



**COMPREHENSIVE DISASTER MANAGEMENT**

---

**Strategy and  
Programme Framework  
2007-2012**



## **GLOSSARY**

### **Anthropogenic hazards**

Hazards created through the action of human activity (Baastel-ESL and Stakeholders)

### **Capacity**

Physical social, economic and institutional means as well as skilled personal or collective attributes such as leadership and management (ISDR)

### **Capacity building**

Efforts aimed to develop human skills or societal infrastructures within a community or organization needed to reduce the level of risk. Capacity building also includes development of institutional, financial, political and other resources, such as technology at different levels and sectors of the society. (ISDR)

### **CARICOM Framework**

Ten year (2005-2015) Framework for disaster management in the Caribbean presented through CDERA at the World Conference on Disaster Reduction (WCDR), Kobe, Japan, 2005 as input to the Hyogo Framework for Action 2005-2015. (Baastel-ESL)

### **Comprehensive Disaster Management (CDM)**

Comprehensive Disaster Management which includes attention to all phases of the Disaster Management Cycle - prevention, mitigation, preparedness and response, recovery and rehabilitation (CDERA). It includes emphasis on reducing risk. This nomenclature is the term that reflects the global trend in the discipline for increased focus on risk management and the intense desire among disaster management Stakeholders in the Caribbean to accelerate initiatives in promoting disaster loss reduction. DRM as defined by ISDR is presented below.

### **Community Resilience**

The ability of a community to cope with the effects of a hazardous event through appropriate prevention, mitigation, preparedness, response and recovery mechanisms (adapted from WCDR)

### **Coping Capacity**

The means by which people or organizations use available resources and abilities to face adverse consequences that could lead to a disaster. In general, this involves managing resources, both in normal times as well as during crises or adverse conditions. The strengthening of coping capacities usually builds resilience to withstand the effects of natural and human-induced hazards (ISDR)

### **Disaster Risk Management (DRM)**

The systematic process of using administrative decisions, organization, operational skills and capacities to implement policies, strategies and coping capacities of the society and communities to lessen the impacts of natural hazards and related environmental and technological disasters. This comprises all forms of activities, including structural and non-structural measures to avoid (prevention) or to limit (mitigation and preparedness) adverse effects of hazards. (ISDR)

### **Disaster Risk Reduction (DRR)**

The conceptual framework of elements considered with the possibilities to minimize vulnerabilities and disaster risks throughout a society, to avoid (prevention) or to limit (mitigation and preparedness) the adverse impacts of hazards, within the broad context of sustainable development. DRR involves:

- Risk awareness and assessment including hazard analysis and vulnerability/capacity analysis;
- Knowledge development including education, training, research and information;
- Public commitment and institutional frameworks, including organizational, policy, legislation and community action;
- Application of measures including environmental management, land-use and urban planning, protection of critical facilities, application of science and technology, partnership and networking, and financial instruments;
- Early warning systems including forecasting, dissemination of warnings, preparedness measures and reaction capacities (ISDR)

#### **Donor Harmonization**

Collaboration among donors or development partners on programme initiatives so as to avoid duplication and to optimise resource allocation (Eastern Caribbean DonorGroup /Development Partners)

#### **Early Warning**

The provision of the means by which people or organizations, use available resources and abilities to face adverse consequences that could lead to a disaster. In general, this involves managing resources, both in normal times as well as during crises or adverse conditions. The strengthening of coping capacities usually builds resilience to withstand the effects of natural and human-induced hazards (ISDR)

#### **Intermediate Results (IRs)**

Interim Targets set to measure progress toward achievement of Strategic Objective (CDERA CDM Strategy)

#### **Mainstreaming**

Making Comprehensive Disaster management an integral dimension of the policies and programmes in all political, economic and societal spheres (BCPR)

#### **Mitigation**

Structural and non-structural measures undertaken to limit the adverse impact of natural hazards, environmental degradation and technological hazards (ISDR)

#### **National Disaster Organization (NDO)**

The NDO in this document refers to the national organizational structure of agencies linked for the purpose of attending to the legal, institutional and operational aspects of disaster prevention and mitigation, preparedness and response and recovery and rehabilitation. The NDO is generally headed by the Prime Minister or Head of government in the respective country. (Baastel-ESL)

#### **National Disaster Management Office (NDMO)**

The NDMO is the government agency with focal responsibility for disaster management in the respective country. It is generally headed by the country's Disaster coordinator (Baastel-ESL)

#### **Outcomes**

Targets to be achieved in the Medium-term in the results-based framework. Outcomes result from an amalgam of short- term outputs (Baastel)

#### **Outputs**

Short-term Results from activities undertaken toward the medium-term outcome (Baastel)

### **Preparedness**

Activities and measures taken in advance to ensure effective response to the impact of hazards, including the issuance of timely and effective early warnings and the temporary evacuation of people and property from threatened locations (ISDR)

### **Prevention**

Activities to provide outright avoidance of the adverse impact of hazards and means to minimize related environmental, technological and biological disasters. Depending on social and technical feasibility and cost/benefit considerations, investing in preventive measures is justified in areas frequently affected by disasters. In the context of public awareness and education, related to disaster risk reduction changing attitudes and behaviour contribute to promoting a "culture of prevention". (ISDR)

### **Program Based Approach**

A way of engaging in development cooperation based on the principle of coordinated support for a locally owned programme of development. The approach includes four key elements:

- Leadership by the host country or organization.
- A single programme and budget framework.
- Donor coordination and harmonization of procedures.
- Efforts to increase the use of local procedures over time with regard to programme design and implementation, financial management, and monitoring and evaluation." (Baastel)

### **Recovery**

Decisions and actions taken after a disaster with a view to restoring or improving the pre-disaster living conditions of the stricken community, while encouraging and facilitating necessary adjustments to reduce disaster risk. Recovery (rehabilitation and reconstruction) affords an opportunity to develop and apply disaster risk reduction measures (ISDR)

### **Relief / response**

The provision of assistance or intervention during or immediately after a disaster to meet the life preservation and basic subsistence needs of those people affected. It can be of an immediate, short-term, or protracted duration. (ISDR)

### **Resilience**

The capacity of a system, community or society potentially exposed to hazards to adapt, by resisting or changing in order to reach and maintain an acceptable level of functioning and structure. This is determined by the degree to which the social system is capable of organizing itself to increase its capacity for learning from past disasters for better future protection and to improve risk reduction measures. (ISDR)

### **Results Based Management**

"Rather than focusing programme/project management efforts on the monitoring of inputs, activities and processes, an RBM approach concentrates on 'results' and places emphasis on the following dimensions: **Defining realistic results** based on appropriate analysis and context; **Clearly identifying programme beneficiaries** and designing programmes/projects that meet their needs and priorities; **Using results information to make effective management decisions**; **Monitoring the progress made towards expected results** with the use of appropriate indicators (Baastel)

### **Risk**

The probability of harmful consequences, or expected losses (deaths, injuries, property,

livelihoods, economic activity disrupted or environment damaged) resulting from interactions between natural or human-induced hazards and vulnerable conditions.

Conventionally risk is expressed by the notation Risk = Hazards x Vulnerability. Some disciplines also include the concept of exposure to refer particularly to the physical aspects of vulnerability.

Beyond expressing a possibility of physical harm, it is crucial to recognize that risks are inherent or can be created or exist within social systems. It is important to consider the social contexts in which risks occur and that people therefore do not necessarily share the same perceptions of risk and their underlying causes. (ISDR)

### **Vulnerability**

The conditions determined by physical, social, economic, and environmental factors or processes, which increase the susceptibility of a community to the impact of hazards (ISDR)

## **ACRONYMS**

BCPR	Bureau for Crisis Prevention and Recovery
CARICOM	Caribbean Community
CDERA	Caribbean Disaster and Emergency Response Agency
CDM	Comprehensive Disaster Management
CSME	Caribbean Single Market and Economy
CU	Coordinating Unit
DRM	Disaster Risk Management
DRR	Disaster risk Reduction
DRRC	Disaster Risk Reduction Centre
IR	Intermediate Result
ISDR	International Strategy for Disaster Reduction
OECS	Organisation of Eastern Caribbean States
PBA	Program-Based Approach
PMP	Project Monitoring Program
RBM	Results-Based Management
SGD	St George's Declaration
SO	Strategic Objective
UWI	University of the West Indies
WCDR	World Conference on Disaster Reduction

## TABLE OF CONTENTS

<b>ACKNOWLEDGEMENTS.....</b>	<b>II</b>
<b>GLOSSARY .....</b>	<b>III</b>
<b>ACRONYMS.....</b>	<b>VII</b>
<b>TABLE OF CONTENTS .....</b>	<b>B</b>
<b>LIST OF TABLES.....</b>	<b>D</b>
<b>EXECUTIVE SUMMARY.....</b>	<b>II</b>
<b>1    INTRODUCTION .....</b>	<b>1</b>
1.1    PURPOSE.....	1
1.2    APPROACH.....	1
1.2.1    GUIDING PRINCIPLES.....	2
<b>2    CONDITIONS PRECEDENT TO THE ENHANCED STRATEGY.....</b>	<b>4</b>
2.1    CDM 2001 STRATEGIC FRAMEWORK - BASELINE AND CONSULTATIONS.....	4
2.2    CDM STRATEGY AS RECOGNIZED ROAD MAP .....	4
2.3    CARICOM REGIONAL FRAMEWORK 2005-2015 .....	6
2.4    CARIBBEAN SINGLE MARKET AND ECONOMY (CSME) –“A STRONGER VOICE TOWARDS GREATER PROSPERITY” .....	7
2.5    ORGANISATION OF EASTERN CARIBBEAN STATES (OECS) – ST GEORGE’S DECLARATION OF PRINCIPLES FOR ENVIRONMENTAL SUSTAINABILITY .....	7
<b>3    THE CDM REVIEW – SUMMARY FINDINGS AND THE WAY FORWARD .....</b>	<b>9</b>
3.1    SUMMARY FINDINGS.....	9
3.2    2004 - A DEFINING YEAR .....	10
3.3    THE WAY FORWARD.....	11
<b>4    THE ENHANCED CDM STRATEGY AND FRAMEWORK.....</b>	<b>13</b>
4.1    OVERALL OBJECTIVES AND PRIORITY “OUTCOMES” .....	13
4.2    HOW WERE THE OUTCOMES DETERMINED? .....	14
4.2.1    PROGRAM-BASED APPROACH (PBA) .....	15
4.2.2    RESULTS-BASED MANAGEMENT (RBM) .....	15
4.2.3    KINGSTON DECLARATION, CARICOM FRAMEWORK, WCDR AND CDM REVIEW. 15	
4.2.4    OTHER CONSIDERATIONS.....	16

<b>5</b>	<b>PROPOSED PROGRAMME 2007 – 2012 .....</b>	<b>17</b>
5.1	PRIORITY OUTCOME 1 - ENHANCED INSTITUTIONAL SUPPORT FOR CDM PROGRAMME IMPLEMENTATION AT NATIONAL AND REGIONAL LEVELS.....	19
5.2	PRIORITY OUTCOME 2 - EFFECTIVE MECHANISMS AND PROGRAMMES FOR MANAGEMENT AND SHARING OF CDM KNOWLEDGE ARE ESTABLISHED AND UTILIZED FOR DECISION MAKING.....	21
5.3	PRIORITY OUTCOME 3 - DISASTER RISK MANAGEMENT HAS BEEN MAINSTREAMED AT NATIONAL LEVELS AND INCORPORATED INTO KEY SECTORS OF NATIONAL ECONOMIES (INCLUDING TOURISM, HEALTH AND AGRICULTURE) .....	23
5.4	PRIORITY OUTCOME 4 - ENHANCED COMMUNITY RESILIENCE IN CDERA STATES/ TERRITORIES TO MITIGATE AND RESPOND TO THE ADVERSE EFFECTS OF CLIMATE CHANGE AND DISASTERS .....	25
5.5	PRELIMINARY ACTIVITIES .....	27
<b>6</b>	<b>MONITORING AND EVALUATION- SOME PRELIMINARY INDICATORS.....</b>	<b>30</b>
<b>7</b>	<b>CONCLUSION .....</b>	<b>35</b>
<b>8</b>	<b>NEXT STEPS .....</b>	<b>36</b>
	<b>SELECTED REFERENCES.....</b>	<b>37</b>

## LIST OF TABLES

### **Executive Summary**

Table 5.0 Enhanced CDM Framework

### **Main Document**

- |           |   |
|-----------|---|
| Table 2.1 | The Comprehensive Disaster Management Framework-2001  |
| Table 5.0 | Enhanced CDM Framework  |
| Table 5.1 | Linkages of Outcome 1 and Output with 2001 IRs, Kingston Declaration and CARICOM 10- year Framework |
| Table 5.2 | Linkages of Outcome 2 and Output with 2001 IRs, Kingston Declaration and CARICOM 10- year Framework |
| Table 5.3 | Linkages of Outcome 3 and Output with 2001 IRs, Kingston Declaration and CARICOM 10- year Framework |
| Table 5.4 | Linkages of Outcome 4 and Output with 2001 IRs, Kingston Declaration and CARICOM 10- year Framework |
| Table 6.0 | Preliminary example indicators  |

## **EXECUTIVE SUMMARY**

The Baastel-ESL (Canada-Jamaica) Consultancy team was contracted to provide technical services for the review of the Comprehensive Disaster Management (CDM) process, which had been initiated in 2001 to enhance disaster management in CDERA member countries. It was intended that the initial outcome would serve as a medium for promoting better harmonization of donor support for CDM driven programming. The donors targeted were from the Eastern Caribbean Donor Group (ECDG) and the Environment Climate Change and Disaster Management Sub-Committee of the donor group.

This document presents a Programme Framework for an enhanced approach to Comprehensive Disaster Management (CDM) in the Caribbean. The revised and enhanced Framework, is intended to emphasize disaster loss reduction through risk management, and to follow a more programme based approach (PBA) with an emphasis on Results Based Management (RBM). Priority Outcomes have been determined and associated outputs suggested to cover a five-year period, that is 2007-2012.

### **Contextual Background**

In 2001 the Caribbean Community (CARICOM), through broad based Stakeholder consultations, adopted a Strategy and Results Framework for Comprehensive Disaster Management (CDM) in the region. The goal was to link CDM to development decision-making and planning. CDM was orchestrated as a medium for harnessing Stakeholder contribution to a common agenda of disaster loss reduction and for creating an enabling environment for Stakeholder programming consultation and coordination.

#### **2001 Baseline Study**

The 2001 CDM Framework drew on the findings of a Baseline Study, which was undertaken as part of the process. The study took account of wide-ranging key stakeholder interviews, document reviews and observations. The areas highlighted for specific intervention in the Strategy and Framework were as follows:

1. Develop CDERA as a Coordinating Unit
2. Strengthen the National Disaster Organizations (NDOs) and needs of the territories
3. Facilitate collaboration and cooperation of all stakeholders
4. Develop Sector specific programmes
5. Facilitate Research and database development and information dissemination
6. Utilize of technical products produced by the CDMP project
7. Build on the training and mitigation initiatives already undertaken by CDERA and its partner agencies
8. Share best practices
9. Encourage collaboration of funding agencies beyond the response mode
10. Strengthen legislation and regulatory framework
11. Target sensitisation and awareness to policy makers

12. Use financial and economic costing of losses as the rationale for CDM integration into the development process.

### **The Framework**

The Framework was driven by a Goal of *Sustainable Development in the Caribbean* and a Strategic Objective of *Integrating CDM into the development processes of CDERA member countries*. Five Intermediate Results were targeted:

- IR-1: Stronger regional and national institutions promote CDM.
- IR-2: Research and training support CDM.
- IR-3: Regional institutions and donors incorporate CDM in their own programs and promote CDM to their national members/clients.
- IR-4: Preparedness, response and mitigation capability is enhanced and integrated.
- IR-5: Hazard information is incorporated into development planning and decision-making.

It is significant to note that there was marked synergy between the CDM 2001 framework and the *Outcomes Document* of the 2005 UN World Conference on Disaster Reduction (WCDR), which seemed to confirm that the objectives of the Caribbean as expressed through the framework were closely aligned with the global agenda.

### **Regional Programming Framework 2005-2015**

In the light of the priorities identified for WCDR outcomes, and against the background of experiences in the region, CARICOM proposed to focus its programming around the critical actions needed to advance implementation of the five (5) Intermediate Results (IRs) of the 2001 CDM Strategy and Framework, which itself was also explicitly connected to the Bridgetown Programme of Action. Following review and participatory discussion the following thematic areas were selected for priority attention within CARICOM over the 2005-2015 period.

- Hazard mapping and vulnerability assessment
- Flood management
- Community disaster planning
- Early warning systems
- Climate change
- Knowledge enhancement

Building Resilience of nations and communities to hazard impacts was determined as the overall focus for the Caribbean region, and it was proposed that resources would be sought to expand and replicate several on-going best practices throughout the region.

### **Defining Events 2004-2005**

2004 is viewed as a watershed year or “wakeup call” for the Caribbean in terms of the need for concerted attention to loss reduction. It was a record year for multi-event, multi-island impact of hurricanes and tropical systems in the Caribbean, and the events brought into sharp focus the impacts of worst-case scenarios, revealing the many inadequacies of coping capacities in all affected territories.

A regional conference was convened by CDERA and UNDP with support from other agencies to review the lessons learnt from the 2004 experience. Emanating from the meeting was *The*

*Kingston Declaration of 2005*, which was intended to provide guidance for the Caribbean countries to improve their disaster risk management capabilities.

### Caribbean Single Market and Economy

The Caribbean Single Market and Economy (CSME) is designed to represent a single economic space where people, goods services and capital can move freely. Such integration requires harmonisation and coordination of social, economic and trade policies by participating states, and this has been articulated in the several policy documents of the CSME .

It is intended that the CSME will be implemented in phases, and the region-wide launch took place in January 2006 with the first phase as the CSM or Caribbean Single Market. It is anticipated that the CSME will be fully implemented in 2008 with harmonisation of economic policy. To date twelve of the CARICOM member states are also members of CSME, and all but one of these (Suriname) are CDERA member countries. Montserrat has indicated its intention to join, but is awaiting approval of the United Kingdom (UK). The Bahamas and other CDERA UK Overseas Territories - Anguilla, British Virgin Islands, Turks and Caicos Islands are not currently CSME members.

The CDM agenda is of particular relevance to several elements of CSME as development, economic policy and trading measures within individual countries and within the region as a whole will be greatly stymied by the risk of hazards which result in disasters.

### Organisation of Easter Caribbean States (OECS) - St George's Declaration of Principles for Environmental Sustainability

Of further consideration for the results- and program-based approach to the CDM strategy is the St George's Declaration of the Organisation of Eastern Caribbean States (OECS) which embodies the commitment of governments of the Eastern Caribbean to "environmentally sustainable development as essential for the creation of jobs, a stable society, and a healthy economy". The governments have adopted 21 principles for promoting environmental sustainability and expressed their commitment to provide the resources required for their implementation.

Principle # 9 speaks to *Integrated Disaster Management* whereby "*Governments will integrate disaster management initiatives with environmental priorities to help the peoples of the region in their preparation for and management of the impacts of natural and man-made disasters.*"

Principle #8 embraces "*Preparation for Climate Change*" whereby "*Governments will enact laws, create organizations and institutions and provide money to assist people and communities to adapt to the impact of climate change.*"

The Declaration has recently been under revision to "*make more explicit linkages with other policy commitments especially those contained in regional and global conventions and agreements such as the Johannesburg Declaration, the Mauritius Strategy and the Millennium Declaration and the Millennium Development Goals which are driving Development Aid and Development Agendas worldwide*". (April 2007 News, OECS website)

*"...the revised declaration therefore improved on the original by reorganising the information in it to articulate an overall aim for goals and to include specific and meaningful targets to achieve priority objectives or outcomes and indicators for monitoring progress towards the goals and the expected outcomes."* (V.St Hill, April 2007, OECS website)

## **Approach**

The revised Framework was informed by a review of the baseline study for and expected results from the 2001 CDM Strategy and Results Framework; an assessment of the achievements and challenges of the 2001 CDM Strategy and Framework; key stakeholder consultations at the local, national, regional and donor levels; review of pertinent national, regional and international documents; enhanced thinking and approaches in the disaster management discipline regionally and globally; and considerations of the CSME and St George's Declaration of the OECS.

The Results-Based Management methodology and Program-based Approach were determined as the vehicles to facilitate a harmonized approach for optimising resources toward achievement of clearly identified results.

## **Summary Assessment Findings**

Repeated losses and dislocation from natural hazards continue in the Caribbean in spite of extensive project interventions. Several projects have been implemented but the beneficial impact has not been optimised as donor contributions were not harmonized and the similarity of needs of the member territories did not benefit from a program-based approach.

The CDM strategic framework between 2001 and 2006 recorded several successful initiatives in the institutional enhancement of the CDERA Coordinating Unit (CU) as the lead disaster management agency for the region; project support from development partners; donor collaboration; some resource pooling; project implementation; data acquisition and monitoring; sector programming dialogue; stakeholder consultations; and participatory discussions. Hazard identification and analysis, mitigation strategies and emergency response mechanisms have been particularly noteworthy.

However, some of the critical assumptions identified for the 2001 CDM framework have not been realized, particularly as they related to capacity building (IR1). Institutional weaknesses have militated against building strong decentralized national entities and the financial and technical resources to build capacity at the local/community and national levels have not been adequate.

Governance structures need to be revisited and champions identified for elevating disaster loss reduction on the national agendas in a practical and applied way. Systemic change is required, and should be so driven that tangible results are evident.

Community resilience was noted in the assessment process, as was the need to further the mainstreaming and key integration of CDM and risk management into national and sectoral policies and programmes. Key issues underpinning other inadequacies such as the need to enhance knowledge management and institutional support and capacity, were also noted through the assessment process.

It was deemed imperative to rearticulate the 2001 Strategy utilizing the current terminology and approaches of the Results-based Methodology (RBM), and the Program-Based Approach (PBA). The Enhanced Framework towards Comprehensive Disaster Management (CDM) presented below therefore reflects this change.

## Enhanced Framework

Local, national and regional needs have been clearly identified in the several documented accounts of reviews and deliberations, and several *cross-cutting themes* have emerged from the assessment and consultations.

*Adaptation to climate variability and change* is one such theme and it is proposed that all identified outcomes integrate the climate change consideration.

*Poverty reduction and Sustainable Development* are linked to the pursuit of the *Millennium Development Goals (MDGs)*.

*Information and communication Technologies* are essential to facilitating development and management of the multi-faceted databases required for CDM and for information dissemination germane to building resilience.

*Gender* issues have been clearly highlighted in response to and recovery from recent events and should therefore be integrated into each of the four outcomes.

*Knowledge management, community resilience*, the need to further *integrate and mainstream disaster risk management in key sectors*, as well as the linchpin issue of *institutional capacity and institutional support to the CDM process* have all been identified as key issues for attention and integration into the enhanced framework.

The outcomes and outputs presented below have been reviewed and discussed by the key partners as well as stakeholders participating in the CDM Workshop on December 11<sup>th</sup> to 14<sup>th</sup>, 2006. Later reviews by the Expert Group indicated the need to align the Goal of the Enhanced strategy with the objectives of CSME and this has been taken into account.

Based on discussions and comments, the Goal, Purpose, Outcomes and Outputs have been finalized along with the overarching enhanced CDM programme.

### How were the Outcomes determined?

Priority outcomes were selected utilizing the extent to which the proposed programme areas met:

- a) Characteristics of a programme based approach
- b) Characteristics for results-based management
- c) Gaps identified in the Kingston Declaration 2005
- d) Gaps identified in the CDM review
- e) Continued linkages with the old IRs of the previous strategy (for key areas still to be addressed)
- f) Linkages to key programming frameworks such as the WCDR and the CARICOM Framework
- g) Needs identified from other relevant documentation and studies/analyses
- h) Other considerations derived from stakeholder consultations

The Table below illustrates the Enhanced Framework for Comprehensive Disaster Management.

## Enhanced CDM Framework

GOAL			
Regional Sustainable Development enhanced through Comprehensive Disaster Management			
PURPOSE <i>'To strengthen regional, national and community level capacity for mitigation, management, and coordinated response to natural and technological hazards, and the effects of climate change.'</i>			
OUTCOME 1:	OUTCOME 2:	OUTCOME 3:	OUTCOME 4:
Enhanced institutional support for CDM Program implementation at national and regional levels	An effective mechanism and programme for management of comprehensive disaster management knowledge has been established	Disaster Risk Management has been mainstreamed at national levels and incorporated into key sectors of national economies (including tourism, health, agriculture and nutrition)	Enhanced community resilience in CDERA states/ territories to mitigate and respond to the adverse effects of climate change and disasters
↓	↓	↓	↓
OUTPUTS	OUTPUTS	OUTPUTS	OUTPUTS
<p>1.1 National Disaster Organizations are strengthened for supporting CDM implementation and a CDM program is developed for implementation at the national level</p> <p>1.2 CDERA CU is strengthened and restructured for effectively supporting the adoption of CDM in member countries</p> <p>1.3 Governments of participating states/territories support CDM and have integrated CDM into national policies and strategies</p> <p>1.4 Donor programming integrates CDM into related environmental, climate change and disaster management programming in the region.</p> <p>1.5 Improved coordination at national and regional levels for disaster management</p> <p>1.6 System for CDM monitoring, evaluation and reporting being built</p>	<p>2.1 Establishment of a Regional Disaster Risk Reduction Network to include a Disaster Risk Reduction Centre and other centres of excellence for knowledge acquisition sharing and management in the region</p> <p>2.2 Infrastructure for fact-based policy and decision making is established /strengthened</p> <p>2.3 Improved understanding and local /community-based knowledge sharing on priority hazards</p> <p>2.4 Existing educational and training materials for Comprehensive Disaster Management are standardized in the region.</p> <p>2.5 A Strategy and curriculum for building a culture of safety is established in the region</p>	<p>3.1 CDM is recognized as the roadmap for building resilience and Decision-makers in the public and private sectors understand and take action on Disaster Risk Management</p> <p>3.2 Disaster Risk Management capacity enhanced for lead sector agencies, National and regional insurance entities, and financial institutions</p> <p>3.3 Hazard information and Disaster Risk Management is integrated into sectoral policies, laws, development planning and operations, and decision-making in tourism, health, agriculture and nutrition, planning and infrastructure</p> <p>3.4 Prevention, Mitigation, Preparedness, Response, recovery and Rehabilitation Procedures developed and Implemented in tourism, health, agriculture and nutrition, planning and infrastructure</p>	<p>4.1 Preparedness, response and mitigation capacity (technical and managerial) is enhanced among public, private and civil sector entities for local level management and response</p> <p>4.2 Improved coordination and collaboration between community disaster organizations and other research/data partners including climate change entities for undertaking comprehensive disaster management</p> <p>4.3 Communities more aware and knowledgeable on disaster management and related procedures including safer building techniques</p> <p>4.4 Standardized holistic and gender-sensitive community methodologies for natural and anthropogenic hazard identification and mapping, vulnerability and risk assessments, and recovery and rehabilitation procedures developed and applied in selected communities.</p> <p>4.5 Early Warning Systems for disaster risk reduction enhanced at the community and national levels</p>

## Conclusions and Recommendations

The Enhanced CDM Framework which proposes four priority outcomes is based on four underpinning pillars: The Review and Assessment of the 2001 CDM Strategy and Framework; the global and regional disaster management agenda including the Hyogo Framework for Action 2005-2015; and the CARICOM Regional Programming Framework; and the objectives of the Caribbean Single Market and Economy. The Intermediate Results of the 2001 Framework have been incorporated in the relevant places so as to ensure continuity and deepening of the CDM process which began in 2001. The Enhanced Framework is designed toward achieving the overarching Goal of Sustainable Development in the Caribbean.

It is significant to note that the original Intermediate Results have been incorporated in the Revised Program. However, there has been a shift toward a program-based approach with the articulation of prioritised outcomes as a plank on which to build "Aid effectiveness" as agreed by Development Partners and developing countries in Paris, 2005. The enhanced framework is perceived as " rebranding" and "revisioning ", and in that regard a monitoring mechanism is to be tied to the process as part of the program development.

The draft revised CDM Framework was presented for feedback and endorsement in principle from the key stakeholders at the inaugural CDM conference held December 11<sup>th</sup>-14<sup>th</sup>, 2006 in Barbados and from professional staff at CDERA CU in each respective territory. Recommendations have been incorporated as appropriate in this final version.

The outcomes have been informed by the need for a strategic shift toward a programming framework which will foster collaboration among development partners and other key players as well as harmonization among the many projects, programs and initiatives in DRM within the Region.

National Disaster Management Policies are needed in all countries with the exception of BVI and St Lucia, and prioritisation at the highest levels within each state is an essential step.

Sustainable development within the Caribbean is intricately tied to "building the resilience of nations and communities to disasters", and therefore the focus on capacity-building at the national level is well-placed.

A plan of action and more detailed programming roadmap needs to be formulated to facilitate moving forward for endorsement by external partners, and for endorsement by the CDERA system. It is anticipated that the revised CDM framework will be presented to the Board of CDERA, to national stakeholders at the country level, and to COTED in CARICOM.

Development partners have undertaken to assess how the respective agencies can contribute to/support the CDM process. Roles will need to be defined and institutional capacity for implementing/supporting CDM within the respective agencies assessed.

A mechanism for detailed design and implementation for the enhanced program is essential, and the requisite support should be obtained. Consideration needs to be given to development of a detailed baseline and benchmarking to strengthen program design and facilitate harmonization among key donors and institutions, given the imperative for integration of a results-based programmatic focus into this enhanced Framework. In addition, this required participatory process needs to be followed as well to delineate the monitoring and evaluation framework and system that will be utilized for ongoing monitoring and reporting on the CDM Program, and to maintain the results-based focus and strength monitoring and evaluation overall.

# **1      Introduction**

## **1.1    Purpose**

This document presents a Programme Framework for an enhanced approach to Comprehensive Disaster Management (CDM) in the Caribbean. The revised and enhanced Framework is intended to emphasise disaster loss reduction through risk management, and to follow a more program based approach (PBA) with an emphasis on Results Based Management. Priority Outcomes have been determined and associated outputs are suggested to cover a five year period.

In 2001 the Caribbean Community (CARICOM), through broad based Stakeholder consultations, adopted a Strategy and Results Framework for Comprehensive Disaster Management (CDM) in the region. The goal was to link CDM to development decision-making and planning. CDM was orchestrated as a medium for harnessing Stakeholder contribution to a common agenda of disaster loss reduction and for creating an enabling environment for Stakeholder programming consultation and coordination.

Five (5) years after the embracing of CDM by the region and against a background of regional and global catastrophes between 2001 and 2006, there is an intense desire among disaster management stakeholders in the Caribbean to accelerate initiatives in promoting disaster loss reduction. This spate of Stakeholder interest in promoting and supporting risk reduction in the Caribbean has placed the existing mechanisms for coordination of disaster management under the microscope. There is a consensus on the need to urgently revisit the mechanisms to determine modalities for making the process more efficient and transparent. The review is also needed to facilitate the prioritisation of critical regional DM outcomes in the short term.

Whilst there is the recognition that the CDM Framework is the appropriate infrastructure for engaging Stakeholder coordination in disaster management there is unanimity in the need for an assessment with a view to strengthening and deepening the approach. It was also recognized that there was an opportunity to seek to influence ongoing regional donor programme articulation to lobby support for CDM outcomes through possible harmonized approaches.

Harmonised approaches to regional development have been receiving heightened attention within the past five years with governmental efforts to implement the process of a Caribbean Single Market and Economy (CSME). Hazard risk is a common threat to the viability of each of the member countries and recent experiences with multi-hazard and multi-country impact have served to underscore the economic and social vulnerability and fragility of the region as a whole. The consequences for an internal and external trading bloc have been manifest.

The Enhanced Framework (2006-2012) will therefore emphasise disaster loss reduction through disaster risk management and will be used as a tool focusing on results, harmonized approaches through partnerships among development partners and stakeholders, and a monitoring and evaluation framework.

## **1.2    Approach**

The revised Framework was informed by a review of the baseline study for and expected results from the 2001 CDM Strategy and Results Framework; an assessment of the achievements and challenges of the 2001 CDM Strategy and Framework; key stakeholder consultations at the local, national, regional and donor levels; review of pertinent national, regional and international documents; enhanced thinking and approaches in the disaster management discipline regionally and globally; and consideration of the objectives of the Caribbean Single Market and Economy.

### 1.2.1 Guiding Principles

The following principles help to guide the process of revision:

#### *Participatory and consultative research*

Key stakeholders were identified for consultation regarding a review and assessment of implementation of the CDM framework 2001, and the needs of the territories and region for the way forward.

#### *Building on Conditions Precedent*

The 2001 framework has engendered a number of outputs, and the framework itself built on several predecessor activities. The enhanced framework was guided by the many outputs of projects, seminars and workshops, training sessions, situation analyses and other disaster management activities in the region since 2001.

#### *Assimilating Lessons Learnt*

Several events have occurred within the last ten years and within the last five years in particular there have been “defining” conditions. An attempt has been made to assimilate lessons learnt in the programme design considerations.

#### *Applied Knowledge*

The team’s detailed working knowledge of evaluation theories and approaches, as well as their particular expertise in disaster risk management, have been applied to this mandate.

#### *Program Based Approach (PBA)*

A PBA is a way of engaging in development cooperation based on the principle of coordinated support for a locally owned programme of development. The approach includes four key elements:

- Leadership by the host country or organization.
- A single programme and budget framework.
- Donor coordination and harmonization of procedures.
- Efforts to increase the use of local procedures over time with regard to programme design and implementation, financial management, and monitoring and evaluation.” (Baastel, 2006)

The path to establishing priorities in this Framework using PBA included consideration of:

- **Stakeholder involvement:** Caribbean governments and organizations must assume ownership of these priorities and facilitate whatever reforms are required to ensure outcomes
- **Donor harmonization:** this may include basket-fund approaches and consensually accepted common reporting formats

- **Global coordination:** Both local stakeholders and donors will have to adhere to coordination strategies clearly defined with a specific objective of transparency in information flows.

### *Results-Based Management*

"Rather than focusing programme/project management efforts on the monitoring of inputs, activities and processes, an RBM approach concentrates on 'results' and places emphasis on the following dimensions:

- Defining realistic results based on appropriate analysis and context
- Clearly identifying programme beneficiaries and designing programmes/projects that meet their needs and priorities
- Using results information to make effective management decisions
- Monitoring the progress made towards expected results with the use of appropriate indicators
- Increasing knowledge and improving practices through lesson learning
- Identifying and managing risk
- Reporting on results achieved and resources used." (Baastel, 2006)

These dimensions have far-reaching effects when choosing priority sectors for disaster reduction as they compel planners to:

- Redraw the cause and effect relationships between sectors in order to assess the most obvious path to results;
- As in PBAs, identify and mobilize beneficiaries because they are elements of a successful negotiation of projects' objectives;
- Develop appropriate performance measuring tools (indicators, performance measurement matrices, risks analyses protocols, etc.) which cannot be overlooked.

## 2 Conditions Precedent to the Enhanced Strategy

### 2.1 CDM 2001 Strategic Framework - Baseline and Consultations

The 2001 CDM Framework drew on the findings of the Baseline Study which took account of wide-ranging key stakeholder interviews, document reviews and observations. The areas highlighted for specific intervention were as follows:

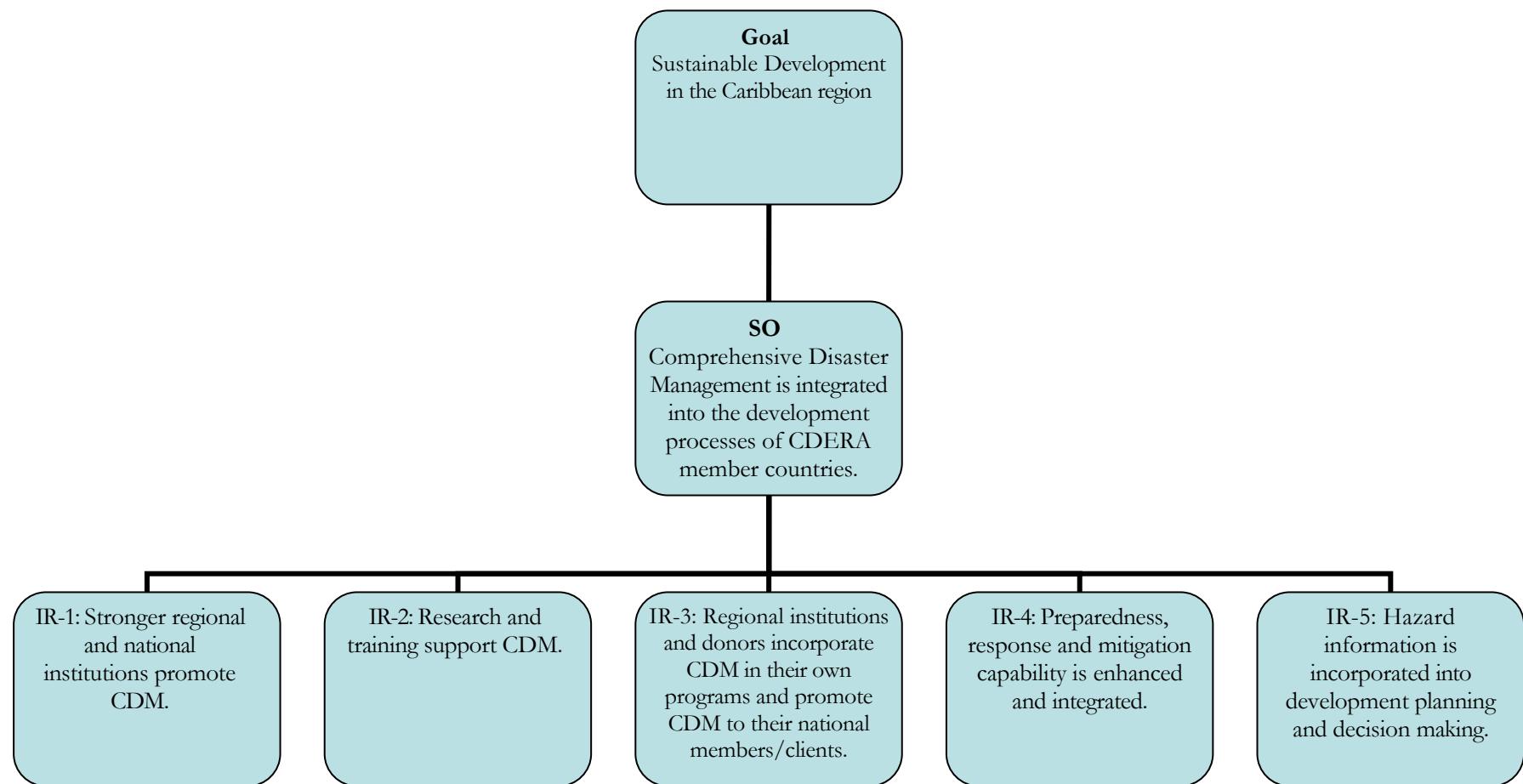
1. Develop CDERA as a Coordinating Unit
2. Strengthen the National Disaster Organisations (NDOs) and needs of the territories
3. Facilitate collaboration and cooperation of all stakeholders
4. Develop Sector specific programmes
5. Facilitate Research and database development and information dissemination
6. Utilise of technical products produced by the CDMP project
7. Build on the training and mitigation initiatives already undertaken by CDERA and its partner agencies
8. Share best practices
9. Encourage collaboration of funding agencies beyond the response mode
10. Strengthen legislation and regulatory framework
11. Target sensitisation and awareness to policy makers
12. Use financial and economic costing of losses as the rationale for CDM integration into the development process.

### 2.2 CDM Strategy as Recognized Road Map

The CDM Framework of 2001 was driven by a Goal of *Sustainable Development in the Caribbean* and a Strategic Objective of *Integrating CDM into the development processes of CDERA member countries*. Five intermediate results (IRs) and sub-IRs were identified as detailed below in Table 2.1.

The strategy was endorsed by CARICOM and by national stakeholders through national consultations. Development partners accepted the framework as providing direction for investment in disaster management for the Caribbean, and funding through CDERA for projects and initiatives received a considerable boost over the 2001-2006 period.

Table 2.1: The Comprehensive Disaster Management Framework-2001



It is significant to note that there was marked synergy between the CDM 2001 framework and the *Outcomes document* of the 2005 UN World Conference on Disaster Reduction (WCDR), which seemed to confirm that the objectives of the Caribbean as expressed through the framework were closely aligned with the global agenda. (Some links are demonstrated in section 5 below).

### 2.3 CARICOM Regional Framework 2005-2015

In the light of the priorities identified for WCDR outcomes, and against the background of experiences in the region, CARICOM proposed to focus its programming for the decade 2005-2015 around the critical actions needed to advance implementation of the five (5) Intermediate Results (IRs) of the 2001 CDM Strategy and Framework. That framework itself was also explicitly connected to the Bridgetown Programme of Action. Following review and participatory discussion the following thematic areas were selected for priority attention within CARICOM over the period.

- Hazard mapping and vulnerability assessment
- Flood management
- Community disaster planning
- Early warning systems
- Climate change
- Knowledge enhancement

Building Resilience of nations and communities to hazard impacts was determined as the overall focus for the Caribbean region, and it was proposed that resources would be sought to expand and replicate several on-going best practices throughout the region. Resilience refers to the capacity of a system, community or society potentially exposed to hazards to adapt, by resisting or changing in order to reach and maintain an acceptable level of functioning and structure. This is determined by the degree to which the social system is capable of organizing itself to increase its capacity for learning from past disasters for better future protection and to improve risk reduction measures (ISDR). Such resilience may be achieved by introducing risk reduction measures through mitigation, preparedness planning and emergency procedures, strong community/civil organizations and infrastructure, and creative and innovative procedures peculiar to the respective communities and circumstance. It was proposed that this resilience could be advanced through the pursuit of courses of action in line with the following themes:

- Governance: Institutional and Policy Frameworks for Risk Reduction
- Knowledge Management
- Community Disaster Planning
- Flood Management
- Adaptation to Climate Change

*As is demonstrated below, the enhanced CDM programme is intended to build on and integrate these key aspects, in an effort to promote harmonized approaches to CDM and related issues in the region. Indeed, this should facilitate a more PBA-type approach to programming among donors and countries.*

## **2.4 Caribbean Single Market and Economy (CSME) -“A Stronger Voice towards Greater Prosperity”**

As indicated earlier, the concept of harmonisation has been well-articulated in the policy documents of the Caribbean Single Market and Economy (CSME). The CSME is designed to represent a single economic space where people, goods services and capital can move freely. This requires harmonisation and coordination of social, economic and trade policies by participating states.

It is intended that the CSME will be implemented in phases, and the region-wide launch took place in January 2006 with the first phase as the CSM or Caribbean Single Market. It is anticipated that the CSME will be fully implemented in 2008 with harmonisation of economic policy. To date twelve of the CARICOM member states are also members of CSME, and all but one of these (Suriname) are CDERA member countries. Montserrat has indicated its intention to join, but is awaiting approval of the United Kingdom (UK). The Bahamas and other CDERA UK Overseas Territories - Anguilla, British Virgin Islands, Turks and Caicos Islands are not currently CSME members.

CARICOM was established under the Treaty of Chaguaramas and the CSME has been facilitated through nine major amendments (called Protocols) to the Treaty. These Protocols will be the legal platform for the operation of the CSME. Among the elements of particular relevance to CDM are harmonization of laws, trading bloc agreements and economic policy measures to acquire, develop and transfer appropriate technology. Development within individual countries and within the region as a whole will be greatly stymied by the risk of hazards which result in disasters.

## **2.5 Organisation of Eastern Caribbean States (OECS) - St George’s Declaration of Principles for Environmental Sustainability**

Of further consideration for the results- and program-based approach to the CDM strategy is the St George’s Declaration of the Organisation of Eastern Caribbean States (OECS) which embodies the commitment of governments of the Eastern Caribbean to “environmentally sustainable development as essential for the creation of jobs, a stable society, and a healthy economy”. The governments have adopted 21 principles for promoting environmental sustainability and expressed their commitment to provide the resources required for their implementation. The Declaration has recently been under revision to *“make more explicit linkages with other policy commitments especially those contained in regional and global conventions and agreements such as the Johannesburg Declaration, the Mauritius Strategy and the Millennium Declaration and the Millennium Development Goals which are driving Development Aid and Development Agendas worldwide”*. (April 2007News, OECS website)

*“...the revised declaration therefore improved on the original by reorganising the information in it to articulate an overall aim for goals and to include specific and meaningful targets to achieve priority objectives or outcomes and indicators for monitoring progress towards the goals and the expected outcomes.”*(V.St Hill, April 2007, OECS website)

The people and governments of the Eastern Caribbean States (OECS) have come together, to develop these principles by which human conduct affecting the Environment should be guided and judged. Community and interest groups, government agencies and the private sector, are encouraged to undertake projects that will assist in the implementation of these principles. (Environment and Sustainable Development Unit, OECS, 2007)

Principle # 9 speaks to *Integrated Disaster Management* whereby “*Governments will integrate disaster management initiatives with environmental priorities to help the peoples of the region in their preparation for and management of the impacts of natural and man-made disasters.*”.

Principle #8 embraces “*Preparation For Climate Change*” whereby “*Governments will enact laws, create organizations and institutions and provide money to assist people and communities to adapt to the impact of climate change.*”

The OECS was established through the Treaty of Basseterre in 1981, and has come to include a nine member grouping of the Windward and Leeward Islands with the BVI and Anguilla as associate members - a significant percentage of the sixteen member grouping of CDERA countries. The OECS describes its mission as “to become a major regional institution contributing to the sustainable development of the OECS member states ...”

“All nine OECS member countries embrace the St. George’s Declaration as their covenant to sustainable development for all in the region”. The SGD has been described as the beginning of a comprehensive environmental agenda for the OECS. (OECS website)

### **3      The CDM Review – Summary Findings and the Way Forward**

#### **3.1    Summary Findings**

The CDM strategic framework between 2001 and 2006 recorded several successful initiatives in the institutional enhancement of the CDERA Coordinating Unit (CU) as the lead disaster management agency for the region, project support from development partners, donor collaboration, resource pooling, project implementation, data acquisition and monitoring, sector programming dialogue, stakeholder consultations and participatory discussions. Hazard identification and analysis, mitigation strategies and emergency response mechanisms have been particularly noteworthy. Report # 3 of the CDM Review and Enhancement Project - *Final Assessment Report of CDM Implementation* details the results of the review.

Some of the critical assumptions identified for the 2001 CDM framework have not been realized, particularly as they related to capacity building (IR1). Institutional weaknesses have militated against building strong decentralized national entities and the financial and technical resources to build capacity at the local/community and national levels have not been adequate. Capacity at the national level varies in that the organization and management structure, level of staffing, equipment, training, Emergency Operating Centres, and other critical indicators are inconsistent among participating states. Jamaica, for example has a staff complement of over 50 persons with three divisions dedicated to Corporate Services, Preparedness and Response Operations, and Mitigation, Planning and Research. Several other disaster offices have less than five persons including support staff, and in the case of the Dominica National Disaster Office there is only the Coordinator, a secretary and a driver. Minimal tools and a meager organisation typify many of the participating states. Trinidad and Tobago has voted a significant budget for strengthening the disaster office and organisation, but disbursement has been so slow that the organization is yet to be fully operational after over a year of policy declaration.

Disaster management has still not been sufficiently elevated on national agendas. Institutional capacity building therefore remains a major need, and greater devolution of project implementation and technical assistance from the CDERA Coordinating Unit was suggested as a desirable approach. It was further suggested that particular emphasis should be placed on those participating territories that were furthest behind, while still supporting those which had made significant progress in many areas.

The CDERA biennial audit of National Disaster Organisations including Disaster Management Offices reviews data on institutional capacity and achievements. USAID has also funded development of a benchmarking tool (B-tool) and consideration should be given to the basic institutional capacity required for effective disaster risk management in each of the CDERA states.

Draft national CDM strategies were endorsed through high level consultations in almost all CDERA member territories between 2001 and 2002, but there has been limited progress in integrating disaster management into the planning process. One explanation given was that the required technical assistance and political will to implement the identified activities were inadequate to trigger the necessary "sea change" or paradigm shift. The absence of "highly influential champions" especially within political directorates for the process in most territories has been highlighted in the survey responses. Disaster Risk management has yet to be elevated to the political agenda in most territories.

The British Virgin Islands (BVI) provide an example of the value of political leadership, and a Case Study commissioned by the Caribbean Risk Management Initiative (CRMI) documents the key role played by a champion at the highest political/administrative level. (UNDP/CRMI, 2005)

Repeated losses and dislocation from natural hazards continue in the Caribbean in spite of extensive project interventions. Several projects have been implemented but the beneficial impact has not been optimised as donor contributions were not harmonized and the similarity of needs of the member territories did not benefit from a program-based approach. There is an opportunity to design an approach which will help to make project outputs engender the critical mass necessary for demonstrable impacts in the respective areas of project intervention.

Governance structures need to be revisited and champions identified for elevating disaster loss reduction on the national agendas in a practical and applied way. Systemic change is required, and should be so driven that tangible results are evident. Tangible results are required to convince donors that their investment is not better placed in catastrophe risk insurance, or risk transfer. There are significant competing demands on international assistance funds and relief support is dwindling.

Furthermore, focus on community resilience was noted in the assessment process, as was the need to further the mainstreaming and key integration of CDM and risk management into national and sectoral policies and programmes. Key issues underpinning other inadequacies such as the need to enhance knowledge management and institutional support and capacity, were also noted through the assessment process.

### 3.2 2004 - A Defining Year

2004 was a record year for multi-event, multi-island impact of hurricanes and tropical systems in the Caribbean, and indeed the Tropical Atlantic and Gulf coast of the United States. Events brought into sharp focus the impacts of worst-case scenarios, and revealed the many inadequacies of coping capacities in all territories. Grenada and the Cayman Islands suffered extensive destruction, and Haiti, Jamaica and the Bahamas were also severely affected. There were some 6,000 casualties (mostly in Haiti) and some US\$6billion loss of assets in eight (8) states.

2005 also brought a series of tropical systems to several islands including some of the same islands viz. Jamaica, Bahamas, Grenada and Cayman.

Growing attention to technological or human induced hazards also necessitates a stronger multi-hazard approach and a broadening of concern beyond natural events, particularly hurricanes. Safety and security issues are high on the global and regional agendas and need to be elevated on the national agendas. Terrorism, biosecurity, food security, and the environmental health and security implication of «open borders» are but some of the concerns. Recovery planning has received short shrift to date, and rebuilding of vulnerability must be avoided. In summary, all phases of the disaster cycle must continue to be treated but with deepened attention to loss reduction, and in a more programmatic way - CDM using the Results-Based Management (RBM) and Program-Based Approaches.

A regional conference was convened by CDERA and UNDP with support from other agencies such as UK's Foreign and Commonwealth Office, USA's Overseas Federal Disaster Agency (OFDA), and Canadian International Development Agency (CIDA) in Kingston, Jamaica in April 2005 to review the lessons learnt from the 2004 experience. Representation was drawn from governmental, regional and sub-regional agencies; non-governmental organizations; donor organizations; a range of professionals, researchers and teachers; interested members of the public; and the media. The objectives of the meeting were to:

- Identify and document best practices and opportunities for improving prevention, preparedness, and response planning
- Facilitate a reflection on the Comprehensive Disaster Management (CDM) Strategy and priority actions under the Intermediate Results (IRs)
- Develop Action Plans for improving risk reduction programmes/policies in the short to medium term
- Identify strategic opportunities for collaborating with other sectors and partners.

Emanating from the meeting was *The Kingston Declaration of 2005* which articulated the consensus on gaps as highlighted during the very active and destructive hurricane season of 2004, and which reiterated the need for the alignment of sub-regional and local action plans within global frameworks, particularly proceedings from SIDS +10, Mauritius 2005; WCDR, Kobe, 2005; and the Millennium Development Goals (MDGs). The Declaration summarised in the Assessment Report (Report # 3), was intended to provide guidance for the Caribbean countries to improve their disaster risk management capabilities, by increasing regional cooperation, national planning and community participation initiatives.

The year 2004 has been viewed in the region as a defining year for Caribbean Disaster Management, in terms of what should be a “wake up call” for national decision-makers to accept and implement requirements for building resilience to the inevitable hazards.

*As demonstrated below, the enhanced CDM framework is also based closely on the findings of the CDM assessment that took place from August to November 2006, and the elements to be strengthened or requiring an enhanced focus will be addressed further in the Framework.*

### 3.3 The Way Forward

In view of the regional experience it was deemed necessary to determine what the desired outcomes ought to be over the next *five years* in the first instance to make a demonstrable difference to disaster reduction at the community as well as the national and regional levels in the Caribbean. These outcomes should deepen the achievements and fill the gaps of the 2001 IRs, encompass findings from the assessment, build on the CARICOM framework, and be linked well to the WCDR Outcomes document and Hyogo Framework, and the Kingston Declaration.

Caribbean countries are at differing stages of development with respect to Disaster Risk Management. Recommended programmes should therefore seek to enhance the capacity of all countries, but in keeping with country specific and regional needs identified. There appear to be particular result areas that need to be addressed further:

**Capacity building** - in areas that address governments, particular ministries, National Disaster Organisations, National Disaster Management Offices, and other key local, national and regional institutions; Key areas include a variety of skills sets, but governance, knowledge management and sharing, awareness and promotion, and the links to economic and sustainable development are among them. In addition, underpinning most results in the programme will be ongoing institutional capacity building and the needed institutional support at a variety of levels. CDERA has utilised an Audit tool to monitor the progress of NDMOs with respect to institutional capacity. These should be used to assist the program design for each country.

***Community-level focus*** - Building community resilience is a key focus of the Hyogo Framework and of the CARICOM regional programming Framework outlined for 2005-2015. In addition the geography and experience of the countries underscore the imperative to build the capacity at the community level to handle all phases of comprehensive disaster management (CDM).

***Integration and mainstreaming*** of CDM into national and sectoral plans, policies, laws and processes - there needs to deepen integration and mainstreaming where they have begun and to begin such processes where they do not yet exist. In particular, there is a need to integrate Disaster Risk Management into particular sectors such as Agriculture, Planning, Infrastructure and Tourism.

***Knowledge management*** - Vulnerability and loss reduction must be underpinned by scientific data on the nature of the hazards, the nature and extent of physical, social and economic vulnerability, and the level of risk within each territory. Dissemination of hazard and risk information must be timely, accurate and appropriate. It is necessary to gather and disseminate information on the relationship between the natural environment and disaster loss reduction, emphasising healthy natural resources and ecosystems as integral to natural hazard vulnerability reduction. Formal and informal educational streams should be linked, and local knowledge tapped and utilized in building of community resilience. There is a clear need to further knowledge management and exchange and to build capacity for utilization of existing information as well as access to and sharing of this information in the region.

***Collaboration among development partners*** in pursuit of agreed outcomes is potentially an effective route to harmonised action for measurable results. Such collaboration will also reduce the possibility of parallel and duplicated effort and will increase the probability of meaningful change. A programmatic approach has potentially more long-term and sustainable benefit. Projects are short-term with defined beginnings and end, and expertise and procedures are often not institutionalised.

#### ***Summary comment***

Regional needs have been determined through consultative and lessons learnt discussions, and these are being used to inform the region's strategic direction for the next five to ten years. CDERA as CARICOM focal point for disaster management and through its considerable network of partners and its demonstrated capacity for brokering resources for regional initiatives should continue to act as broker, and should seek to coordinate the program-based approach to an enhanced results-oriented CDM framework.

A performance monitoring system will be designed into the programmes of work so as to facilitate performance monitoring and progress toward articulated outcomes. Such a system was not part of the 2001 Framework and the challenges that arose should not be repeated. This will need to be undertaken in a participative and consultative manner with all relevant stakeholders, including CDERA, Participating States, donors, and relevant regional and national institutions. Program development itself and the monitoring framework will need to build on the benchmarking exercise to be undertaken at the national levels.

## **4 The Enhanced CDM Strategy and Framework**

### **4.1 Overall Objectives and Priority “Outcomes”**

As noted above, it was determined by stakeholders that given the emphasis on the need for demonstrable achievements in disaster loss reduction, a results-based management methodology should be applied to disaster risk management in the region. Of further consideration was the need for harmonized interventions so as to optimise resources toward achieving the desired results within the specified period of five years in the first instance. It therefore became necessary to rearticulate the 2001 Strategy utilizing the current terminology and approaches of the Results-based Methodology (RBM), and the Program-Based Approach (PBA). The Enhanced Framework towards Comprehensive Disaster Management (CDM) presented below therefore reflects this change.

#### **Cross cutting themes**

Local, national and regional needs have been clearly identified in the several documented accounts of reviews and deliberations, and several *cross-cutting themes* have emerged from the assessment and consultations.

*Adaptation to climate variability and change* is one such theme and it is proposed that all identified outcomes integrate the climate change consideration.

*Poverty reduction* and *Sustainable Development* are linked to the pursuit of the *Millennium Development Goals (MDGs)*.

*Information and communication Technologies* are essential to facilitating development and management of the multi-faceted databases required for information dissemination germane to building resilience.

*Gender* issues have been clearly highlighted in response to and recovery from recent events and should therefore be integrated into each of the four outcomes.

As stated earlier, key issues such as *knowledge management*, *community resilience*, the need to further *integrate and mainstream disaster risk management in key sectors*, as well as the lynchpin issue of *institutional capacity and institutional support to the CDM process* are other pervasive themes.

#### **Goal, Purpose and Outcomes**

What is required over the next five years, in the first instance, are outcomes that will make a demonstrable difference to disaster reduction at the community as well as at the national and regional levels in the Caribbean. In RBM terminology, outcomes are to be achieved at the end of the project or programme; in this case, this refers to the demonstrable results expected at the end of the next 5-year programme's end. It has been suggested that collaboration among development partners through a harmonised approach in pursuit of agreed outcomes is potentially an effective route to focused action toward measurable results.

The outcomes and outputs presented below have been reviewed and discussed by the key partners and stakeholders participating in the CDM Workshop on December 11<sup>th</sup> to 14<sup>th</sup>, 2006. Based on discussions and comments, these outcomes and outputs were finalized along with the overarching enhanced CDM programme.

Further discussion by the Group of Experts, who have guided development of the enhanced Strategy, articulated the need to include consideration of the CSME, and to link the Goal of CDM with the objectives of CSME.

The overarching Goal of the CDM Strategy remains cognisant of sustainable development within the Caribbean Region, and is therefore articulated as: **Regional Sustainable Development enhanced through Comprehensive Disaster Management**.

The Purpose is: "To strengthen, regional, national and community capacity for the mitigation, management, and coordinated response to natural and technological hazards, and the effects of climate change".

The outcomes agreed as being necessary for contributing to the Strategy's Goal and Purpose are presented below:

1. Enhanced institutional support for CDM Program implementation at national and regional levels
2. An effective mechanism and programme for management and sharing of CDM knowledge is established and utilized for decision making
3. Disaster Risk Management has been mainstreamed at national levels and incorporated into key sectors of national economies e.g. tourism, agriculture, infrastructure, planning, health, etc.
4. Community resilience has been enhanced in CDERA states/ territories to reduce risk and to respond to the adverse effects of climate variability and change and disasters

Short-term outputs toward achieving outcomes have been developed for each outcome and it is expected that these may be further refined at the local, national and regional levels as may be appropriate. In addition, key performance indicators, linked to each output have also been developed solely for guidance and to demonstrate further the details of the suggested strategy and programme. True indicators will need to be developed in consultation with the respective implementing bodies for each of the outputs and outcomes. The "draft preliminary indicators" are presented below.

#### **4.2 How were the Outcomes Determined?**

The decision to adopt the "up-to-date approach" to results-based management and to adopt a program-based approach toward disaster risk management in the Caribbean necessitated a review of the 2001 strategy and framework within that context. This review determined the necessity to rearticulate the 2001 Strategic Objective and Intermediate and sub-intermediate results in the language of a Purpose, Outcomes and Outputs respectively. The focus on results as opposed to activities or inputs and on a program through harmonized approaches in place of discrete projects together helped to shape the criteria for selection of the desired outcomes.

Priority outcomes were therefore selected utilizing the extent to which the proposed programme areas met:

- a) Characteristics of a programme based approach
- b) Characteristics for results-based management
- c) Gaps identified in the Kingston Declaration 2005
- d) Gaps identified in the CDM review

- e) Continued linkages with the old IRs of the previous strategy (for key areas still to be addressed)
- f) Linkages to key programming frameworks such as the WCDR and the CARICOM Framework
- g) Needs identified from other relevant documentation and studies/analyses
- h) Other considerations derived from stakeholder consultations

Each of these aspects is discussed briefly below.

#### **4.2.1 Program-based Approach (PBA)**

The CDM Program is designed to catalyse a PBA to disaster risk management programming in the region; both in terms of the process of program development and the specific aspects of the program, are intended to assist in harmonization of programming in the region among key actors. Characteristics for PBA include consideration of:

- a) Stakeholder Involvement
- b) Donor Harmonisation
- c) Global Coordination

#### **4.2.2 Results-Based Management (RBM)**

The CDM Framework is a results-based program that emphasizes the RBM approach to both program design and its execution. RBM requires the following steps:

- a) Defining realistic results
- b) Clearly identifying programme beneficiaries
- c) Ability to make effective management decisions
- d) Monitoring toward expected results
- e) Improving practices through lesson learning
- f) Identifying and managing risks
- g) Reporting on results achieved

#### **4.2.3 Kingston Declaration, CARICOM Framework, WCDR and CDM Review**

Gaps and needs identified as they relate to events in the past DRM in the region and previous interventions through Comprehensive Disaster Management are described in the assessment and reports in Section 3 above. The linkages to each of these are presented briefly below each list of outcomes and outputs.

#### **4.2.4 Other Considerations**

The following considerations were also applied to the selection and elaboration of the outcomes as determined by the issues indicated above.

**Need.** Will the outcome fulfil the critical expressed needs of countries, national and/or regional institutions for successful disaster risk management in the Caribbean? Does the outcome meet the need of sectoral considerations (e.g. tourism, agriculture, health, planning, infrastructure, etc.)?

**Addressed by other programmes.** To what extent is the outcome being addressed or likely to be addressed by a) government and b) development partners?

**Donor harmonisation/Joint programming.** Does the outcome provide opportunities for donor/programme harmonization and/or consolidation?

**Cost** - Are there costs to the communities and regional and national economies if the outcome is not achieved? Are there potential economies of scale to be achieved through this outcome? Are there projected benefits of the program?

**Political support.** Are there opportunities for political endorsement? What is the likelihood?

**Key stakeholder support.** Is the outcome likely to benefit from stakeholder buy-in? Are there opportunities for stakeholder buy-in?

**Performance measurement.** Can a performance measurement matrix be applied to the priority program? To what extent will outcomes be simple and measurable? Can responsibility for producing and monitoring (and reporting on) these indicators be assigned?

**Practical strategic cooperation/collaboration.** To what extent will strategic cooperation be developed and/or strengthened between key institutions?

**Consistent with national and regional disaster agenda.** To what extent is the outcome consistent with regional and national disaster agendas?

**Strengthened local ownership.** Can the outcome support mainstreaming and strengthened local/community ownership for disaster risk reduction?

**Programme implementation.** Does the capacity exist or can it be built during implementation for delivery of the programme in 5 years?

## **5 Proposed Programme 2007 – 2012**

The enhanced CDM strategy takes account of the key selection criteria above and was developed out of the process of assessing the previous CDM strategy, ensuring integration of the Kingston Declaration, the CARICOM Framework and the WCDR , consideration of the objectives of the CSME, and ensuring that key aspects of the old IRs remain in the new set of results.

As noted above, the outcomes are linked to the overarching purpose, '*To strengthen regional, national and community level capacity for mitigation, management, and coordinated response to natural and technological hazards, and the effects of climate change*'. It was also agreed through stakeholder consultations that the enhanced Framework should be termed Comprehensive Disaster Management (CDM) in keeping with the global focus on risk and loss reduction, and the concomitant need identified nationally and regionally in the Caribbean.

Table 5.0 below outlines the Enhanced CDM Framework and a detailed discussion by each outcome is found in the sub-sections below.

Table 5.1 - 5.4 provides a summary of:

### **1. Lead Partners**

Lead Partners are identified as those Agencies/Institutions who will coordinate the implementation of the CDM Strategy under output areas. Agreements for these roles will be formalised

### **2. Implementation Partners**

Implementation Partners are those Partners/Institutions who have agreed to be the main collaborators with the Lead Partners on the implementation of an output.

### **3. Supporting Context**

This will cover several agencies, which through their already established mandates/programmes being undertaken or indicated interest, can facilitate implementation of the output.

Table 5.0: Enhanced CDM Framework

GOAL Regional Sustainable Development enhanced through Comprehensive Disaster Management			
PURPOSE <i>'To strengthen regional, national and community level capacity for mitigation, management, and coordinated response to natural and technological hazards, and the effects of climate change.'</i>			
OUTCOME 1:	OUTCOME 2:	OUTCOME 3:	OUTCOME 4:
Enhanced institutional support for CDM Program implementation at national and regional levels	An effective mechanism and programme for management of comprehensive disaster management knowledge has been established	Disaster Risk Management has been mainstreamed at national levels and incorporated into key sectors of national economies (including tourism, health agriculture and nutrition)	Enhanced community resilience in CDERA states/ territories to mitigate and respond to the adverse effects of climate change and disasters
↓	↓	↓	↓
OUTPUTS	OUTPUTS	OUTPUTS	OUTPUTS
1.1 National Disaster Organizations are strengthened for supporting CDM implementation and a CDM program is developed for implementation at the national level  1.2 CDERA CU is strengthened and restructured for effectively supporting the adoption of CDM in member countries  1.3 Governments of participating states/territories support CDM and have integrated CDM into national policies and strategies  1.4 Donor programming integrates CDM into related environmental, climate change and disaster management programming in the region.  1.5 Improved coordination at national and regional levels for disaster management  1.6 System for CDM monitoring, evaluation and reporting being built	2.1 Establishment of a Regional Disaster Risk Reduction Network to include a Disaster Risk Reduction Centre and other centres of excellence for knowledge acquisition sharing and management in the region  2.2 Infrastructure for fact-based policy and decision making is established /strengthened  2.3 Improved understanding and local /community-based knowledge sharing on priority hazards  2.4 Existing educational and training materials for Comprehensive Disaster Management are standardized in the region.	3.1 CDM is recognized as the roadmap for building resilience and Decision-makers in the public and private sectors understand and take action on Disaster Risk Management  3.2 Disaster Risk Management capacity enhanced for lead sector agencies, National and regional insurance entities, and financial institutions  3.3 Hazard information and Disaster Risk Management is integrated into sectoral policies, laws, development planning and operations, and decision-making in tourism, health, agriculture and nutrition, planning and infrastructure	4.1 Preparedness, response and mitigation capacity (technical and managerial) is enhanced among public, private and civil sector entities for local level management and response  4.2 Improved coordination and collaboration between community disaster organizations and other research/data partners including climate change entities for undertaking comprehensive disaster management  4.3 Communities more aware and knowledgeable on disaster management and related procedures including safer building techniques  4.4 Standardized holistic and gender-sensitive community methodologies for natural and anthropogenic hazard identification and mapping, vulnerability and risk assessments, and recovery and rehabilitation procedures developed and applied in selected communities.  4.5 Early Warning Systems for disaster risk reduction enhanced at the community and national levels

**5.1 Priority Outcome 1 - Enhanced institutional support for CDM Programme implementation at national and regional levels.**

This programmatic area deepens IR 1 and IR 3 of the 2001 framework, and is, in some ways, also cross cutting throughout all four outcomes.

One recurrent finding from the assessment process related to the need for building capacity at the local level for effective preparedness and response, risk reduction, and recovery /rehabilitation mechanisms. Further, several territories expressed frustration at the seemingly low to moderate priority attention from national governments with respect to the required resources and support of the National Disaster Organisation (NDOs). This finding echoed others found in the baseline study conducted in 2001, and was disappointing given the frequency and severity of events in the region over the past five years, and the diverse projects implemented. The need for “champions” was expressed repeatedly and it was clear that the engagement required of policy-makers needed a new approach.

The need for institutional strengthening at all levels continues to be glaring and the success of a comprehensive approach to disaster risk management depends on the extent to which institutional capacity is built to drive the process. Support must therefore be provided for CDERA as the CARICOM focal point and regional driver; for the National Disaster Organizations - National Disaster Offices as well as the network of public, private and civil sector partners; and for operational modalities which serve to enhance mainstreaming of environmental, climate change and DRM programming.

The links between this outcome, the 2001 IRs, the Kingston Declaration and key aspects of the CARICOM Framework and WCDR are found in the Table 5.1 below. Outputs are listed and suggested lead agencies, partners and supporting context described respectively.

Table 5.1: Linkages of Outcome 1 and Outputs with 2001 IRs, Kingston Declaration and CARICOM 10-year Framework

2006 CDM Outcome & Outputs	Lead Agency	Implementation Partners	Supporting Context	2001 IRs	Kingston Declaration 2005	CARICOM Framework /WCDR
<b>1. Enhanced institutional support for CDM Program implementation at national and regional levels</b> <i>Outputs</i> 1.1 National Disaster Organizations including National Disaster Management Offices are strengthened for supporting CDM implementation, and a CDM program is developed for implementation at the national level 1.2 CDERA CU is strengthened for effectively supporting the adoption of CDM in member countries 1.3 Governments of participating states/ territories support CDM and have integrated CDM into national policies and strategies 1.4 Donor programming integrates CDM into related environmental, climate change and disaster management programming in the region. 1.5 Improved coordination at national and regional levels for disaster management 1.6 A program for Capacity building for monitoring, evaluation and reporting is on-going	NDMOs  CDERA CU  NDO, NDMO  ECCDM (UN and CIDA) Development Partner group (E.Carib.Etc.)  CDERA CU  CDERA CU, NDMO	NDOs DRRC - UWI CARICOM  NDOs National Governments OECS Private Sector Civil Society organisations  National Governments OECS, CDB CDERA CU  OAS, Climate Change Centre OECS ECDG/ECCDM WCDG  OECS CDB Ministries of Government Private Sector Civil Sector  OECS Government Ministries, Private Sector, NGOs	CIDA, EU, JICA, USAID, UN  All development partners, Private Sector, Civil Sector organizations  UN, CIDA, EU, OAS  All development partners  All development partners, Private Sector	IR 1 - Stronger regional and national institutions to drive implementation of CDM  IR-1.1. CDERA is restructured and reorganized to effectively support adoption of CDM by its member countries.  II-1.2 National Disaster Organizations strengthened to support CDM.  IR-1.3. Other research and data partners in the region are strengthened and rationalized to support CDM.  IR 4 Preparedness, response and mitigation capability is enhanced and integrated into all public, private and civil sector entities.  IR-4.1 Disaster management legislation supports CDM.  IR-4.2 Comprehensive disaster management plans in place, tested and reviewed annually.  IR-4.3 Emergency operations facilities are adequately equipped and operational.  IR-5.2 Policy and decision-makers in the public and private sectors are well informed about CDM and its implications for economic growth and political stability.	Raise the level of regional/national/local level coordination for disaster management  Enshrine in law, the roles and responsibilities of all disaster management stakeholders including private sector, and civil society  Improve coordination between government, non government and donor agencies to promote CDM.  Better incorporate disaster risk management into development policies and action plans.  Improve communication systems throughout the entire disaster management spectrum.  Improve regional response mechanisms.  Greater donor coordination to ensure greater efficiency in disaster prevention, preparedness, mitigation and response.  Standardize information protocols, in order to ensure effective disaster response  Engender more equitable risk sharing and risk transfer mechanisms	Vulnerability Assessment  Flood Management  Early Warning Systems  Climate Change Adaptation  Community disaster planning  Knowledge enhancement.  Disaster risk reduction is national priority with strong organizational and policy basis for implementation: Governance

**5.2 Priority Outcome 2 - Effective mechanisms and programmes for management and sharing of CDM knowledge are established and utilized for decision making**

The need to manage, share, access and utilize data and knowledge is a key aspect to be addressed in the upcoming strategy. This was highlighted in the assessment process and is a central aspect of the CARICOM Framework and WCDR. The technological and coordination needs abound in the region. This key aspect is linked to and can deepen further IRs 2 and 5.

A Disaster Risk Reduction Centre (DRRC) has been established at the University of the West Indies with the objective of forming a network of institutional partners to build the knowledge management capacity for Disaster Risk Management in the Region. The Centre is situated administratively within the Institute for Sustainable Development, and UWI is in the process of making the Centre operational.

A Survey of Disaster Management Teaching and Research at Tertiary Institutions revealed a number of programmes across the region, but these were generally disparate and compartmentalized. Disaster Risk Management must be based on solid knowledge and skill sets and therefore the need to pull together a network of institutions into an operating framework was recognized. Continuing Education programs should be standardized and included as part of the program.

The links between this outcome, the 2001 IRs, the Kingston Declaration and key aspects of the CARICOM Framework and WCDR are found in the Table 5.2 below. Outputs are listed and suggested lead agencies, partners and supporting context described respectively.

Table 5.2: Linkages of Outcome 2 and Outputs with 2001 IRs, Kingston Declaration and CARICOM 10- year Framework

2006 CDM Outcome& Outputs	Lead Agency	Implementation Partners	Supporting Context	2001 IRs	Kingston Declaration 2005	CARICOM Framework /WCDR
<p>2. Effective mechanisms and programmes for management of comprehensive disaster management knowledge are established and utilized for decision-making</p> <p><b>OUTPUTS</b></p> <p>2.1 Establishment of a Regional Disaster Risk Reduction Network to include a Disaster Risk Reduction Centre and other centres of excellence for knowledge sharing and management in the region</p> <p>2.2 The utilization of ICT and other infrastructure for fact-based policy and decision making is established/strengthened</p> <p>2.3 Under-standing and local /community-based knowledge sharing on priority hazards is improved</p> <p>2.4 Existing educational and training materials and curricula for Comprehensive Disaster Risk Management are standardized in the region.</p> <p>2.5 A Strategy and curriculum for building a culture of safety is established in the region</p>	1-4 DRRC/UWI	<p>All other regional tertiary institutions with existing and planned teaching and research programmes in DRM - Universities and colleges</p> <p>Technical, vocational an continuing entities</p> <p>UWI, Utech, UG, BVI, et al</p> <p>NDOs, PAHO, OFDA, IFRC</p>	<p>UN, CIDA, IDB, EU, CTU, UWI, Utech, UGuyana, H.Lavity Stout, OAS, et al</p>	<p>IR 2 - Research, education and training programmes support implementation of CDM.</p> <p>IR-2.1 Curricula and programs at regional and national educational institutions support hazard management and links to environmental management.</p> <p>IR2.2. Regional research and technology institutions have established capabilities including access to the latest technologies in hazard assessment, mapping and warning systems.</p> <p>IR2.3. Research is applied to specific local circumstances and information on hazards, vulnerabilities and protective measures is widely available.</p> <p>IR 5 - Hazard information is incorporated into development planning and decision-making</p>	<p>Ensure the mainstreaming of risk management approaches into Environmental and Development Policy</p>	<p>Hazard Mapping and Vulnerability Assessment</p> <p>Flood Management</p> <p>Knowledge enhancement</p> <p>Use knowledge, innovation and education to build a culture of safety and resilience</p>

**5.3 Priority Outcome 3 - Disaster Risk Management has been mainstreamed at national levels and incorporated into key sectors of national economies (including tourism, health and agriculture)**

There is a need to further the integration and mainstreaming of Disaster Risk Management at the national level, and there has been virtually no attention to the needs of the specific sectors which drive the economies of the region. A sector focus has the potential to capture the attention of policy-makers, as direct linkages can be made between improving disaster management systems and loss reduction. Of greater significance is the importance of the required paradigm shift from disaster management as an appendage to programming, to mainstreaming DRM as a serious business issue. A multi-hazard approach is particularly significant to this outcome, as development and management of the sectors require multi-faceted approaches and synergies among the many interrelated systems.

Disaster risk management for key sectors will enhance the provisions of IR 3 of the 2001 Strategy, and also are linked to IRs 1, 2, 4 and 5. This Outcome has the potential to lead to visible and tangible results at the national as well as regional levels.

Some programmatic areas have already been identified for funding in the Tourism Sector, and the *Jagdeo Initiative* of CARICOM is a potentially organizing framework for interventions in the agricultural sector. Some aspects have therefore been included below. The health sector is also of importance and is therefore included here, in a general way at this stage.

*Economy and Investment*

As the Caribbean Community accelerates its efforts for the implementation of the Caribbean Single Market and Economy (CSME), one of the essential pillars is an environment that fosters sustainable development. In recognition of this, the CDERA Council, Council of Trade and Economic Development (COTED) and the Community Council have all embraced the a comprehensive approach to disaster management as a contribution to sustainable development in the Caribbean region.

The revised CDM Framework was developed against the background that the region faces significant development challenges as its small, export-dependent countries adjust to loss of preferences in an increasingly competitive global economy. New technologies and rapid changes in the global market present new opportunities, but require the region to adjust or else be left behind. The region must therefore do all that it can to encourage investment in competitive enterprises, including measures to reduce risks to that investment and the infrastructure on which it depends.

The links between this outcome, the 2001 IRs, the Kingston Declaration and key aspects of the CARICOM Framework and WCDR are found in the Table 5.3 below. Outputs are listed and suggested lead agencies, partners and supporting context described respectively.

**Table 5.3: Linkages of Outcome 3 with 2001 IRs, Kingston Declaration and CARICOM 10-year Framework**

2006 CDM Outcome & Output	Lead Agency	Implementation Partners	Supporting Context	2001 IRs	Kingston Declaration 2005	CARICOM Framework /WCDR
3. Disaster Risk Management has been mainstreamed at national levels and incorporated into key sectors of national economies including tourism, health, agriculture, planning, infrastructure)				IR 3 - Regional institutions and donors incorporate CDM in their own programs and promote CDM to their respective constituencies	Raise the level of regional/national/local level coordination for disaster management	Vulnerability Assessment
<i>OUTPUTS</i>				IR-3.2 Organizations representing key economic sectors actively promote CDM to their constituents and on their behalf.	Improve coordination between government, non government and donor agencies to promote CDM.	Flood Management
3.1 <i>CDM is recognized as the roadmap for building resilience, and decision-makers in the public and private sectors understand and take action on Disaster Risk Management</i>	NDOs National Champions CDERA CU	Respective private sector entities Respective public sector bodies, UWI	CIDA, JICA, USAID, UNDP, DIFID, ECHO	IR-3.3 Insurance and finance industries in the region actively support CDM.	Better incorporate disaster risk management into development policies and action plans.	Early Warning Systems
3.2 <i>Disaster Risk Management capacity is enhanced for lead sector agencies, National and regional insurance entities, and financial institutions</i>	CDB, CAIC Regional Insurance Bodies FAO, PAHO, CTO	CARDI, IICA, CIMH OECS, Respective private sector entities, Respective public sector bodies	World Bank IDB, FAO, IICA CARDI, PAHO UNDP, WHO IICA, CARDI	IR 5 Hazard information is incorporated into development planning and decision-making	Improve communication systems throughout the entire disaster management spectrum.	Climate Change Adaptation
3.3 <i>Hazard information and Disaster Risk Management including Prevention, Mitigation, Preparedness, Response, Recovery and Rehabilitation Procedures are developed and integrated into sectoral policies, laws, development planning and operations, and decision-making in tourism, health, agriculture, planning and infrastructure</i>	DRRC, CTO, PAHO, FAO, CDERA CU	UWI, Respective Offices of the Attorneys-General CDB, OECS, Climate Change Centre, CTO, CHA, DRRC	IDB, CDB, MACC, UNDP, IDB, JICA	IR-5.1 Physical planning includes consideration of hazard and vulnerability information.  IR-5.2. Policy and decision-makers in the public and private sectors are well informed about CDM and its implications for economic growth and political stability.	Improve regional response mechanisms.  Greater donor coordination to ensure greater efficiency in disaster prevention, preparedness, mitigation and response.  Standardize information protocols, in order to ensure effective disaster response  Engender more equitable risk sharing and risk transfer mechanisms	Community disaster planning  Knowledge enhancement.  Reduce Underlying risk factors  Use knowledge, innovation and education to build a culture of safety and resilience  Strengthen disaster preparedness and contingency planning for effective response
					Ensure the mainstreaming of risk management approaches into Environmental and Development Policy	

**5.4 Priority Outcome 4 - Enhanced community resilience in CDERA states/ territories to mitigate and respond to the adverse effects of climate change and disasters**

This programmatic area enhances and deepens IR3, IR4, and IR5 of the 2001 framework, and allows for ownership by host country communities, gender-sensitive programming, risk identification, risk reduction and risk transfer activities, donor harmonization on synergistic outputs, and partnerships among organizations and institutions with similar objectives.

Building community resilience will help to provide communities with the mechanisms to take ownership of their vulnerabilities and to engage in risk reducing practices over time. The effect of such risk reducing activities would be evident and could have a meaningful demonstration effect with respect to impact of the respective investments.

The programme has the potential also to engage citizens in the pursuit of the Millennium Development Goals with respect to poverty reduction and incorporation of the needs of women. It also incorporates provisions of the Hyogo framework and the CARICOM Programmatic Framework for 2005-2015 with respect to community-based disaster planning through partnerships among public, private and civil sectors.

The links between this outcome, the 2001 IRs, the Kingston Declaration and key aspects of the CARICOM Framework and WCDR are found in the Table 5.4 below. Outputs are listed and suggested lead agencies, partners and supporting context described respectively.

**Table 5.4: Linkages of Outcome 4 and Outputs with 2001 IRs, Kingston Declaration and CARICOM 10- year Framework**

2006 CDM Outcome	Lead Agency	Implementation Partners	Supporting Context	2001 IRs	Kingston Declaration 2005	CARICOM Framework /WCDR
4. Enhanced community resilience in CDERA states/territories to mitigate and respond to the adverse effects of climate change and disasters				IR 4 Preparedness, response and mitigation capability is enhanced and integrated into all public, private and civil sector entities.	Raise the level of regional/national/local level coordination for disaster management	Hazard Mapping and Vulnerability Assessment
<b>OUTPUTS</b> 4.1 <i>Preparedness, response and mitigation recovery and rehabilitation capacity (technical and managerial) is enhanced among public, private and civil sector entities for local level management and response</i>	NDOs NDMO	CDERA, UWI Local governments Community Organisations Private Sector	CIDA, JICA, USAID, UNDP DIFID, ECHO	IR-4.1 Disaster management legislation supports CDM.  IR-4.2 Comprehensive disaster management plans in place, tested and reviewed annually.	Place particular emphasis on damage and needs assessments  Improve early warning systems to allow for greater level of community participation	Flood Management  Early Warning Systems
4.2 <i>Improved coordination and collaboration between community disaster organizations and other research/data partners including climate change entities for undertaking comprehensive disaster management</i>	NDMOs DRRC	CDB, CBOs Private sector entities, CDERA CU	EU, DIFID, UNDP, MACC	IR-4.3. Emergency operations facilities are adequately equipped and operational.  IR-4.4. Lifelines and critical infrastructure are protected with mitigation measures.	Standardize information protocols, in order to ensure effective disaster response  Build greater community resilience.	Climate Change Adaptation  Community disaster planning
4.3 <i>Communities more aware and knowledgeable on disaster risk management and related procedures including safer building techniques</i>	NDMOs	DRRC, Climate Change Centre, Insurance Sector, UWI, CDERA CU	MACC, All development partners	IR-4.5. Mitigation is included in response, recovery and reconstruction actions.  IR 5 Hazard information is incorporated into development planning and decision-making	Engender more equitable risk sharing and risk transfer mechanisms  Enshrine in law, the roles and responsibilities of all disaster management stakeholders including private sector, and civil society	Knowledge enhancement.  Reduce Underlying risk factors
4.4 <i>Standardized holistic and gender-sensitive community methodologies for natural and anthropogenic hazard identification and mapping, vulnerability and risk assessments, and recovery and rehabilitation procedures developed and applied in selected communities.</i>	CDERA CU, CDB-BNTF, IFRCS	UNELAC, DRRC -UWI, OECS, Climate Change Centre, ECHO	JICA, EU All development partners	IR-5.1 Physical planning includes consideration of hazard and vulnerability information.  IR-5.2 Policy and decision-makers in the public and private sectors are well informed about CDM and its implications for economic growth and political stability.	Improve coordination between government, non government and donor agencies to promote CDM.  Ensure the mainstreaming of risk management approaches into Environmental and Development Policy	Use knowledge, innovation and education to build a culture of safety and resilience  Strengthen disaster preparedness and contingency planning for effective response
4.5 <i>Early Warning Systems for disaster risk reduction enhanced at the community and national levels</i>	NDOs, CDERA CU ICG-IOCARIPE	Climate Change Centre, SRU, DRRC, CIMH, OECS	CIDA UNDP All development partners			

## 5.5 Preliminary Activities

Although it is still somewhat premature for defining the specific activities linked to each of the outputs listed above, and indeed, these should be developed in particular by lead agencies - in collaboration with supporting agencies - the assessment team developed some preliminary activities based on stakeholder consultations by sector and institution, to demonstrate further key details of the enhanced CDM strategy.

As an example, some activities linked to Outputs for Outcome 2 (Knowledge Management) and Outcome 1 (Institutional Capacity Building) are presented below:

### OUTCOME 2.

*Output 2.1 Establishment of a Regional Disaster Risk Reduction Network to include a Disaster Risk Reduction Centre and other centres of excellence for knowledge sharing and management in the region*

#### Activities

- Seek acceptance and endorsement of DRRC as the regional accreditation authority.
- Develop accreditation and certification programme for implementation
- Develop a framework for practitioners to register with DRRC/Centre of Excellence
- Establish an expert group of decision makers from tertiary institutions in the region to form a network and guide for process for establishing the DRRC as the premier regional accreditation authority for DRRC education and training.
- Undertake consultancy to research and provide recommendations on the process for structure for the DRRC to perform the role for the regional accreditation authority for DRR education and training.
- Promote and seek endorsement of stakeholders for DRRC as the premier regional accreditation authority for DRR education and training.
- Establish Centres of Excellence to support the work of the DRRC.
- Establish a focal point for promoting and marketing the programme to educational institutions in the region to build partnerships and consensus.
- Develop and disseminate promotional material on the DRRC and its programmes.
- Develop a mechanism for the work of the DRRC and the Centres of Excellence to be presented and endorsed by Heads of States in the region.

*Output 2.2 Infrastructure for fact-based policy and decision making is established/enhanced*

#### Activities (examples):

- Develop a multi-hazard Geo-reference Database
- Designate an appropriate authority for management of the data base
- Develop state of the art courses for stakeholders including corporate sector, media, legislators
- Enhance and utilize existing models (e.g. hazard prediction models)
- Enhance and utilize existing teaching modules
- Deliver courses
- Undertake Training and workshops in the use of and updating of database
- Collect, validate and geo-reference multi-hazard/disaster data
- Procure appropriate hardware and software for database establishment and management
- Establish protocols for the sharing of data

- Build institutional capacity for data capture

*Output 2.3 Improved understanding and knowledge sharing on priority hazards*

Activities (examples):

- Undertake behavioural studies related to hazards (e.g. hazard and risk perception)
- Undertake inventory of hazard events (e.g. data on floods, flooding types spatial and temporal distribution of floods)
- Develop hazard information products (e.g. flood hazard maps.)
- Promote the application of hazard information products (e.g. flood hazard maps)
- Determine effectiveness of EWS currently in use (including indigenous knowledge and coping mechanisms)
- Develop (and/or improve) partnerships to enhance/develop EWS capacities
- Train users and managers of EWS

*Output 2.5 A Strategy and curriculum for building a culture of safety is established in the region*

Activities (examples):

- Conduct a base line study
- Appoint an inter-disciplinary panel of experts (consisting of persons from the different territories) in disaster risk reduction and disaster management to prepare the draft curriculum
- Undertake stakeholder consultations for review and feedback
- Approval and accreditation of curriculum by Disaster Risk Reduction Centre
- Market the program throughout the region
- Undertake training
- Material development and piloting of the program

As an example, some activities linked to the outputs linked to Outcome 1 are presented below:

#### *OUTCOME 1*

***Output 1.1 National Disaster Organizations including National Disaster Management Offices are strengthened for supporting CDM implementation, and a CDM program is developed for implementation at the national level***

Activities (examples):

- Complete institutional reviews of NDOs including NDMOs to determine functional requirement/resources and organisational arrangements needed for CDM implementation
- Formulate CDM policy and three year development strategy
- Develop Annual work programme and performance monitoring plan (PMP)
- Develop targeted public education programme for DRM
- Develop a program to promote public/private sector partnerships.
- Develop data management capacity

*Output 1.2 CDERA CU is strengthened for effectively supporting the adoption of CDM in member countries*

Activities (examples):

- Deepen organizational structure of Coordinating Unit to provide on-going monitoring and support of technical assistance to NDOs and program development and management
- Capacity building in M&E and RBM
- Strengthen brokering capacity for on-going resource mobilization for T/A
- Enhance capacity for management and dissemination of data on disaster management

*Output 1.3 Governments of participating states/ territories support CDM and have integrated CDM into national policies and strategies*

Activities (examples):

- Review legislation to include provision for CDM legislation and formulate regulations
- Develop National Disaster Plan, sub-plans and shelter management policy.
- Mandate Agency Disaster Plans
- Implement procedures for hazard analysis of policy and program development
- Provide budgetary allocation for DRM in the public sector
- Integrate CDM into poverty reduction programming
- Develop incentive programme for hazard reduction and mitigation practices. Collaborate with insurance companies

*Output 1.4 Donor programming integrates CDM into related environmental, climate change and disaster management programming in the region*

Activities (examples):

- Implement procedures for hazard analysis of policy and program development
- Undertake institutional capacity assessment for CDM integration
- Review and improve status of programming with respect to integration of DRM
- Allocate resources for support of CDM enhancement programs
- Strengthen donor collaboration
- Integrate CDM into poverty reduction programming

*Output 1.5 Improved coordination at national and regional levels for disaster management*

Activities (examples):

- Establish organizational structures and procedures to facilitate inter-sectoral planning and collaboration
- Review/undertake vulnerability audits for critical facilities and retrofit as needed (infrastructure works, ports, airport, health services, schools, etc)
- Conduct vulnerability audits for key agricultural, fisheries and tourism structures and retrofit as needed.

The program roll-out and development overall can draw upon and utilize the activities suggested above, or can simply use them as starting points or discussion pieces in the consultative program design process.

## **6 Monitoring and Evaluation- Some Preliminary Indicators**

Like the development of activities, it is also somewhat premature for the development of a full-fledged monitoring and evaluation system for the enhanced CDM programme; in particular as the key aspects and expected results need to be agreed upon by the key stakeholders, before such a system and its specifics can emerge. Nonetheless, some preliminary indicators have been developed as guidelines and to provide a more detailed view of the proposed strategy. In the context of providing discussion guidelines for developing a monitoring and evaluation programme some preliminary example indicators, linked to each of the outputs outlined above in Section 5, are presented in Table 6.1 below. The full-fledged monitoring and evaluation framework should be the result of a highly participative and consultative process between CDERA, Participating States, donors, and relevant regional and national institutions and organizations.

**Table 6.0:** Preliminary Example Indicators

<b>2006 CDM Outcomes<sup>1</sup></b>	<b>Outputs</b>	<b>Indicators</b>
<b>1.0 Enhanced institutional support for CDM Program implementation at national and regional levels</b>	1.1 National Disaster Organizations are strengthened for supporting CDM implementation and a CDM program is developed for implementation at the national level	1.1a Level of adequacy of support and resources (human and financial) provided to NDOs to fulfil their mandate 1.1b Level of participation (and inclusion) of NDOs in relevant national processes 1.1c Degree to which NDOs play a coordination role at the national level in their country for CDM 1.1d Adequacy of legal framework for NDO role in the country
	1.2 CDERA CU is strengthened and restructured for effectively supporting the adoption of CDM in member countries	1.2a Level of CDERA effectiveness in contributing to CDM adoption among member states 1.2b #/type/quality of CDERA of initiatives providing support to NDOs 1.2c Level of quality/adequacy of support provided, in NDOs' view 1.2d #/type/quality of CDERA of initiatives and programs focused on coordination and furthering of CDM in the region 1.2e Level of M&E capacity of CDERA to monitor, evaluate and report on progress being made and challenges encountered
	1.3 Governments of participating states/territories support CDM and have integrated CDM into national policies and strategies	1.3a Degree to which CDM is mainstreamed in various government policies, strategies and operations 1.3b # of laws, policies and strategies that integrate CDM 1.3c Evidence of government ownership and promotion of CDM (e.g. level of prioritisation) 1.3d Evidence that policy and decision-makers are well informed about CDM and its implications for economic growth and political stability
	1.4 Donor programming integrates CDM into related environmental, climate change and disaster management programming in the region.	1.4a Level of coherence between donors' programming in disaster management and the CDM strategy result areas 1.4b Level of Donors' support for mainstreaming and integration of CDM at national levels 1.4c Level of support provided for NDOs by Donors
	1.5 Improved coordination at national and regional levels for disaster management <sup>2</sup>	1.5a Level of coordination among national and regional institutions for disaster management (including multi-island, multi-hazard events, response, search and rescue, etc.) 1.5b Level of clarity and coherence of laws for responsibilities in disaster management at national and local levels 1.5c Level of coherence and coordination among Donors and related programming in disaster management 1.5d Quality of M&E systems and tools among regional stakeholders
	1.6 System for CDM monitoring, evaluation and reporting being built	

<sup>1</sup> The issue of adaptation to climate change is a cross-cutting, and almost implicit issue throughout the strategy and its expected results, and will therefore not be repeated in all possible places.

<sup>2</sup> Disaster management herein refers to: Disaster and related risk prevention, preparedness, mitigation and response.

<b>2006 CDM Outcomes<sup>1</sup></b>	<b>Outputs</b>	<b>Indicators</b>
<b>2. An effective mechanism and programme for management and sharing of CDM knowledge is established and utilized for decision making</b>	2.1 Establishment of a Regional Disaster Risk Reduction Network to include a Disaster Risk Reduction Centre and other centres of excellence for knowledge acquisition sharing and management in the region	2.1a Level of recognition of the DRRC as lead advocate for Risk Reduction education and training in the region among key regional stakeholders 2.1b #/quality of centres of excellence established 2.1c #/type/quality of education and training initiatives executed by the DRRC and the centres of excellence 2.1d Level of satisfaction of key practitioners/stakeholders/beneficiaries with the DRRC and the other centres of excellence 2.1e Level of recognition of the Network as the leading regional accreditation authority for Risk Reduction education and training 2.1f Quality of accreditation programs, according to practitioners and other key stakeholders 2.1g #/type/quality of education and training initiatives executed through the network 2.1h Level of communication and information sharing throughout the entire disaster management spectrum in the region
	2.2 Infrastructure for fact-based policy and decision making is established/enhanced	2.2a Level of quality and comprehensiveness of databases with key hazard and climate information, according to users 2.2b Quality of available hardware and software for data management and dissemination 2.2c Level of capacity (individual/institutional) to manage databases 2.2d Level of access to databases
	2.3 Improved understanding and local/community-based knowledge sharing on priority hazards	2.3a Level of knowledge of priority hazards such as floods 2.3b Quality/comprehensiveness of inventory of hazard events 2.3c #/type/quality of hazard information products 2.3d Level of promotion and application hazard information products 2.3e Evidence that research is applied to specific local circumstances 2.3f Availability of information on hazards, vulnerabilities and protective measures
	2.4 Existing educational and training materials for Comprehensive Disaster Management are standardized in the region.	2.4a Level of coherence and standardization among educational and training materials for DRR and DM in the region 2.4b Level of capacity of regional research and technology institutions for accessing key technologies in hazard assessment, mapping and warning systems 2.4c Quality of public education and outreach on DRR and DRM
	2.5 A Strategy and curriculum for building a culture of safety is established in the region	2.5a Quality of draft curriculum and strategy for implementation 2.5b Evidence of accreditation of the curriculum by the DRRC 2.5c Degree to which a culture of safety and resilience is more evident

<b>2006 CDM Outcomes<sup>1</sup></b>	<b>Outputs</b>	<b>Indicators</b>
<b>3. Disaster Risk Management has been mainstreamed at national levels and incorporated into key sectors of national economies (including tourism, health, agriculture and nutrition)</b>	<p>3.1 CDM is recognised as the roadmap for building resilience and decision-makers in the public and private sectors understand and take action on Disaster Risk Management</p>	<p>3.1a #/quality of comprehensive national disaster management plans in place, tested and reviewed annually</p> <p>3.1b Evidence of mainstreaming of risk management approaches into development and environmental policies</p> <p>3.1c #/degree to which national and sectoral organizations/institutions representing key sectors actively promote DRM to their constituents</p> <p>3.1d #/% of policy and decision-makers in the public and private sectors that are well informed about DRM and its implications for economic growth and political stability</p>
	<p>3.2 Disaster Risk Management capacity enhanced for lead sector agencies, National and regional insurance entities, and financial institutions</p>	<p>3.2a #/type/quality of DRM capacity building programs targeting lead sector agencies, insurance entities and financial institutions</p> <p>3.2b #/% of financial institutions engaged in prevention and mitigation planning in the sector(s)</p> <p>3.2c #/% of insurance entities that incorporate programs for risk reduction/management</p> <p>3.2d #/% of relevant ministries with persons assigned responsibility for managing/coordinating DRM within the ministry and sector (i.e. among key partner institutions)</p>
	<p>3.3 Hazard information and Disaster Risk Management is integrated into sectoral policies, laws, development planning and operations, and decision-making in tourism, health, agriculture and nutrition, planning and infrastructure</p>	<p>3.3a Evidence that hazard information has been integrated into relevant development plans</p> <p>3.3b. Level of standardization and harmonization among information protocols for more effective disaster response</p> <p>3.3c. Evidence that environmental assessment integrate natural and technological hazard assessments</p> <p>3.3d Physical planning includes consideration of hazard and vulnerability information.</p>
	<p>3.4 Prevention, Mitigation, Preparedness, Response, Recovery and Rehabilitation Procedures developed and implemented in tourism, health, agriculture and nutrition, planning and infrastructure</p>	<p>3.4a Quality and level of utilization of sectoral hazard risk and vulnerability profiles</p> <p>3.4b Adequacy/quality of safety procedures in place</p> <p>3.4c #/quality/comprehensiveness of sectoral risk and vulnerability profiles completed</p> <p>3.4d Quality/adequacy of inspection procedures</p> <p>3.4e Quality of evacuation policies and procedures completed</p> <p>3.4f #/quality of management plans, protocols and procedures developed</p> <p>3.4g Level of collaboration and coordination among sectoral actors and institutions for DRM</p> <p>3.4h Quality of search and rescue and emergency response</p> <p>3.4i Quality/level of enforcement of safety standards and regulations</p> <p>3.4j Quality of critical facilities' disaster plans</p> <p>3.4k Level of capacity for hazard identification within the sector</p> <p>3.4l #/quality of Crisis Communication Facilities established</p> <p>3.4m Level of standardization of response mechanisms</p> <p>3.4n Quality of monitoring and evaluation procedures</p>

<b>2006 CDM Outcomes<sup>1</sup></b>	<b>Outputs</b>	<b>Indicators</b>
<b>4. Enhanced community resilience in CDERA states/territories to mitigate and respond to the adverse effects of climate change and disasters</b>	<p>4.1 Preparedness, response and mitigation capacity (technical and managerial) is enhanced among public, private and civil sector entities for local level management and response</p> <p>4.2 Improved coordination and collaboration between community disaster organizations and other research/data partners including climate change entities for undertaking comprehensive disaster management</p> <p>4.3 Communities more aware and knowledgeable on disaster management and related procedures including safer building techniques</p> <p>4.4 Standardized holistic and gender-sensitive community methodologies for natural and anthropogenic hazard identification and mapping, vulnerability and risk assessments, and recovery and rehabilitation procedures developed and applied in selected communities.</p> <p>4.5 Early Warning Systems for disaster risk reduction enhanced at the community and national levels</p>	<p>4.1a Level of adequacy and comprehensiveness of disaster management plans in place for local level management and response</p> <p>4.1b Adequacy of emergency operations facilities' equipment, resources and functionality</p> <p>4.1c Quality of mitigation measures in place to protect lifelines and critical</p> <p>4.1d Quality of contingency planning for effective response</p> <p>4.1e Level of managerial and technical capacity for disaster management among relevant (and targeted) organizations</p> <p>4.2a #/type/quality of collaborative arrangements established between the Climate Change Centre, the DRRC and other relevant institutions that optimise allocation and deployment of resources for integrating climate change adaptation strategies into community-based disaster management programs</p> <p>4.2b Level of community participation in early warning systems and response initiatives</p> <p>4.2c Level of information sharing between research and data organizations/institutions and various communities</p> <p>4.3a Level of community awareness</p> <p>4.3b #/type/quality of educational and outreach programs targeting the community level for improved community knowledge and awareness of CDM</p> <p>4.4a #/quality of methodologies developed</p> <p>4.4b #/% of application in targeted communities</p> <p>4.4c Adequacy of integration of hazard information into local development plans and policies</p> <p>4.4d Evidence that gender equality has been integrated into the methodologies</p> <p>4.4d Level of standardization and coherence among methodologies</p> <p>4.5a #/type/quality of early warning systems</p> <p>4.5b #/% of member states/territories with improved EWS</p> <p>4.5c Level of integration of local and indigenous coping mechanisms</p> <p>4.5d Level of capacity for EWS management</p>

## 7 Conclusion

The enhanced CDM Framework marks the beginning of a deepened approach to disaster loss reduction through comprehensive disaster management. The Framework which proposes four priority outcomes is based on three underpinning pillars: The Review and Assessment of the 2001 CDM Strategy and Framework; the global and regional disaster management agenda including the Hyogo Framework for Action 2005-2015; and the CARICOM Regional Programming Framework. The Intermediate Results of the 2001 Framework have been incorporated in the relevant places so as to ensure continuity and deepening of the CDM process which began in 2001. The Enhanced Framework is designed toward achieving the overarching Goal of Sustainable Development in the Caribbean.

The outcomes have been informed by the need for a strategic shift toward a programming framework that will foster collaboration among development partners and other key players as well as harmonization among the many projects, programs and initiatives in DRM within the Region.

National Disaster Management Policies are needed in all countries with the exception of BVI and St Lucia, and prioritisation at the highest levels within each state is an essential step.

Sustainable development within the Caribbean is intricately tied to "building the resilience of nations and communities to disasters", and therefore the focus on capacity-building at the national level is well-placed.

As indicated above, Outcome 1 addresses Institutional support responds to the overarching concern that strong institutions are the pivot of a successful DRM in the Caribbean and that there remains much to be accomplished in that area, especially at the national level.

Outcome 2 seeks to harmonise the many initiatives underway by, among other aspects, strengthening knowledge management and sharing, as well as utilization of key data, while also emphasizing the need to enhance existing and proposed education, training and research programs through a network of centres of excellence and incorporating of continuing education programs.

Outcome 3 addresses the issue of Mainstreaming Disaster Risk Management with particular emphasis on key sectors of regional economies and the need for risk identification, reduction and transfer measures at the national as well as regional levels.

Outcome 4 addresses the global emphasis and regional recognition of the need to strengthen communities to cope with the multiple hazards which seem to be increasing in scope, frequency and severity and in turn impacting on the many aspects of community vulnerabilities.

It is significant to note that the original Intermediate Results have been incorporated in the Revised Program. However, there has been a shift toward a program-based approach with the articulation of prioritised outcomes as a plank on which to build "Aid effectiveness" as agreed by Development Partners and developing countries in Paris, 2005. The enhanced framework is perceived as " rebranding" and "revisioning ", and in that regard a monitoring mechanism is to be tied to the process as part of the program development.

The draft revised CDM Framework was presented for feedback and endorsement in principle from the key stakeholders at the inaugural CDM conference held December 11<sup>th</sup>-14<sup>th</sup>, 2006 in Barbados and from professional staff at CDERA CU in each respective territory. Recommendations have been incorporated as appropriate in this final version.

## **8      Next Steps**

A plan of action and more detailed roadmap needs to be formulated to facilitate moving forward for endorsement by external partners, and for endorsement by the CDERA system. It is anticipated that the revised CDM framework will be presented to the Board of CDERA, to national stakeholders at the country level, and to COTED in CARICOM.

Development partners have undertaken to assess how the respective agencies can contribute to/support the CDM process. Roles will need to be defined and institutional capacity for implementing/supporting CDM within the respective agencies assessed.

A mechanism for detailed design and implementation for the enhanced program is essential, and the requisite support should be obtained. Consideration needs to be given to development of a detailed baseline and benchmarking to strengthen program design and facilitate harmonization among key donors and institutions, given the imperative for integration of a results-based programmatic focus into this enhanced Framework. Indeed, a more detailed baseline study and benchmarking needs to be undertaken as a precursor to drafting national CDM strategies. Some institutional assessments have taken place and these can be expanded and/or incorporated as appropriate. The roles of lead and partner agencies as suggested in the outcomes table need to be further discussed and refined so as to elaborate the programming inputs. A highly consultative process should be undertaken for development of the program in this context.

In addition, this required participatory process needs to be followed as well to delineate the monitoring and evaluation framework and system that will be utilized for ongoing monitoring and reporting on the CDM Program, and to maintain the results-based focus and strength monitoring and evaluation overall. A participatory approach to designing the monitoring and evaluation system and framework will help to catalyse buy-in and ownership and ensure that the programming framework and the monitoring thereof act as tools for harmonization of disaster risk management programming in the region.

Overall then, harmonized programming will require detailed discussions and planning with lead and partner agencies. The suggested agencies presented in the respective matrixes will need to be confirmed and perhaps expanded.

The enhanced Framework will provide a structure for targeting dialogue among donors and key stakeholders towards a harmonized program for building disaster resilience with in the CDERA countries.

## Selected References

- Alba, A., Good, A., and Lavergne, R. 2003. Program-Based Approach (PBAs): A Primer on CIDA Policy and Applications. Hull : CIDA.  
[http://www.acdcida.gc.ca/INET/IMAGES.NSF/vLUIImages/CapacityDevelopment2/\\$file/Program%20Based%20Approaches-E.pdf](http://www.acdcida.gc.ca/INET/IMAGES.NSF/vLUIImages/CapacityDevelopment2/$file/Program%20Based%20Approaches-E.pdf)
- Antigua and Barbuda. Ministry of Agriculture, Land Marine Resources Environment and Food Production. Environment Division. 2004. National Assessment Report for the Ten Year Review of the Barbados Programme of Action. Antigua and Barbuda. Antigua : Environment Division.  
[http://www.sidsnet.org/docshare/other/20040524161535\\_Antigua\\_and\\_Barbuda\\_NAR\\_2004.pdf](http://www.sidsnet.org/docshare/other/20040524161535_Antigua_and_Barbuda_NAR_2004.pdf)
- Bahamas. 2004. The Bahamas National Assessment Report for the Ten-Year Review for the Implementation of the Barbados Programme of Action. Nassau : Government of Bahamas.  
[http://www.sidsnet.org/docshare/other/20041103101933\\_Bahamas\\_NAR.pdf](http://www.sidsnet.org/docshare/other/20041103101933_Bahamas_NAR.pdf)
- Bailey, Cecil. 2006. CDM Forum. Jamaica. Bridgetown : CDERA.
- Bellers, Roger and McKemey, K. 9-25-2000. Evaluation of the DIPECHO Action Plans Implemented in the Caribbean. Brussels : ECHO.  
[http://ec.europa.eu/echo/pdf\\_files/evaluation/2001/DIPCARIBFREP4.pdf](http://ec.europa.eu/echo/pdf_files/evaluation/2001/DIPCARIBFREP4.pdf)
- Benson, Charlotte and Twigg, John. 2004. Methodologies for Assessing Natural Hazard Risks and the Net Benefits of Mitigation - A Scoping Study. Geneva : Prevention Consortium.  
[http://www.radixonline.org/resources/mm\\_report.pdf](http://www.radixonline.org/resources/mm_report.pdf)
- Binger, Al. 2004. Needs Assessment for Capacity Building in Risk Management and Vulnerability Reduction in the Caribbean Islands of Antigua and Barbuda, Barbados, Cuba, Dominica, and Grenada. New York : UNDP. Bureau for Latin America and the Caribbean.  
[http://www.onu.org.cu/crmi/docs/ddr\\_acc\\_dev/carrib\\_assesment.pdf](http://www.onu.org.cu/crmi/docs/ddr_acc_dev/carrib_assesment.pdf)
- Bisek, Paul A., Jones, Eleanor B., and Ornstein, Conrad. 2001. A Strategy and Results Framework for Comprehensive Disaster Management in the Caribbean. St Michaels, Barbados : CDERA, USAID, UNDP.
- Bolger, J. 2000. The Emerging Program Focus: Striving for Greater Development Impact. *Capacity Development Occasional Series* 1, no. 2:8.
- BusinessTech Research Inc. 2002. The CDERA Online CDM Database. Overview of Purpose and Function. Bridgetown : CDERA.
- CADM Regional Team. 2005. Preparing for Flood Hazard Management: The CADM Experience. Bridgetown : CADM.
- Canadian International Development Agency. 2005. The Logical Framework: Making it Results Oriented. Ottawa : CIDA.
- Canadian International Development Agency. 2006. Commonwealth Caribbean (Regional CARICOM) Concept Paper: Regional Disaster Risk Reduction Fund. Bridgetown : CIDA.

Caribbean Community Secretariat (CARICOM) [www.caricom.org](http://www.caricom.org)

Caribbean Development Bank. 1998. Natural Disaster Management. Bridgetown : Caribbean Development Bank.  
[http://www.caribank.org/Policies.nsf/NaturalDisaster/\\$File/PolicyPaper.pdf?OpenElement](http://www.caribank.org/Policies.nsf/NaturalDisaster/$File/PolicyPaper.pdf?OpenElement)

Caribbean Development Bank and CARICOM. 2004. Integrating Natural Hazards into the Environmental Impact Assessment Process. Mainstreaming Disaster Risk Reduction into Development Projects. Bridgetown : CDB.  
[http://www.caribank.org/Projects.nsf/NHIA/\\$File/NHIA-EIA\\_Newsletter.pdf?OpenElement](http://www.caribank.org/Projects.nsf/NHIA/$File/NHIA-EIA_Newsletter.pdf?OpenElement)

Caribbean Disaster Emergency Response Agency. 2001. Status of Disaster Preparedness of CDERA Participating States. Bridgetown : CDERA.

Caribbean Disaster Emergency Response Agency. 2003. Status of Hazard Maps Vulnerability Assessments and Digital Maps. Anguilla Report. St Michael, Barbados : CDERA.  
[http://www.cdera.org/projects/cadm/docs/anguilla\\_hmvadm.pdf](http://www.cdera.org/projects/cadm/docs/anguilla_hmvadm.pdf)

Caribbean Disaster Emergency Response Agency. 2003. Status of Hazard Maps Vulnerability Assessments and Digital Maps. Antigua and Barbuda Country Report. St Michael, Barbados : CDERA.  
[http://www.cdera.org/projects/cadm/docs/antigua\\_hmvadm.pdf](http://www.cdera.org/projects/cadm/docs/antigua_hmvadm.pdf)

Caribbean Disaster Emergency Response Agency. 2003. Status of Hazard Maps Vulnerability Assessments and Digital Maps. Commonwealth of Bahamas Country Report. St Michael, Barbados : CDERA.  
[http://www.cdera.org/projects/cadm/docs/bahamas\\_hmvadm.pdf](http://www.cdera.org/projects/cadm/docs/bahamas_hmvadm.pdf)

Caribbean Disaster Emergency Response Agency. 2003. Status of Hazard Maps Vulnerability Assessments and Digital Maps. Belize Country Report. St Michael, Barbados : CDERA.  
[http://www.cdera.org/projects/cadm/docs/belize\\_hmvadm.pdf](http://www.cdera.org/projects/cadm/docs/belize_hmvadm.pdf)

Caribbean Disaster Emergency Response Agency. 2003. Status of Hazard Maps Vulnerability Assessments and Digital Maps. Barbados Country Report. St Michael, Barbados : CDERA.  
[http://www.cdera.org/projects/cadm/docs/barbados\\_hmvadm.pdf](http://www.cdera.org/projects/cadm/docs/barbados_hmvadm.pdf)

Caribbean Disaster Emergency Response Agency. 2003. Status of Hazard Maps Vulnerability Assessments and Digital Maps. British Virgin Islands Country Report. St Michael, Barbados : CDERA.  
[http://www.cdera.org/projects/cadm/docs/bvi\\_hmvadm.pdf](http://www.cdera.org/projects/cadm/docs/bvi_hmvadm.pdf)

Caribbean Disaster Emergency Response Agency. 2003. Status of Hazard Maps Vulnerability Assessments and Digital Maps. Dominica Country Report. St Michael, Barbados : CDERA.  
[http://www.cdera.org/projects/cadm/docs/dominica\\_hmvadm.pdf](http://www.cdera.org/projects/cadm/docs/dominica_hmvadm.pdf)

Caribbean Disaster Emergency Response Agency. 2003. Status of Hazard Maps Vulnerability Assessments and Digital Maps. Grenada Country Report. St Michael, Barbados : CDERA.  
[http://www.cdera.org/projects/cadm/docs/grenada\\_hmvadm.pdf](http://www.cdera.org/projects/cadm/docs/grenada_hmvadm.pdf)

Caribbean Disaster Emergency Response Agency. 2003. Status of Hazard Maps Vulnerability Assessments and Digital Maps. Guyana Country Report. St Michael, Barbados : CDERA.  
[http://www.cdera.org/projects/cadm/docs/guyana\\_hmvadm.pdf](http://www.cdera.org/projects/cadm/docs/guyana_hmvadm.pdf)

Caribbean Disaster Emergency Response Agency. 2003. Status of Hazard Maps Vulnerability Assessments and Digital Maps. Haiti Country Report. St Michael, Barbados : CDERA.  
[http://www.cdera.org/projects/cadm/docs/haiti\\_hmvadm.pdf](http://www.cdera.org/projects/cadm/docs/haiti_hmvadm.pdf)

Caribbean Disaster Emergency Response Agency. 2003. Status of Hazard Maps Vulnerability Assessments and Digital Maps. Jamaica Country Report. St Michael, Barbados : CDERA.  
[http://www.cdera.org/projects/cadm/docs/jamaica\\_hmvadm.pdf](http://www.cdera.org/projects/cadm/docs/jamaica_hmvadm.pdf)

Caribbean Disaster Emergency Response Agency. 2003. Status of Hazard Maps Vulnerability Assessments and Digital Maps. Martinique Country Report. St Michael, Barbados : CDERA.  
[http://www.cdera.org/projects/cadm/docs/martinique\\_hmvadm.pdf](http://www.cdera.org/projects/cadm/docs/martinique_hmvadm.pdf)

Caribbean Disaster Emergency Response Agency. 2003. Status of Hazard Maps Vulnerability Assessments and Digital Maps. Montserrat Country Report. St Michael, Barbados : CDERA.  
[http://www.cdera.org/projects/cadm/docs/montserrat\\_hmvadm.pdf](http://www.cdera.org/projects/cadm/docs/montserrat_hmvadm.pdf)

Caribbean Disaster Emergency Response Agency. 2003. Status of Hazard Maps Vulnerability Assessments and Digital Maps. Nevis Country Report. St Michael, Barbados : CDERA.  
[http://www.cdera.org/projects/cadm/docs/nevis\\_hmvadm.pdf](http://www.cdera.org/projects/cadm/docs/nevis_hmvadm.pdf)

Caribbean Disaster Emergency Response Agency. 2003. Status of Hazard Maps Vulnerability Assessments and Digital Maps. Commonwealth of Puerto Rico Country Report. St Michael, Barbados : CDERA.  
[http://www.cdera.org/projects/cadm/docs/puertorico\\_hmvadm.pdf](http://www.cdera.org/projects/cadm/docs/puertorico_hmvadm.pdf)

Caribbean Disaster Emergency Response Agency. 2003. Status of Hazard Maps Vulnerability Assessments and Digital Maps. Saint Lucia Country Report. St Michael, Barbados : CDERA.  
[http://www.cdera.org/projects/cadm/docs/saintlucia\\_hmvadm.pdf](http://www.cdera.org/projects/cadm/docs/saintlucia_hmvadm.pdf)

Caribbean Disaster Emergency Response Agency. 2003. Status of Hazard Maps Vulnerability Assessments and Digital Maps. St. Kitts Country Report. St Michael, Barbados : CDERA.  
[http://www.cdera.org/projects/cadm/docs/stkitts\\_hmvadm.pdf](http://www.cdera.org/projects/cadm/docs/stkitts_hmvadm.pdf)

Caribbean Disaster Emergency Response Agency. 2003. Status of Hazard Maps Vulnerability Assessments and Digital Maps. St. Vincent and the Grenadines Country Report. St Michael, Barbados : CDERA.  
[http://www.cdera.org/projects/cadm/docs/stvincent\\_hmvadm.pdf](http://www.cdera.org/projects/cadm/docs/stvincent_hmvadm.pdf)

Caribbean Disaster Emergency Response Agency. 2003. Status of Hazard Maps Vulnerability Assessments and Digital Maps. Suriname Country Report. St Michael, Barbados : CDERA.  
[http://www.cdera.org/projects/cadm/docs/suriname\\_hmvadm.pdf](http://www.cdera.org/projects/cadm/docs/suriname_hmvadm.pdf)

Caribbean Disaster Emergency Response Agency. 2003. Status of Hazard Maps Vulnerability Assessments and Digital Maps. Trinidad and Tobago Country Report. St Michael, Barbados : CDERA.  
[http://www.cdera.org/projects/cadm/docs/trinidadtobago\\_hmvadm.pdf](http://www.cdera.org/projects/cadm/docs/trinidadtobago_hmvadm.pdf)

Caribbean Disaster Emergency Response Agency. 2003. Status of Hazard Maps Vulnerability Assessments and Digital Maps. Turks and Caicos Islands Report. St Michael, Barbados : CDERA.  
[http://www.cdera.org/projects/cadm/docs/tci\\_hmvadm.pdf](http://www.cdera.org/projects/cadm/docs/tci_hmvadm.pdf)

Caribbean Disaster Emergency Response Agency. 2004. Fourteenth Meeting of the Board of Directors of the Caribbean Disaster Emergency Response Agency (CDERA). Catholic Pastoral Centre. Saint Vincent and the Grenadines. May 20-21, 2004. St Michael, Barbados : CDERA.

Caribbean Disaster Emergency Response Agency. 2004. Institutional Review of The Disaster Management Mechanism In Grenada. St Michaels, Barbados : CDERA.

Caribbean Disaster Emergency Response Agency. 2005. Caribbean Community Regional Programme Framework 2005-2015. St. Michael, Barbados : CDERA.  
[http://www.onu.org.cu/crmi/docs/int\\_strategy/carcom\\_0515\\_cdera.pdf](http://www.onu.org.cu/crmi/docs/int_strategy/carcom_0515_cdera.pdf)

Caribbean Disaster Emergency Response Agency. 2005. The Kingston Declaration 2005. St Michael : CDERA.  
[http://www.cdera.org/cunews/news/article\\_1072.php](http://www.cdera.org/cunews/news/article_1072.php)

Caribbean Disaster Emergency Response Agency. 2005. Revised Institutional Review of the Disaster Management Mechanism in the Commonwealth of Bahamas. Bridgetown : CDERA.

Caribbean Disaster Emergency Response Agency. 2005. Revised Institutional Review of the Disaster Management Mechanism in Saint Lucia. Bridgetown : CDERA.

Caribbean Disaster Emergency Response Agency. 2005. Revised Institutional Review of the Disaster Management Mechanism in Turks and Caicos. Bridgetown : CDERA.

Caribbean Disaster Emergency Response Agency. 2006. The Kingston Declaration 2005. News. St Michael : CDERA.  
[http://www.cdera.org/cunews/news/printer\\_1072.php](http://www.cdera.org/cunews/news/printer_1072.php)

Caribbean Disaster Emergency Response Agency. 2006. Some Donor Perspectives. Bridgetown : CDERA.

Caribbean Disaster Emergency Response Agency and Ecoisle. 2006. Sustainability Plan for the Caribbean Hazard Mitigation Capacity Building Programme (CHAMP). Bridgetown : CDERA.

Caribbean Disaster Emergency Response Agency. 2006. CDM Forum: Matrix of Issues Arising by Themes. Bridgetown : CDERA.

Caribbean Disaster Emergency Response Agency. 2006. Disaster Management Audit Instrument. Bridgetown : CDERA.

Caribbean Disaster Emergency Response Agency. 2006. Expansion of Caribbean Disaster Management (CADM) Project. Weighted Assessment Criteria for Identification of Priority Sites. Bridgetown : CDERA.

- Caribbean Disaster Emergency Response Agency. 2006. Discussion Document on 10th EDF Cariforum Regional Strategy Paper (RSP) and 10th EDF Regional Indicative Programme (RIP). Bridgetown : CDERA.
- Caribbean Heads of States and United States. 1997. Caribbean/United States Summit. Bridgetown Declaration of Principles. Bridgetown, Barbados  
<http://hostings.diplomacy.edu/iirt/chronology/Update9c.htm>
- Collymore, Jeremy. 2006. Comprehensive Disaster Management: Reflections of the Broker. Bridgetown : CDERA.
- Collymore, Jeremy. 2006. Disaster Risk Reduction Center at the University of the West Indies: Framework for Governance and Programme of Work. Bridgetown : UWI.
- Consulting and Audit Canada. 2003. Mid-Term Review of Caribbean Regional Technical Assistance Centre (CARTAC). Ottawa : Consulting and Audit Canada.
- Culzac-Wilson, Lystra. 2003. St. Vincent and the Grenadines. Report to the Regional Consultation on SIDS Specific Issues. St. Vincent  
[http://www.sidsnet.org/docshare/other/20041104110105\\_ST\\_VINCENT\\_AND\\_GRENADINES\\_NAR\\_2004.doc](http://www.sidsnet.org/docshare/other/20041104110105_ST_VINCENT_AND_GRENADINES_NAR_2004.doc)
- Dahl-Ostergaard, Tom, Unsworth, Sue, Robinson, Mark, and Jensen, Rikke Ingrid. 2005. Lessons learned on the Use of Power and Drivers of Change Analyses in Development Co-Operation. Paris : OECD DAC Network on Governance.
- Deare, Fredericka. 2004. A Methodological Approach to Gender Analysis in Natural Disaster Assessment: A Guide for the Caribbean. Santiago : CEPAL.  
<http://www.eclac.cl/publicaciones/xml/4/19574/lcl2123i.pdf>
- DFID. 2004. Regional Assistance Plan for the Caribbean. London : DFID.
- DFID. 2004. Drivers of Change. London : DFID.
- DFID. 2005. Programmatic Support: Summary of Evidence for Increased Effectiveness. London : DFID.
- DFID. 2006. Reducing the Risk of Disasters - Helping to Achieve Sustainable Poverty Reduction in a Vulnerable World: A DFID Policy Paper. London : DFID.
- DFID. 2006. Eliminating World Poverty. Making Governance Work for the Poor. London : HMSO.
- Dominica. Ministry of Agriculture and the Environment. Environmental Coordinating Unit. 2003. Dominica's National Report on Barbados Programme of Action + 10. Roseau : Commonwealth of Dominica.  
[http://www.sidsnet.org/docshare/other/20041102123427\\_DOMINICA\\_NAR\\_2004.doc](http://www.sidsnet.org/docshare/other/20041102123427_DOMINICA_NAR_2004.doc)
- DRM and Swiss Federal Institute for Snow and Avalanche Research (SLF). 2004. Evaluation of Inter-American Development Bank's Operational Policy on Natural and Unexpected Disasters (OP-704 and Action Plan). Davos : DRM.  
<http://www.drmonline.net/drmlibrary/pdfs/DRM01.pdf>

- Duran Vargas, L. R. and Kressin, J. 2004. The Evaluation of DIPECHO Action Plans in the Caribbean. Brussels : ECHO.  
[http://ec.europa.eu/echo/pdf\\_files/evaluation/2004/DIPECHO\\_caribbean2004.pdf](http://ec.europa.eu/echo/pdf_files/evaluation/2004/DIPECHO_caribbean2004.pdf)
- Economic Commission for Latin American and the Caribbean. Subregional Headquarters for the Caribbean. 2004. Disaster Assessment Training Manual for Caribbean Small Island Developing States (SIDS). Port of Spain (Trinidad and Tobago) : ECLAC.  
<http://www.eclac.cl/cgi-bin/getProd.asp?xml=/publicaciones/xml/8/14978/P14978.xml&xsl=/portofspain/tpl-i/p9f.xsl&base=/portofspain/tpl/top-bottom.xsl>
- Environmental Support Services. 2004. Institutional Review of the Disaster Management Mechanism in Barbados. Bridgetown : CDERA.
- European Union. 2006. Institutional Support and Capacity Building for Disaster Management in the Caribbean. Bridgetown : EU.
- FAO. 2006. Assistance to Improve Agricultural Emergency Preparedness in Caribbean Countries Highly Prone to Hurricane Disasters. Summary of Implementation Strategy. Bridgetown : FAO.
- Federation of St.Kitts and Nevis. Ministry of Finance, Development and Planning. Planning Unit. 2004. National Assessment of the BPOA +10. 1994-2003. St Kitts : Ministry of Finance.  
[http://www.sidsnet.org/docshare/other/20041104160840\\_ST\\_KITTS\\_AND\\_NEVIS.pdf](http://www.sidsnet.org/docshare/other/20041104160840_ST_KITTS_AND_NEVIS.pdf)
- French, A. L. D. 2006. Comprehensive Disaster Management Forum. Bridgetown : CDERA.
- Government of Barbados. Ministry of Housing Lands and the Environment. 2003. Barbados National Assessment on the Implementation of the Barbados Programme of Action (BPOA). Bridgetown : Gov. of Barbados.  
[http://www.sidsnet.org/docshare/other/20041103160354\\_BARBADOS\\_NAR\\_2004.doc](http://www.sidsnet.org/docshare/other/20041103160354_BARBADOS_NAR_2004.doc)
- Government of Belize. 2003. National Assessment Report for Barbados + 10. Belize City : Government of Belize.  
[http://www.sidsnet.org/docshare/other/20041117154915\\_Belize\\_NAR\\_2004.doc](http://www.sidsnet.org/docshare/other/20041117154915_Belize_NAR_2004.doc)
- Government of St.Lucia. Ministry of Physical Development, Environment and Housing. 2004. Draft Final Report to Review the Implementation of the Barbados Programme of Action (BPOA). St. Lucia : Government of St. Lucia.  
[http://www.sidsnet.org/docshare/other/20041103172714\\_ST\\_LUCIA\\_NAR\\_Nov\\_2004.doc](http://www.sidsnet.org/docshare/other/20041103172714_ST_LUCIA_NAR_Nov_2004.doc)
- Grenada. Ministry of Finance. 2004. Grenada National Report on Sustainable Development. Grenada : Ministry of Finance.  
[http://www.sidsnet.org/docshare/other/20041102123137\\_GRENADA\\_NAR\\_2004.doc](http://www.sidsnet.org/docshare/other/20041102123137_GRENADA_NAR_2004.doc)
- Grimm, Jens. 2006. CDM Forum. Barbados 20 & 21 March 2006. World Food Programme. Bridgetown
- Gurenko, Eugene N. 2003. Introduction to the World Bank Insurance Practice: Key Lessons Learned and the Road Ahead. Washington : World Bank.  
<http://info.worldbank.org/etools/docs/library/158277/natdisaster/pdf/Gurenko.ppt>

- Guyana. Environmental Protection Agency. 2004. Guyana's Assessment Report on the Programme of Action plus 10. Guyana : EPA.  
[http://www.sidsnet.org/docshare/other/20041102123202\\_GUYANA\\_NAR\\_2004.doc](http://www.sidsnet.org/docshare/other/20041102123202_GUYANA_NAR_2004.doc)
- Inter-Agency Secretariat of the International Strategy for Disaster Reduction (UN/ISDR). 2005. *Living with Risk. A Global Review of Disaster Reduction Initiatives. 2004 Version.* 2 vol. éd. Geneva: UN ISDR.  
[http://www.unisdr.org/eng/about\\_isdr/bd-lwr-2004-eng.htm](http://www.unisdr.org/eng/about_isdr/bd-lwr-2004-eng.htm)
- Inter-American Development Bank. 2000. Facing the Challenge of Natural Disasters in Latin America and the Caribbean. An IDB Action Plan. Washington : IDB.  
<http://www.iadb.org/IDBDocs.cfm?docnum=823495>
- Inter-American Development Bank. 2002. Regional Information and Indicators Program for Disaster Risk Management. Washington : IADB.  
<http://idbdocs.iadb.org/wsdocs/getdocument.aspx?docnum=421771>
- Inter-American Development Bank. 2005. Draft Disaster Risk Management Policy. Washington : IDB.  
<http://www.iadb.org/sds/doc/ENV-DraftDRMPolicy-12-21-05.pdf>
- Inter-American Development Bank. 2005. Preliminary Companion Paper to the Draft Disaster Risk Management Policy. Washington : IDB.  
<http://www.oas.org/dsd/Documents/IDB-DraftCompanionPaper121905.pdf>
- International Federation of Red Cross and Red Crescent Societies. 2004. Reducing Risks and Improving Coordination. Towards an Integrated Disaster Management System in the Americas. Geneva : IFRC.
- International Federation of Red Cross and Red Crescent Societies. 2006. Disaster Risk Reduction and the International Federation. Geneva : IFRC.
- International Federation of Red Cross and Red Crescent Societies. 2006. Disaster Risk Reduction: A Way of Building Safer Communities. Geneva : IFRC.
- International Federation of Red Cross and Red Crescent Societies. 2006. The Red Cross Regional Strategy for the Caribbean. Improving the Lives of Vulnerable People by Mobilizing the Power of Humanity. Port-of-Spain : IFRC.
- Jamaica. Ministry of Land and Environment. 2003. Jamaica National Assessment Report. A Ten-Year Review of the Implementation of the 1994 Barbados Programme of Action for the Sustainable Development of Small Island Developing States. Kingston : Ministry of Land and Environment.  
[http://www.sidsnet.org/docshare/other/20041102123106\\_JAMAICA\\_NAR\\_2004.pdf](http://www.sidsnet.org/docshare/other/20041102123106_JAMAICA_NAR_2004.pdf)
- Jones, Eleanor B., Bisek, Paul A., and Ornstein, Conrad. 2001. Comprehensive Disaster Management in the Caribbean. Baseline Study. St Michael, Barbados : CDERA, USAID, UNDP.
- Jones, Eleanor B. 2002. Comprehensive Disaster Management. A Strategy for Trinidad and Tobago. Kingston, Jamaica : Environmental Solutions.

- Jones, Eleanor B. 2003. National Consultation on Comprehensive Disaster Management in the Caribbean. Jamaica : CDERA.
- Jones, Eleanor B. 2003. Comprehensive Disaster Management. A Strategy for Jamaica. Kingston, Jamaica : Environmental Solutions.
- Jones, Eleanor B. 2004. Disaster Management. Teaching and Research in Caribbean Tertiary Institutions. Bridgetown : CDERA.
- Juba, Bruce. 2006. IDB Draft Disaster Risk Management Policy. Bridgetown : IDB.
- King, Ian C. 2006. Issues from the CDM Institutional Reviews. Bridgetown : UNDP.
- Le Groupe-conseil baastel ltée. 2006. Results-based Management and the Canadian International Development Agency. Training Manual. Prepared for Caribbean Hazard Mitigation Capacity Building Program Partners and the Caribbean Disaster Emergency Response Agency. Gatineau : Groupe-conseil baastel.
- López-Portillo, Arturo. 2005. Survey of the Status of Disaster Preparedness in Grenada. St. Georges, Grenada : CDERA.  
[http://www.onu.org.cu/crmi/docs/lessons/grenada\\_cdera\\_04.pdf](http://www.onu.org.cu/crmi/docs/lessons/grenada_cdera_04.pdf)
- Ng'ethe, Njuguna, Katumanga, Musambayi, and Williams, Gareth. 2004. Strengthening the Incentives for Pro-Poor Policy Change: An Analysis of Drivers of Change in Kenya. Summary Report. London : DFID.
- OECD. 2003. *Harmonising Donor Practices for Effective Aid Delivery*. Vol. 2, *DAC Guidelines and Reference Series*. Paris: OECD.  
<http://www.oecd.org/dataoecd/0/48/20896122.pdf>
- OECD DAC Network on Governance. 2004. Summary Record of the Govnet Informal Workshop on "Sharing Approaches to Understanding Drivers of Change and Political Analysis". Meeting Held 1-2 June 2004. Paris : OECD.
- OECD .Development Assistance Committee. Working Party on Aid and Evaluation. 2002. *Glossaire des principaux termes relatifs à l'évaluation et la gestion axée sur les résultats. Glossary of Evaluation and Results Based Management Terms*. Paris: OECD.
- Opadeyi, Jacob, Ali, Shahiba, and Chin, Eva. 2003. Status of Hazard Maps, Vulnerability Assessments and Digital Maps in the Caribbean. Final Report. St. Augustine, Trinidad and Tobago : CDERA, JICA, CIDA, OAS.  
[http://www.cdera.org/projects/cadm/docs/2005-02-15\\_Finalreport\\_Survey\\_HMDMVA.pdf](http://www.cdera.org/projects/cadm/docs/2005-02-15_Finalreport_Survey_HMDMVA.pdf)
- Organization of American States and Department of Regional Development and Environment Executive Secretariat for Economic and Social Affairs. 1991. Primer on Natural Hazard Management in Integrated Regional Development Planning. OAS  
<http://www.oas.org/dsd/publications/Unit/oea66e/begin.htm>
- Organization of American States. Unit for Sustainable Development and Environment. 2002. Caribbean Hazard Mitigation Capacity Building Program. Washington : OAS.

Organization of East Caribbean States. [www.oecs.org](http://www.oecs.org)

Organization of East Caribbean States. 2006. OECS Disaster Response and Risk Reduction: A Programme to Build Community Resilience. OECS.

Republic of Suriname. 2004. Final National Assessment Report. Barbados Programme of Action + 10 Review. Suriname : Government of Suriname.  
[http://www.sidsnet.org/docshare/other/20041102123015\\_SURINAME\\_NAR\\_FEB\\_2004.doc](http://www.sidsnet.org/docshare/other/20041102123015_SURINAME_NAR_FEB_2004.doc)

Republic of Trinidad and Tobago. 2003. National Assessment Report. Barbados Programme of Action for Small Island Developing States. Trinidad and Tobago : Government of Trinidad and Tobago.  
[http://www.sidsnet.org/docshare/other/20041102123338\\_TRINIDAD\\_AND\\_TOBAGO\\_NAR\\_2003.doc](http://www.sidsnet.org/docshare/other/20041102123338_TRINIDAD_AND_TOBAGO_NAR_2003.doc)

République d'Haïti. Ministère de l'environnement. 2003. Rapport national Barbade +10 Petits États Insulaires (SIDS). 1994 à 2004. Port au Prince : Ministère de l'environnement.  
[http://www.sidsnet.org/docshare/other/20041104161257\\_HAITI\\_NAR\\_2004.doc](http://www.sidsnet.org/docshare/other/20041104161257_HAITI_NAR_2004.doc)

Rogers, Cassandra. 2006. Enhancing Poverty Reduction Through Disaster Risk Reduction. Bridgetown : CDB.

Simutanyi, Neo, Duncan, Alex, and Macmillan, Hugh. 2003. Zambia. Drivers of Pro-Poor Change: An Overview. London : DFID.

UNICEF. 2003. Dialogue on CDERA's CDM. Identifying Opportunities of Cooperation on Risk Management to Fulfill Children's Rights. Bridgetown : UNICEF.

United Nations and World Conference on Disaster Reduction. 1994. Yokohama Strategy and Plan of Action for a Safer World. New York : United Nations.  
<http://www.undp.org/bcpr/disred/documents/miscellaneous/yokohamastrategy.pdf>

United Nations. 2002. Report of the International Conference on Financing for Development. Monterrey, Mexico, 18-22 March 2002. New York : United Nations.  
<http://www.un.org/esa/ffd/aconf198-11.pdf>

United Nations and Small Island Developing States. 2004. Caribbean Regional Report on the Implementation for the Barbados Programme of Action for the Sustainable Development of SIDS. Geneva : SIDS.  
[http://www.sidsnet.org/docshare/other/20041124121539\\_Caribbean\\_Regional\\_Assessment\\_Rpt\\_as\\_of\\_Nov\\_24.pdf](http://www.sidsnet.org/docshare/other/20041124121539_Caribbean_Regional_Assessment_Rpt_as_of_Nov_24.pdf)

United Nations. 2005. World Conference on Disaster Reduction. 18-22 January 2005, Kobe, Hyogo, Japan. Hyogo Declaration. Geneva : UNISDR.  
[www.unisdr.org/wcdr](http://www.unisdr.org/wcdr)

United Nations. 2005. World Conference on Disaster Reduction. 18-22 January 2005, Kobe, Hyogo, Japan. Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters. Geneva : UNISDR.  
[www.unisdr.org/wcdr](http://www.unisdr.org/wcdr)

United Nations and World Conference on Disaster Reduction. 2005. Review of the Yokohama Strategy and Plan of Action for a Safer World. New York : United Nations.  
<http://www.unisdr.org/wcdr/intergover/official-doc/L-docs/Yokohama-Strategy-English.pdf>

United Nations. 2005. International Meeting to Review the Implementation of the Programme of Action for the Sustainable Development of Small Island Developing States. Mauritius Declaration. New York : United Nations.  
<http://www.un.org/special-rep/ohrls/sid/MIM/A-conf.207-L.6-Mauritius%20Declaration.pdf>

United Nations. 2005. International Meeting to Review the Implementation of the Programme of Action for the Sustainable Development of Small Island Developing States. Mauritius Strategy. New York : United Nations.  
[http://www.sidsnet.org/docshare/other/20050622163242\\_English.pdf](http://www.sidsnet.org/docshare/other/20050622163242_English.pdf)

United Nations and Small Island Developing States. 2006. Report of the Caribbean Regional Preparatory Meeting to Review the Programme of Action for the Sustainable Development of Small Islands Developing States. Port of Spain : Secretariat.  
[http://www.sidsnet.org/docshare/other/20031104134625\\_Final\\_Report\\_of\\_the\\_Caribbean\\_Regional\\_Meeting\\_on\\_SIDS.doc](http://www.sidsnet.org/docshare/other/20031104134625_Final_Report_of_the_Caribbean_Regional_Meeting_on_SIDS.doc)

United Nations Development Programme. 2005. Caribbean. Comprehensive Approaches to Disaster Management. New York : UNDP.

United Nations Development Programme. 2005. A Best Practice Case Study for the Caribbean Risk Management Initiative. The Case of the British Virgin Islands (BVI) 1983-2005. Bridgetown : UNDP.

United Nations General Assembly. 12-11-1987. International Decade for Natural Disaster Reduction. New York : UN.  
<http://www.un.org/documents/ga/res/42/a42r169.htm>

United Nations General Assembly. 1994. Report of the Global Conference on the Sustainable Development of Small Island Developing States. Bridgetown, Barbados, 25 April-6 May 1994. New York : United Nations.  
<http://www.sidsnet.org/docshare/other/BPOA.pdf>

United Nations General Assembly. 1994. Declaration of Barbados. New York : United Nations.  
[www.un.org/documents/ga/conf167/aconf167-l4rev1.htm](http://www.un.org/documents/ga/conf167/aconf167-l4rev1.htm)

United Nations General Assembly. 1994. International Decade for Natural Disaster Reduction. New York : United Nations.  
[www.un.org/documents/ga/res/49/a49r022.htm](http://www.un.org/documents/ga/res/49/a49r022.htm)

United States General Accounting Office. Program Evaluation and Methodology Division. 1992. *The Evaluation Synthesis*. GAO/PEMD-10.1.2 éd. Washington: General Accounting Office.

USAID. 2006. RS09 "Caribbean Region Positioned to Succeed in an Open Trade Environment" IR2 "National Investments and Natural Assets Protected". Draft Risk Reduction Strategy. Bridgetown : USAID.

USAID and Caribbean Open Trade Support Program. 2006. Disaster Risk Management Benchmarking Tool. Bridgetown : USAID.

USAID/OAS Caribbean Disaster Mitigation Project and Organization of American States. Unit for Sustainable Development and Environment. 1997. Planning to Mitigate the Impacts of Natural Hazards in the Caribbean. St Michael : CDERA.  
<http://www.oas.org/cdmp/document/mitiplan/mitmanl.pdf>

Williams, Nicole M. 2000. Survey of the Strengths, weaknesses and Projects for Disaster Management in ACS Countries. Port of Spain : Association of Caribbean States.  
[http://www.acs-aec.org/Documents/Disasters/Projects/ACS\\_ND\\_000/NDProjectsEval\\_Williams\\_eng.pdf](http://www.acs-aec.org/Documents/Disasters/Projects/ACS_ND_000/NDProjectsEval_Williams_eng.pdf)