.
  - Utilization of Disaster Risk and Disaster Management tools (e.g. developed by the Caribbean Development Bank) to evaluate impacts of disaster risk management interventions.
  - Gender sensitive disaster risk management programming.
4. Inadequate stakeholder collaboration and information sharing.
5. Low priority placed on disaster risk reduction research and evidence based analysis.
6. Lack of a gender sensitive standardized methodology to guide the conduct of vulnerability and risk assessments, and unavailability of a multi-hazard risk atlas - Limited focus on risk assessment for economic sectors.
7. Limited knowledge of the importance of gender issues in disaster risk management and practical strategies to mainstream the concept.
8. Low capacity for hazard monitoring at the community level.
9. Low capacity for reporting early warning information by FM radio stations resulting in inaccuracies in the risk involved.
10. Limited customizing of early warning information for select target audiences (e.g. farmers).
11. Low integration of disaster risk management concepts and principles into the school's curriculum.

12. Lack of a standardize methodology for conducting damage and needs assessment integrated with baseline livelihood data.

**Future Outlook Statement:**

Enhanced capacities at the community level for effective early warning, disaster mitigation, preparedness and and response that can systematically build resilience at the local level.

**3. Systematic incorporation of risk reduction approaches into the implementation of emergency preparedness, response and recovery programmes.**

**Overall Challenges:**

Primary challenges for Outlook Area 3 are as follows:

1. Unsatisfactory development and testing of preparedness plans at sectoral, district and community levels.
2. Limited human and material resources to support search and rescue operations.
3. Lack of an overarching national guideline for building resilience in the recovery and rehabilitation phases of a disaster.

**Future Outlook Statement:**

Increased integration of multi-hazard and climate risk information into the design and implementation of post disaster development interventions.

**4. The United Nations General Assembly Resolution 66/199, requested the development of a post-2015 framework for disaster risk reduction. A first outline will be developed for the next Global Platform in 2013, and a draft should be finalized towards the end of 2014 to be ready for consideration and adoption at the World Conference on Disaster Reduction in 2015**

**Please identify what you would consider to be the single most important element of the post-2015 Framework on Disaster Risk Reduction:**

Sustainable financing to support implementation of disaster risk management programming.

## Stakeholders

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**Organizations, departments, and institutions that have contributed to the report.**

- \* Ministry of Agriculture () - Michael Church, Planning Officer
- \* Ministry of Finance () - Hilary Joseph, Budget Officer
- \* Ministry of Tourism () - Gerard McPhail, Chief Implementation Officer
- \* St. George's University () - Wayne Williams, Coordinator of Special Projects
- \* Meteorological Services, Maurice Bishop International Airport () - Fimber Frank, Senior Level Meteorological Technician
- \* Royal Grenada Police Force () - Osmond Griffith, Coast Guard Commander
- \* Environmental Health Department, Ministry of Health () - Francis Balwant, Senior Environmental Health Officer
- \* Environmental Health Department, Ministry of Health () - Andre Worme, Chief Environmental Health Officer
- \* Ministry of Education () - Tonya Hyacinth, Shelter Officer
- \* Ministry of Housing, Lands and Community Development () - Bernadette Bartholomew, Coordinator of Community Division
- \* Ministry of Social Development () - Wilan Hamilton, Social Worker
- \* Grenada National Council of the Disable () - Carlene Tezar, Administrative Officer
- \* General Hospital, Ministry of Health () - Osbert Charles, Deputy Director of Health Services
- \* Physical Planning Unit, Ministry of Works, Physical Development and Public Utilities () - Lennox Taylor,

## Senior Building Inspector

- \* Meteorological Office, Grenada Airport Authority () - Hubert White, Manager
- \* Fisheries Division, Ministry of Agriculture () - Movan Mitchell, Surveillance, Monitoring and Control Officer
- \* National Disaster Office () - Kem Jones, Community Programme Officer
- \* Royal Grenada Police Force () - John Mitchell, Chief Fire Officer
- \* National Disaster Management Agency () - Emerson Murray, District Coordinator, St. Patrick's East
- \* Ministry of Education and Human Resource () - Andrea Phillip, Deputy Chief Education Officer (Curriculum)
- \* Lands and Survey Department, Ministry of Housing, Lands and Community Development () - Trevor Barclay, Junior Lands Officer
- \* Land Use Division, Ministry of Agriculture () - Trevor Thompson, Land Use Officer
- \* Ministry of Education and Human Resource () - Patricia Felix, Deputy Chief Education Officer (Schools)
- \* Ministry of Works, Physical Development and Public Utilities () - John St. Louis, Engineer, Head of Road Division
- \* Project Coordination Unit, Ministry of Education and Human Resources () - Peron Johnson, Project Coordinator
- \* National Disaster Management Agency, Ministry of Carriacou and Petite Martinique Affairs () - Shaun Patrice, Community Programme Officer - Carriacou
- \* National Disaster Management Agency () - Terance Walters, National Disaster Coordinator (Ag)
- \* Roberts Caribbean Ltd. () - Dianne Roberts, Environmental and Development Consultant
- \* Government Information Services () - Trevor Thwaites, Senior Information Officer
- \* Central Statistics Office, Ministry of Finance () - BerylAnn Clarkson, Statistics Officer
- \* Extension Division, Ministry of Agriculture () - George Phillip, Senior Agriculture Officer
- \* National Disaster Management Agency () - Jason Lyons, Community Programme Officer
- \* National Disaster Management Agency () - Shone Taitte, Trainee
- \* National Disaster Management Agency () - CheryAnn Phillip, Typist/Clerk
- \* Grenada Red Cross Society () - Terry Charles, Director