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

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Strategic goals

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

Strategic Goal Statement 2009-2011:

Government is pursuing a Green Economy framework for sustainable development, and it is expected that as part of this reconfiguration of the national economy, very strong links will be forged between environmental management and disaster management, in order to achieve national goals for social and economic well-being. Thus all financial institutions will take into account DRR in their economic models.

At the physical planning stage, considerable vulnerability reduction is possible and must be achieved through the full integration of DRR into the existing system.

At the sectoral levels, key sectors such as agriculture and fisheries remain weak in terms of understanding the effects of climate change on the sector and pre-planning to ensure food security and employment nationally.

Alternative energy technologies are being piloted and the goal is to contribute to the reduction of emissions, thus actively working to reverse climate impacts.

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

Strategic Goal Statement 2009-2011:

The change in mandate to Comprehensive Disaster Management embraces the main-streaming of Disaster Risk Reduction in national development programming being lead by the national emergency management mechanism. The Department of Emergency Management has been established by the Emergency Management Act, Cap 160A. providing a Government institution for the development and

coordination of the national Emergency Management Programme in Barbados. An overall capacity needs assessment of the Department of Emergency Management to carry out its mandate is being finalized.

The Ministry of Home Affairs as the civil protection agency responsible for DRR, is piloting an initiative aimed at reforming the Community Emergency Management Programme to provide for a new institutional governance, administrative and operational mechanism.

The existing District Emergency Organisations, DEOs will be reformed and rebranded to encourage greater participation by civil society.

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

Strategic Goal Statement 2009-2011:

The expanded scope and mandate of the Department of Emergency Management under the Enhanced CDM Strategy and Framework, CDM, includes the development of a Hazard Mitigation Policy and Plan and the incorporation of a Hazard Impact Assessment within the framework of the Environmental Impact Assessment, EIA, which is currently applied to new development initiatives.

Hazard Vulnerability Assessments and Hazard Mapping are informing emergency planning and this capacity is being strengthened by the use of current information and communications technology.

The Barbados Building Code has established guidelines for disaster risk reduction in the built environment, thereby ensuring that in the recovery phases, inclusive of rehabilitation and reconstruction there is a standard for effective recovery of communities post disasters.

Barbados, as a coastal state already experiencing significant effects of climate change, is implementing, as a priority, the Coastal Risk Assessment and Management Programme to address all sea-level related hazards comprehensively.

Barbados will be embarking on the enhancement of a national Early Warning System.

It is necessary that due consideration is given to the integration of DRR approaches into recovery frameworks.

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 National Strategic Plan 2010-2025, incorporates the objectives of CDM, as a principle factor in the achievement of sustainable development.

The National Disaster Plan has been developed and makes provision for all of the emergency response functions and appropriate SOPs.

The tourism sector is fully mainstreamed in the national disaster risk management programme, and is being utilized as a best practice for all other sectors. A tourism disaster plan and standard operating procedures is completed and being implemented, with human and financial resources provided by sector stakeholders, in collaboration with Government.

The draft National Climate Change Adaptation Policy and Strategy is currently undergoing national review. However, projects are being implemented in communities and at the national level in concert with the elements of the document.

Context & Constraints:

The challenges include the following:

- It is necessary that all policies and strategies be regularly updated, through a multi-stakeholder process;
- Inter-ministerial consultation remains relatively weak, further limiting the mainstreaming of DRR.
- Agency involvement in the mainstreaming of DRR is more driven by personality and need to be better institutionalized with the public sector taking a more direct lead. The attrition in personalities affects the quality and continuity of interventions in this area.
- The integration of Hazard Impact Assessments, HIA into the existing Environmental Impact

Assessment process is being sought, although the Department of Emergency Management at the moment has limited capacity to systematically deliver the technical input required.

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

Level of Progress achieved:

4

Description:

The annual budget of the DEM is dedicated to the administration of the Department. There is limited funding for mitigation, response, rehabilitation with financial commitments being given for recovery (reconstruction) following an impact.

There is a national Emergency Management Fund being administered by the Cabinet Secretary and Head of the Civil Service under rules and regulations lay down by the Supreme Court of Barbados. There is also provision for corporate and public contributions to the Fund.

Barbados is signatory to the agreement establishing the Caribbean Emergency Management Agency, CDEMA formerly CDERA, and is therefore a contributor to the Emergency Assistance Fund and the Caribbean Catastrophe Risk Insurance Facility, (CCRIF), a risk transfer facility, the elements of which provide some limited financial resources to support DRR.

From central Government's resources, the other departments with specific responsibilities for DRR are also allocated annual budgets for DRR as well. However, information on precise annual allocations is not readily available.

Context & Constraints:

- Being a Small Island Developing State designated as a country in transition, Barbados has restricted access to financing to support its entire sustainable development programmes particularly in disaster management and disaster risk reduction.
- There is demand among other agencies and departments for limited financial resources to achieve other national priorities.
- In addition, the current global economic environment has further eroded the ability of Government to support all aspects of the disaster management cycle adequately.

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

Level of Progress achieved:

4

Description:

The Barbados governance system consists of a single strong centralized Government, with recent initiatives to decentralize under a system of constituency councils, with a mandate work with the CPP to achieve DRR.

The Comprehensive Disaster Management Policy which Barbados is implementing has specific key goals for public participation in DRR. These include the capacity to:

- Harness the competencies and resources of the citizens of Barbados by providing a mechanism and enabling environment for them to actively participate in the national community disaster management programme.
- Enhance community preparedness mechanism, the District Emergency Organisation, to enable communities to be informed, self-reliant and capable of cooperating with the national entity in Comprehensive Disaster Management, through on going public education and awareness programmes.

Context & Constraints:

There needs to be a revisit of the spatial definition of responsibility of each DEO along the political Constituency divide to eliminate the perception that there is a direct link to the political process. As a result, it is anticipated that there will be greater involvement by a wider cross-section of citizens in the process.

Recommendations

- Accelerate the community reform process.

- Develop a massive recruitment drive at the national level, and promote volunteerism for wide-spread participation in DRR programmes, and as a consequence, elevate the profile of DRR initiatives within communities.
- Develop a national training programme particularly to look at community vulnerability assessments.
- Strive for greater integration with the newly-constituted Constituency Councils which are a decentralized mechanism for community participation in sustainable development.

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

Level of Progress achieved:

4

Description:

The Department of Emergency Management has been given the mandate for the incorporation of Disaster Risk Deduction into development planning in key sector economic and social sectors leading to sustainable development. The national architecture for disaster management, which includes the incorporation of key government ministries, departments, the private sector, national, regional and international stakeholders, non-Governmental Organisations (NGOs) and the community, constitutes the national platform for DRR through the multi-sectoral Emergency Management Advisory Council and its 16 Standing Committees.

The National Mitigation Council has a framework for involvement in a wide cross-section of stakeholders. The active Standing Committee on Coastal Hazards is the only scientific Standing Committee and comprises representatives from both Government and private sector. The Committee is working with these multi-stakeholders in disaster risk reduction initiatives to reduce hazards along the coast, such as tsunamis, storm surge, winter swells, erosion, sea level rise and oil spills.

The National Emergency Management System is administered by the Ministry of Home Affairs, Barbados's civil protection ministry.

Context & Constraints:

Constraints

- Lack of human resource capacity within the Department of Emergency Management to meet the needs of all non-Government stakeholders for information and initiatives.

Recommendations

- Accelerate the establishment of the Hazard Mitigation Council as a means of ensuring effective dialogue with community based organisations and the private sector.

Priority for action 2

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:

4

Description:

Vulnerability assessments, hazard maps and risk assessments for critical infrastructure are not generally applied to be able to holistically inform development planning. In the case of the Town and Country Planning Department and the Coastal Zone Management Unit, development regulation on the coast is currently based on the 100-year storm surge inundation line, and coastal setbacks are measured based on distance from this benchmark.

There are vulnerability assessments, hazard maps developed for the Scotland District area of Barbados, which constitutes 1/7 of the island's land mass that is prone to landslides and soil erosion. There is also the institutional framework of the Soil Conservation Unit within the Ministry of Agriculture, and legislation: the Soil Conservation Act, which is the driving force. DRR initiatives in this area include structural and non-structural mitigation. One such mitigation measure is the re-location of communities in landslide-prone and severe flooding areas.

To tackle the problem of inland and marine flooding, the Drainage Unit under the Ministry of the Environment, Water Resources and Drainage has been mandated to conduct vulnerability assessments, flood hazard maps and risk assessments in a systematic way, as well as mitigation works.

The Government has committed significant resources (US\$42.2 million) to a comprehensive Coastal Risk Assessment and Management Programme (CRMP) that will conduct hazard and risk assessment, as well as hazard mapping, for all coastal hazards identified as a threat to Barbados.

Government has put in place a series of incentives to boost DRR actions on the part of individual households and commercial entities. Incentives include retrofitting against wind (hurricane straps and shutters) and water collection systems.

Context & Constraints:

- Key outcomes of national risk assessments must be adequately enforced. Therefore, the regulatory agencies must have the capacity to address these matters in a timely manner.
- Socio-economic data analysis needs to be adequately incorporated into risk assessments methodologies to inform decision making.

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

Level of Progress achieved:

4

Description:

Over the years, a number of individual agencies have compiled key data and information within Geographic Information Systems platforms, including DEM, Town and Country Planning, Lands and Surveys, Barbados Meteorological Services, and Coastal Zone Management Unit (CZMU), CDEMA and Caribbean Institute for Meteorology and Hydrology (CIMH). These data systems have informed decision-making within the specific ambit of the agency managing it. These databases have become more accessible within the past few years.

The disaster loss data is collected through the Government's Statistical Department, with assistance from a significant number of volunteers. This group has been trained, and work assiduously to ensure that the information required for recovery efforts is collated and made available.

Some of the examples of the datasets collated such as sea level, seismic, beach profile measurements are housed in specific agencies, and partially integrated for use in early warning systems. The Emergency Management Act 2006 provides the authority for DEM to access any and all available information for DRR and disaster management purposes. While this provision will prove useful in the future, capacity within the coordinating agency does not allow its widespread utilization at this juncture.

Under the previously described coastal risk assessment and management programme, a scientifically-based integrated coastal risk data and information platform (CRIP) will be established, available to all sectors of the national emergency management system, and key economic sectors. Reports will be generated and management options tested. Those identified as best options will be implemented island-wide. All agencies with a stake in DRR will have common access points to the platform, enabling a robust regulatory system for coastal hazards. In respect of inland flooding and tropical cyclones, the CIMH has established a similar web-based platform, which will be linked to the CRIP for Barbados.

Context & Constraints:

- Disaster loss data is not yet mainstreamed into scientific and financial data streams to ensure a smooth transition from hazard and risk assessment, to analysis of disaster losses, to decisions on funding for recovery.
- Having already obtained the approval for the coastal risk information platform, the only constraint relates to incorporating non-coastal hazard data and information into the platform for use by key stakeholders.
- The issue of limited capacity to effectively utilize the platform by key stakeholders will prevent optimal use for decision making.

Recommendations

- Full incorporation of data and information must occur, so that the impact of disasters on the economy can be clearly understood.
- Capacity must be built to ensure that all users of the risk data and information platform are able to fully utilize the available resources for decision-making.

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

Level of Progress achieved:

4

Description:

Hurricanes, coastal hazards and floods, are the main hazards to which Barbados is vulnerable and the Early Warning Systems are well established. The Barbados Meteorological Services is the key warning agency which utilizes Doppler Radar Technology, satellite imagery and other technologies to provide forecasting. The Met Service then collaborates with the Department of Emergency Management and the Emergency Broadcast Agencies in timely dissemination of warnings to the public, through a series of bulletins, advisory, watches and warnings.

An early warning system for floods has been initiated in one of the flood prone community where the population has been severely impacted. Plans are in train to replicate this in other flood prone communities in support of other flood mitigation options.

The Seismic Research Center, SRC located at the University of the West Indies at St. Augustine Campus, Trinidad and Tobago provides education and information on seismic hazards.

The Government of Barbados signed a Memorandum of Understanding with the United States Geological Survey, USGS, to establish a seismic monitoring unit to provide real time data regarding earthquake activity in Barbados and the adjacent regions, thereby enhancing the national capability to confirm to the population earthquake and possible aftershock activity. Efforts are also underway to improve the national system by the incorporation of comprehensive audio notification architecture.

Early warning messages are targeted to specific segments of the population. The DEM emergency telecommunications system covers the entire island through dissemination to all Government, private sector, NGOs, CBOs and community disaster leaders.

The Public Information and Education Committee annually reviews the participation of the media in the national early warning system. Greater use of cellular technology and social media for early warning is being made.

Context & Constraints:

- There are limited financial resources available to maintain and upgrade these EWS.
- System maintenance and training across the entire spectrum of early warning is proving to be challenging due to attrition.
- Some of the key hazards, such as earthquakes and tsunamis, are virtually unknown to the general public, thus the effort required to bring the population to an acceptable level of awareness represents a significant challenge.

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:

4

Description:

Barbados is one of the eighteen Participating States of the Caribbean Disaster Emergency Management Agency, CDEMA a regional inter-governmental entity tasked with responsibility for comprehensive disaster management, emergency/disaster response as well as disaster risk reduction. The Coordinating Unit for this mechanism promotes and facilitates the exchange of disaster risk reduction information and best practice, training, cooperation and collaboration among its members. Barbados functions as a Sub-regional Focal Point for St. Vincent and the Grenadines, Saint Lucia and the Commonwealth of Dominica, provided for under the Agreement establishing the agency. Regional cooperation is being achieved within the context of the Comprehensive Disaster Management Strategy and Framework which is being implemented in each Participating State. Cooperation in the provision of early warning systems for meteorological and hydrological threats within the designated sub-region is ongoing.

The Regional Response Mechanism, RRM, facilitates the cooperation between Participating States of CDEMA for response to countries whose national capacity has been overwhelmed by an event. This mechanism provides national, regional and international support to Caribbean countries in crisis.

Context & Constraints:

Capacity within the national disaster office has improved significantly but a lot still remains to be accomplished in respect of managing trans-boundary risk.

Recommendations

- To prevent duplication and maximize benefits to all countries, regional and international organisations must coordinate when they are conducting programmes in overlapping areas.
- In the Caribbean region, there is some effort in this regard, but much more can and must be accomplished in order for island states to realize their true potential in disaster management.

Priority for action 3

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:

3

Description:

The DEM continues to use all media including mass media, social media, public lectures, exhibitions, open days, oral presentation using PowerPoint presentation and videos to reach all segments of the population. The population is segmented into specific target groups and a wide range of strategies and approaches are used to reach them. These include children, the elderly, the disabled and the tourists.

The DEM has also been partnering with the Public Sector in using their systems and resources to get the word out. Publications, documentaries, brochures and public lectures have been widely used and advantage is taken in a post-recovery environment to reach the specific population segments.

Many government agencies, private sector organisations and NGOs that participate in the national Emergency Management System have developed disaster information systems. These agencies include the Town and Country Planning Department, the Coastal Zone Management Unit, the Department of Emergency Management, the Lands and Surveys Department, the Barbados Light and Power, the Barbados Water Authority, and the Caribbean Institute of Meteorology and Hydrology.

CDEMA has a highly interactive internet-based website where information not only targets its 16 Participating States but is accessible to wider shareholders. Barbados as a Participating State has a specific page on the regional website.

Currently, information on disasters is not systematic, but the DEM works assiduously, through the DEOs, to get information to communities through flyers, posters, lectures and presentations. No continuously updated website exists as yet, and the mass media is utilized for all hazards, but especially at the start of the hurricane season.

Context & Constraints:

- There is a need for greater integration of information systems to ensure access and sharing.
- Data and information sharing remains a top priority.
- The upgrade of DEM to better utilize information and communication technology is very slow. Currently the information flow is severely limited, and although some use is made of the internet, the DEM does not regularly update the website with information for use by the public.
- It is expected that the CRIP will solve many of the issues related to the public's access to information on disasters, and will provide a basis upon which further components on non-coastal hazards may be added in subsequent years.

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

Level of Progress achieved:

4

Description:

Disaster risk reduction is not yet included as a matter of policy within the national educational curriculum at all levels from primary to tertiary. However, the topic and issues relating to disaster management and disaster risk reduction are infused into several subjects within the curriculum like geography, social studies and science, at all levels.

Research papers and class projects at the primary secondary and tertiary levels are increasing, with many group projects encouraged among students. Increasingly students seek out information in the library of the disaster office or demand that relevant information be provided by use of web-pages and the Internet.

Greater involvement in school disaster management and the development of disaster plans for schools is being promoted among principals and staff with enthusiastic support from the school population at all levels. Greater use is being made of functional and full scale simulation exercise for specific hazards to which school populations are vulnerable.

Context & Constraints:

Uptake by the Ministry of Education has been slow, and as a result, no champion exists within the sector to actively promote DRR as a definitive area of learning.

Recommendations

- Secure a policy directive for greater incorporation of DRR concepts and practices in all levels of the curriculum.
- Encourage the identification of a disaster risk reduction specialist within the Ministry of Education to coordinate and facilitate greater infusion of DRR in existing curricula.
- Greater encouragement for students at the secondary, undergraduate and graduate levels to undertake research projects relating to DRR.
- Examine ways to further incorporate DM and DRR into existing training schedules and such courses made mandatory especially for the lower levels of the public service.

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

Level of Progress achieved:

3

Description:

The Environmental Impact Assessment Process already requires that coastal development control takes into account hazard-prone areas, and limits number of people placed in harm's way. The regional project, Enhancing Resilience in the Caribbean, has developed significant research outputs for utilization in decision making.

The Ministries of Health, Agriculture and the Environment, have all conducted research during the reporting period on natural hazards and risk, and the reports used to inform further research, implementation, as well as decision making.

The US\$42.2 million Coastal Risk Assessment and Management Programme Component I will conduct extensive research, including modelling, in respect of extreme sea level-related hazards and their impacts on the island's coastal zone. Also the impacts of earthquakes, landslides, oil spills and wind, will also be modeled.

Context & Constraints:

One constraint continues to be the link between research outputs from scientists, and the cost benefit analyses conducted by finance officers, to support the decision making process with respect to planning and development policy decisions.

Recommendations

- The Ministry of Finance and Economic Affairs will need to take on board the results of the CRMP and put in place methods and tools for cost benefit analysis in relation to hazards.
- Other hazards experienced by Barbados other than coastal hazards must also be included in the vulnerability and risk assessments. Without these, Barbados will not have a truly multi-hazard programme, with all risks identified and managed.

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

Level of Progress achieved:

5

Description:

As Barbados has no local Government, training is not applicable.

The Department of Emergency Management, DEM as the lead agency for comprehensive disaster

management has been successful in its collaboration with the Standing Committee on Public Education and Awareness in implementing a comprehensive public education and awareness programme at the national and community levels utilizing a mass media approach.

Supplements are developed for both major newspapers annually throughout the Hurricane Season. In addition, articles on specific hazards are written and widely disseminated on crucial national and international days for specific hazards.

Disaster Management and DRR specialists make regular appearances on popular talk shows on both radio and television programmes with high listenership and viewership. These programmes usually have a community call-in facility where there is direct interaction with the public. Public education and awareness programmes are also sponsored by the public sector, particularly those whose primary function is linked to disaster risk reduction services and private entities like insurance companies etc. DEM also develop hazard-specific brochures and in conjunction with the Government Information Service radio and television Public Service Announcements (PSAs) are aired throughout the year.

Social media was introduced during the reporting period; however, updating is a challenge.

Context & Constraints:

No constraints.

Priority for action 4

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:

Even though the draft Environmental Management Act has been in draft form for more than 10 years, the spirit and tenets of the Bill have been incorporated into the action plans of environmental agencies across Government. The document is very comprehensive, and will be very useful in taking forward the disaster management agenda.

The Coastal Risk Assessment and Management Programme has an extensive institutional strengthening component, intended to incorporate DRR and climate change adaptation (CCA) into the Coastal Zone Management Act, CZM Plan, CZM Policy, and provides for the development of a Strategic Action Plan for DRR and CCA in the coastal zone.

Context & Constraints:

At all levels of Barbados's governance structure, the nexus between disaster management and environmental protection is very clear. Consultation among agencies exists, but needs to be taken to the next level of collaboration.

The broad range of climate change issues has not been generally understood by the majority of players within the disaster management system.

Recommendations

- The draft Environmental Management Act must become a reality for the institutionalization of joint DRR and environmental initiatives.
- The Hazard Mitigation Council must be instituted expeditiously, as there are a number of plans which cannot be implemented without this framework.
- The completion of the draft Climate Change Adaptation Policy is also of necessity, to advance the DRR agenda in relation to climate change impacts.

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

Level of Progress achieved:

4

Description:

The establishment of the Ministry of Social Care, Constituency Empowerment and Community Development consolidate key agencies that are responsible for the development and execution of social policy. There is a dedicated effort at the national level to implement a poverty alleviation agenda aimed at targeting the most vulnerable in the community including components of disaster

management and disaster risk reduction. A Welfare and Relief DEM Standing Committee is intimately involved in planning, response and recovery activities for disasters.

Disaster Mitigation activities involve in the relocation of affected communities from landslides and reoccurring severe flooding are part of social disaster risk reduction programme.

At the community level, the Constituency Councils which were recently instituted, with areas of responsibility for geographic segments of Barbados and liaising with the Department of Emergency Management DEOs. One of their mandates is to reduce the hazard vulnerability in their respective areas. Work is carried out with the Drainage Unit of the Ministry of the Environment, Water Resources Management and Drainage, to alleviate severe flooding by the clearing of major water courses, cleaning of and the sinking of wells and other mitigation measures.

There is a Committee mandated to provide guidance and oversight to special populations (those that are physically and mentally challenged) and of other vulnerable persons. The work of Non-governmental Organisations, like the Barbados Red Cross, the Salvation Army, and ADRA, as well as National Rotary Clubs, also contribute to the alleviation of poverty and the protection of vulnerable populations.

A disaster management Welfare and Relief Policy has been developed and was widely used in response to Hurricanes Lili (2002) and Ivan (2004).

Context & Constraints:

Access to financial and other resources to reduce the volume of difficulties being experienced by vulnerable communities limits significant direct and programmatic contribution in DRR in these areas. Technologies that reduce the risk of persons with special challenges are yet to be considered.

The homeless have not been considered as a specific group as yet in the disaster management social policy framework with respect to DM and DRR although there are some NGOs that are currently developing and implementing programmes targeting this vulnerable group.

Recommendations

It is necessary to harness the expertise and other resources of the private sector, community-based organizations and non-governmental organizations to further complement the efforts of government.

Articulate a land use policy that discourages squatters.

Provide greater financial incentives to genuine contributors to poverty alleviation programmes.

Include the homeless as a specific social to be targeted.

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

Level of Progress achieved:

3

Description:

Some progress has been made by the Ministry of Finance and Economic Affairs to formulate policies to cover several elements of economic activity to reduce disaster vulnerability in key economic sectors. Incentives have been given to householders like providing hurricane shutters, use of hurricane straps in new construction and retrofitting to reduce vulnerability to houses and the built environment

Disaster Management and DRR have been successfully mainstreamed in the Tourism Sector and the incentives to the Tourism Sector are usually taken up by the sector to reduce vulnerability. An equal attempt is being made to mainstream DRR in the agricultural sector and initial consultations have been made with the World Food Programme and CDEMA in providing model planning for DM and DRR in this sector. The adaptation process is yet to be started.

Context & Constraints:

Lack of promotion of the economic incentives to the wider population in a sustained way.

Recommendations

Collaborate with the Ministry of Agriculture, Food, Fisheries, Industry and Small Business Development to convene a national consultation on DM and DRR in that sector.

Develop a mass public education and awareness programme highlighting relevant economic

incentives available to the population.

Maintain engagement with the financial institutions and the Ministry of Finance and Economic Affairs to take great advantage of the expertise and resources available to enhance programming.

4. Planning and management of human settlements incorporate disaster risk reduction elements, including enforcement of building codes.

Level of Progress achieved:

3

Description:

Lack of promotion of the economic incentives to the wider population in a sustained way.

Recommendations

Collaborate with the Ministry of Agriculture, Food, Fisheries, Industry and Small Business Development to convene a national consultation on DM and DRR in that sector.

Develop a mass public education and awareness programme highlighting relevant economic incentives available to the population.

Maintain engagement with the financial institutions and the Ministry of Finance and Economic Affairs to take great advantage of the expertise and resources available to enhance programming.

Context & Constraints:

There are a number of squatters living in less than acceptable circumstances with respect to disasters. Even though the planning legislation and policy makes full provision for dealing with this situation, the political will to remove persons from vulnerable areas is not always strong.

A number of vulnerable settlements exist in flood-prone areas, whether by stormwater or coastal inundation, mainly because these settlements existed prior to planning laws and policies in-country. Some individual applications have been approved in vulnerable zones since the existence of the development control process as well, mainly because the Town Planning Act provides for ministerial override of planning decisions. While the reasons for this provision are clear (economic and social issues are also considered at the ministerial level, and not just environmental, land use and DRR issues) at times, decisions taken actually inadvertently increase the vulnerability of such development to hazards.

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

Level of Progress achieved:

4

Description:

(Gender-based and local authorities questions not applicable to Barbados)

There is a post-recovery process particularly in the rehabilitation and reconstruction of disaster impacted houses. A DEM Standing Committee on Housing Recovery is chaired by the General Management of the National Housing Corporation which is responsible for the development of a Housing Recovery Programme in the immediate, medium and short terms. The government of Barbados has as a matter of policy agreed that rehabilitative houses by Government should include DRR Measures to reduce vulnerability where the quality of these houses are greatly enhanced.

Housing Recovery Crews have been identified utilizing both public and private expertise and resources. In any rebuilding process, the Town and Country Planning Office has to be consulted and "No Build" decisions have been taken in highly vulnerably housing sites. Relocation has been an option particularly for houses located in flood plains and land slide locations. A "No Build" policy is also maintained for these areas but occasionally squatters rebuild in these open lots.

Context & Constraints:

Constraint

The DEM's inability to maintain a consistent multi-media programme for the housing sector.

The lack of a policing mechanism to ensure that the mitigation measures become mandatory.

Recommendations

Work more closely with the DEM Housing Recovery Standing Committee to consistently develop

awareness and public education programmes dealing with these issues.

Request that stronger requirements are instituted to deal with the construction of home by the house owners in the lower economic strata.

6. Procedures are in place to assess the disaster risk impacts of major development projects, especially infrastructure.

Level of Progress achieved:

3

Description:

The land use management policies are in place and functioning, but implementation in relation to DRR remains to be implemented. In addition, DRR in relation to the planning of critical infrastructure such as schools, fire stations, and hospitals has not been articulated in a policy context as yet.

Other types of major development projects such as hotel plant, ports and marinas, many of the elements of hazard analysis to be considered are coastal in context. Consequently the very mature coastal zone management programme, which includes coastal development control policies, plans and enforcement procedures, ably handles the requirements related to those hazards.

Context & Constraints:

Building requirements for major development rest with the Building Code, and other non-coastal hazards are enforced by other key agencies of government but without the formal adoption of the building code, the adherence to recommendations by developers is strictly on a voluntary basis.

While Government is more conscious of the need to site critical infrastructure away from the coast, there needs to be a better appreciation of other inland areas that may be vulnerable to hazards as well.

Priority for action 5

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:

4

Description:

Risk scenarios for tropical cyclones, inland floods and coastal hazards are far advanced, well-budgeted and improving every year.

More generally, there is a National Disaster Plan as required by the Emergency Management Act, 2006 Cap 20 which lays out the guidelines for responding to multi-hazards.

Action has been initiated to develop community-based plans but these have not yet been fully developed. A national Evacuation Plan is in draft awaiting the scientific data to highlight the likely inundation lines to inform the coastal evacuation process. The Plan has several hazard specific national, departmental and sectoral plans. The list of Plans includes:

The National Mass Casualty Plan

The National Mass Crowd Plan

The National Search and Rescue Plan

The National Oil Spill Plan

The National Hazardous Material Plan

These all have appropriate sub-plans that include all of the Emergency Response Functions, ERFs, like evacuation, shelter, medical, etc.

National capacity exists for the assessment of national readiness to face adverse events and this is done at the start of the annual Hurricane Season

Barbados participated in the 2011 Caribbean-wide CARIBE Wave/LANTEX simulation exercise, and is already in planning stages for the 2013 exercise.

Coastal schools are being prepared for tsunamis and other sea level-related hazards through evacuation drills.

Context & Constraints:

Barbados as a SIDS is more focused on DRR in the coastal zone, and has been very proactive in this area. However, inland DRR and other disasters lag far behind those in coastal areas and must be

addressed.

Due to the limited capacity, both of the DEM and within the National Emergency Management System, simulation drills and exercises are not conducted as often as they ought to be.

Lack of training in Exercise Design is hampering the greater utilization of this method of testing plans and procedures.

Recommendations

DEM to conduct training in Exercise Design, therefore empowering a larger number of persons who can conduct a suite of exercises. Encourage and promote the use of disaster drills and simulation exercises

The DEM should incorporate at least one (1) exercise per year in its annual plans and budget, to ensure continuous monitoring and evaluation of the plans, standard operating procedures, and educations programmes being implemented.

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:

Liaison Officers are designated in the public and private sectors and the requirement is for plans and SOPs to be developed, updated and shared with the Department of Emergency Management on an annual basis. Training has been developed for these Liaison Officers throughout the sectors. In addition, the DEM conducts Plan Development Training Workshops on an annual basis for all sectors.

At least one national full scale exercise is conducted in addition to the participation in regional and hemispheric simulation exercises. An increase in disaster drills at the primary schools is being experienced. The post-reviews of these exercises usually identify gaps in procedures, resources and training.

The Emergency Operation Center, EOC mechanism is fully established and functional and greater emphasis is now being placed on secondary satellite EOCs at the community levels for coordination and response.

National Search and Rescue, (SAR) teams have been established with appropriate training and exercising at the national and regional levels. Barbados also is part of the regional Search and Rescue teams and there is a national SAR plan and relevant SOPs.

Context & Constraints:

EOC Management and Search and rescue training and preparedness continues, but must be sustained through changes in personnel, and budgets should support this ongoing requirement.

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

Level of Progress achieved:

4

Description:

There are national contingency funds available to the National Emergency Management System. The DEM has a budget line in its annual budget of \$50,000 to meet contingency needs. In addition, existing budgets in key response agencies are reallocated to meet contingencies while the Cabinet of Barbados and the Parliament access funds from the Consolidated Fund to replenish agency funds when the emergency has passed.

There is a Catastrophe Fund established by the Ministry of Finance to be financed from public sector contributions over a five year period. In addition, there is an Emergency Fund established by the Barbados Supreme Court and administered by the Cabinet Secretary with a provision for public and private sector contributions as well as the general public. There is a Board of Directors which governs the Fund and also a provision for fund-raising to replenish the Fund.

At the regional level Barbados is a participating member of the Caribbean Catastrophe Risk

Insurance Facility, CCRIF a reserve insurance mechanism which allows governments to purchase unique coverage not available in the commercial markets at rates only achievable through the pooled approach.

As a Member State of CDEMA, Barbados contributed to a standing Emergency Fund which is available to support emergency response to States severely impacted by hazards and have declared a Level 3 emergency triggering the Regional Response Mechanism. When such a mechanism is triggered, regional and international donor agencies also contribute the response..

The Barbados Red Cross Society is linked to the International Red Cross and Red Crescent Societies and has access to international funds which are made available if the situation warrants it.

Context & Constraints:

The available funds are never enough to meet the costs of major impacts and this can sometimes slow down response.

Access financial resources in times of crisis are slowed because of bureaucratic procedures.

Recommendations

Ensure that in time of no hazard impacts, fund-raising efforts are undertaken to boost Funds that are not resources to meet the anticipated challenges.

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

Level of Progress achieved:

5

Description:

The Chief Information Officer in the Government Information Service facilitates the access of the broadcast media to keep the population informed during a hazard event. In addition, key technical members of the Emergency Management System also have access to the population through this medium.

When the Emergency Operation Center is activated the Emergency Telecommunications System is utilized to make contact with members of the National System via VHF, UHF etc. A direct link out of the NEOC to the radio stations are also facilitated by specialized equipment in the Office of the Director of DEM. Provision is also made for the Emergency Broadcast System to be activated as well where direct broadcast can be made from a studio reserve for that purpose.

Situation reports are submitted to the CDEMA for dissemination to other Participating States and other partners . The DEM facilitates post-event reviews where response and recovery plans and SOPs are reviewed and updated. These are usually chaired by the Director, DEM or by the Permanent Secretary in the Ministry of Home Affairs and attended by key members of National Emergency Management System.

As part of the CDEMA System, the regional emergency telecommunication network is effectively and efficiently maintained and the annual Simulation Exercise, REGION RAP supports the regional capability to pass information.

Context & Constraints:

Sometimes there is a significant lapse in the review process and this is dependent on the extent of the hazard impact.

Recommendation

Continue to encourage a system of agency review before national reviews are undertaken to ensure that information is readily available to inform updating of plans and procedures.

Continue to provide training in the use of the Emergency Telecommunication System in a direct link with NEOC and field operatives.

Maintain a constant review of technology that can facilitate the passing of information using up-to-date technology.

Drivers of Progress

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):

The technical and human resource capacity of the agency and its Standing Committees to implement Comprehensive Disaster Management has been improved but efforts must be sustained over the medium term.

The roles and functions of all key stakeholders in the CDM process must be legislated, articulated clearly and frequently simulated.

Engage in a sustained capacity development exercise that assures technical expertise at all levels, and allows for adequate succession planning.

It is imperative that the integration of climate change adaptation strategies and programmes with DRR initiatives occurs, mainstreaming actions and information, ensuring a high level of coordination among different national focal points and implementing agencies.

Science for multi-hazard assessment in the coastal zone is now a priority, and appropriate levels of funding available and sustained at the national level. However, access to resources is not equal throughout all hazards.

Based on the science, a series of interactive, web-based hazard atlases are being developed and will be publicly available to all.

Build strong community-based hazard information networks, where individuals are capable of reacting appropriately to a suite of hazards to save themselves and others.

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):

Barbados is not considered to have gender issues. However, it is still imperative that DRR approaches take into account the statistics that show a gender imbalance in the levels of hazard impact

Therefore the recommendations for the previous reporting period remain the same for this period as follows:

First establish contact with the Bureau of Gender Affairs to table discussions on gender and DRR issues.

Educate key partners in the national emergency management system, especially at the community level, in gender issues and DRR.

Develop an action plan to mainstream gender issues into the disaster management agenda.

Work with the Statistical Department to determine the level of gender disaggregated data available for use in the DRR arena.

During periodic updates of strategic plans, incorporate gender issues into DRR policies.

Partner with civil society organisations and NGOs that may be further advanced in the area of gender.

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):

In the absence of local Government, the District Emergency Organisations (DEOs) are the designated

agencies, trained and equipped to respond in the event of an emergency within their communities. They are now supported by the Constituency Councils, which work on specific initiatives designed to improve life in the community.

However, as the program is volunteer only, some of these organizations work well and others, not at all. As a result, the vulnerability of communities is dependent on the commitment of members of the DEOs. It is proposed that this system change, allowing for a much more robust program within each vulnerable community, to ensure that resilience is built.

Build a CDM capacity development policy and plan that begins at the community level and includes all levels to decision-makers.

Partner with training institutions such as the Barbados Community College, Samuel Jackman Prescod Polytechnic, and the University of the West Indies, to offer training modules in multi-hazard planning and management, ensuring that a cadre of persons is always available to the system for sustainability. Identify key partnerships with other countries with greater capacity in DRR in their institutions, and effect exchange programmes where feasible.

At the community level, work with the DEOs to train persons to respond appropriately to a series of hazards facing each community.

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):

This area is relatively weak within the national emergency management system. And there has been little change since the last reporting period. As a result, the same goals and recommendations are valid for this period:

Prepare a complete inventory of vulnerable persons and groups, with an emphasis on identifying the weak elements of DRR which make that individual/group more vulnerable.

Plan a phased approach to addressing the weak elements of DRR which increase the vulnerability of marginalized and special needs persons in society.

Promote social equity through the DRR policy review process.

Align DRR strategies and plans with poverty alleviation strategies so that human security is integrated in all DRR programming.

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

Levels of Reliance:

3 - Significant and ongoing reliance

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

This area of DRR continues to move from strength to strength, and the recommendations are clear regarding improvements:

Build a culture of mutual trust and confidence in the non-Government actors, and develop public reward schemes that inspire and motivate partners to continue helping in the DRR system.

Identify innovative ways of including new non-state actors in all levels of the DRR implementation process.

Make roles and responsibilities very clear, especially when the emergency management system goes operational.

Promote the use of indigenous knowledge in hazard and risk assessments, instilling confidence in community actors to participate fully in DRR programmes.

6. Contextual Drivers of Progress

Levels of Reliance:

2 - Partial/ some reliance

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

The forthcoming years will determine whether objectives have been achieved and outcomes as expected:

Full-scale movement from response, relief and recovery, to real disaster risk reduction efforts.

Educated policy makers that take account of DRR issues in every decision made.

Paradigm shift from the consultation end of the DRR co-management continuum, through consultation to delegation of key aspects of disaster management.

A strong, motivated public, aware of specific actions required before, during and after hazards to reduce their own personal and family risk levels.

Future Outlook

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

Overall Challenges:

The disaster management programme in Barbados has been established with tremendous successes in preparedness and response and to a lesser extent to rehabilitation and recovery. However the paradigm shift to prevention and mitigation on a national scale is still very embryonic.

Future Outlook Statement:

A clear guideline on the integration process in sustainable development is required. And now that funding has been allocated for prevention and mitigation, the science/policy interface must be bridged for the benefit of society.

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

Overall Challenges:

The overall management of the national system remains a challenge due to its size. Thus the national agency must have the appropriate level of resources needed to manage an unwieldy but very important mechanism.

Future Outlook Statement:

Barbados must continue to employ rigorous methodologies to weigh the costs of DRR against savings from prevention measures rather than benefits. Once this type of trade-off is clarified for policy makers, then decision making with respect to DRR is more straightforward.

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

Overall Challenges:

The number of organizational plans is increasing. However, the development of these plans is still quite slow. Major organizations such as port facilities and marinas, recognize the need for disaster plans, but many companies are still not understanding their own vulnerability

Future Outlook Statement:

Availability of information remains the key goal in order to catalyze the private sector to consider DRR in its business development planning. Once hazard and risk assessment data is freely accessible by all stakeholders, the DEM as coordinating body needs to actively support the development of emergency plans across all sectors and areas, encourage communities to test their plans, and provide assistance in monitoring and evaluation when updates to plans are required.

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:

The HFA monitor is an excellent tool for evaluating advancements at the national level. However, it is necessary to develop a system of performance metrics for disaster management, that allows national disaster coordinators to develop goals that are achievable within the time and resources specified. The system would identify specific indicators for each possible goal, at all levels as well, so that, whether community disaster coordinator or national director, tracking progress towards stated goals is simple.

Trends analysis could be simplified, moving to economic analysis as well, showing over time the contributions of Government versus the private sector and other philanthropic organisations. Countries must also be trained to develop disaster management as making good business sense - making the business case.

Stakeholders

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

- * Coastal Zone Management Unit () - Dr Lorna Inniss, Director
- * Town and Country Development Planning Office () - Ms Alison Brome, Town Planner
- * Ministry of Public Works and Transport () - Mr Frank Thornhill, Chief Technical Officer
- * Drainage Division () - Mr Charles Yearwood, Technical Officer
- * Barbados Meteorological Services () - Mr Hampden Lovell, Director
- * Ministry of Home Affairs () - Mrs Nicole Taylor, Senior Administrative officer
- * Caribbean Institute for Meteorology and Hydrology () - Dr David Farrell, Principal
- * Ministry of Environment and Drainage () - Ricardo Ward, Focal Point for Climate Change
- * Soil Conservation Unit () - Officer in Charge, Mr Charleston Lucas
- * Ministry of Health () - Chief Medical Officer of Health