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CARIBBEAN COMMUNITY REGIONAL PROGRAMME FRAMEWORK 2005-2015

**Second
World Conference
on Disaster
Reduction**

**Kobe, Hyogo, Japan
January 18-22, 2005**

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Dominica • Grenada • Republic of Guyana • Jamaica • Montserrat • Saint Kitts and Nevis • Saint Lucia • Saint
Vincent and The Grenadines • Republic of Trinidad and Tobago • Turks and Caicos Islands

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LIST OF ABBREVIATIONS

ADRA	Adventist Development and Relief Agency
BPoA	Bridgetown Programme of Action
CADM	Caribbean Disaster Management Project
CARICOM	Caribbean Community
CARIMAC	Caribbean Institute of Media Communication
CBO	Community Based Organization
CDB	Caribbean Development Bank
CDERA	Caribbean Disaster Emergency Response Agency
CDM	Comprehensive Disaster Management
CIDA	Canadian International Development Agency
CIMH	Caribbean Institute for Meteorology and Hydrology
DFID	Department for International Development
DMFC	Disaster Mitigation Facility for the Caribbean
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
GDP	Gross Domestic Product
GEF	Global Environment Facility
IDNDR	International Decade for National Disaster Reduction
IFRC	International Federation of Red Cross and Red Crescent Societies
IICA	Inter-American Institute for Cooperation on Agriculture
IPCC	Intergovernmental Panel on Climate Change
IR	Intermediate Results
JICA	Japan International Cooperation Agency
MACC	Mainstreaming Adaptation to Climate Change
NDO	National Disaster Organization
OAS	Organization of American States
OFDA	Office of Foreign Disaster Assistance
PAHO	Pan American Health Organization
RP	Results Package
SIDS	Small Island Developing States
UNDP	United Nations Development Program
USAID	United States Agency for International Development
UTECH	University of Technology
UWI	University of the West Indies
WCDR	World Conference on Disaster Reduction
WMO	World Meteorology Organization
WSSD	World Summit on Sustainable Development

EXECUTIVE SUMMARY

CARICOM recognizes the inextricable link between poverty and disasters and accepts that poverty alleviation and sustainable development cannot gain traction without a strengthened commitment to disaster reduction at the regional, national, community and individual levels in each member country. New and enhanced application of knowledge and technology will help to build the capacity for change.

Within the past two decades the region has experienced repeated and extensive losses from hurricanes and associated wind, rain and storm surge damage. The past year, 2004, was particularly tumultuous, and was indeed defining for the Caribbean region. Severe multi-country and multi-hazard impacts brought into sharp focus yet again the vulnerability of each CARICOM member state, and underscored the need for concerted action and allocation of resources to reduce disaster loss and dislocation. Caribbean governments have recognized that each territory must take charge of its vulnerability, and that it is imperative to build resilience in a region that lives with environmental risk by virtue of its geography. Altogether, events have diverted considerable sums of government budgets from capital investment and recurrent expenditure into reconstruction.

In the light of experiences, imperatives, and on-going best practices for the region, the Kobe preparatory process, and the priorities identified for WCDR outcomes CARICOM proposes to focus its programming around the critical actions needed to advance implementation of the five (5) Intermediate Results (IRs) of the Comprehensive Disaster Management (CDM) Strategy and Framework. The CDM Strategy and Framework which was developed through extensive and multi-faceted consultations with the private and public sectors, civil society, bilateral and multilateral partners, and which is explicitly connected to the Bridgetown Programme of Action has been endorsed by Caribbean governments, and the donor community, and has been used as a medium for mobilizing resources to effect disaster loss reduction initiatives.

Priority areas agreed for the region therefore, include:

- Hazard Mapping And Vulnerability Assessment,
- Flood Management,
- Community Disaster Planning,
- Early Warning Systems,
- Climate Change, and
- Knowledge Enhancement.

The Goal, Objectives, and Priority Actions identified for the WCDR Outcomes document are closely aligned with the Goal, Strategic Objective and Results Packages articulated in the Caribbean CDM Strategy and Results Framework, which addresses all phases of the disaster cycle.

Building Resilience of nations and communities to hazard impacts will be the overall focus for the Caribbean region, and it is proposed that resources will be sought to expand and replicate several on-going best practices throughout the region. The principal issue for CARICOM at this time, therefore, appears to be how to effectively link national and regional actions to existing and projected resource support. At the national level, governments and civil society will be encouraged to include disaster loss reduction principles in development decisions and project design so as to increase the likelihood of access to technical assistance programmes. It is proposed that this resilience can be advanced through the pursuit of courses of action in line with the following themes:

1. Governance: Institutional and Policy Frameworks for Risk Reduction.
2. Knowledge Management.
3. Community Disaster Planning.
4. Flood Management.
5. Adaptation to Climate Change.

We look forward to working to develop partnerships with our stakeholders in the pursuit of the priority areas identified for the region within the context of the Comprehensive Disaster Management Strategy and Framework.

January 2005

1.0 THE CARIBBEAN CONTEXT

The Caribbean Community (CARICOM) recognizes the inextricable link between poverty and disasters and accepts that poverty alleviation and sustainable development cannot gain traction without a strengthened commitment to disaster reduction at the regional, national, community and individual levels in each member country. It further acknowledges that new and enhanced application of knowledge and technology will help to build the capacity for change.

The Barbados Plan of Action (BPoA) for SIDS has helped to inform the disaster management agenda of the region, and CARICOM is seeking to further advance this agenda.

The importance of risk management to the vulnerability of SIDS has been a recurring theme throughout all phases of the dialogue of disaster loss reduction. The Caribbean Region has supported the International Decade for Natural Disaster Reduction (IDNDR) and by extension the **Yokohama Strategy and Plan of Action for a Safer World**. The principles of comprehensive disaster loss reduction reflected in the Johannesburg Plan of Action of the World Summit on Sustainable Development (WSSD) and the relevant Message emerging from the Ministerial Forum of the 3rd World Water forum held in 2003 are in synch with the goal and strategic objective of the region's Comprehensive Disaster Management (CDM) Framework and Strategy.

The vulnerability of the island states and territories of the Caribbean was re-emphasized in 2004 when hurricanes, floods and earthquakes resulted in losses of almost US \$4 billion. This made more relevant and urgent the regional strategy for Comprehensive Disaster Management which was adopted in 2001. Its goal is sustainable development in the Caribbean and its strategic objective seeks to have CDM integrated into the development processes of the Member States of the Caribbean Disaster Emergency Response Agency (CDERA).

The framework provides the beginning for guiding the region's dialogue and priorities for building a resilient community.

2.0 CARICOM AND THE PREPARATORY PROCESS

The Programme Framework in CDERA Participating States has been informed by a mix of technical consultations, policy prescriptions and stakeholder consultations. The following meetings and consultations, which engaged a diversity of stakeholders, have provided the indicators of critical outcomes to be pursued for resilient development.

1. Seminar on Climate Change and Severe Weather Events in Asia and the Caribbean (January 2004)
2. Inter-regional Seminar on Flood Hazard Mapping and its use for Community Disaster Planning in the Caribbean and Central America (February 2004)
3. Regional Conference on Early Warning Systems (May 2003)
4. Meeting of Caribbean Experts on Climate Variability and Change in the Caribbean as it relates to Disaster Management and the Challenge of Adaptation to the Increasing Risk and Frequency of Weather Related Disasters (October 2003)
5. Caribbean 2004 Regional Disaster Management Conference (Nov 2004)

The outcomes of these technical meetings have been presented and endorsed at various political fora in the Caribbean Community mechanism. In all cases, the promotion of synergies between SIDS and WCDR were encouraged. Additionally, it was agreed that the regionally endorsed Comprehensive Disaster Management (CDM) Strategy would provide the framework around which the CARICOM Kobe dialogue will be structured.

3.0 THE CARIBBEAN PROGRAMME FRAMEWORK 2005-2015

Against the background of experiences, and in the light of the priorities identified for WCDR outcomes, CARICOM proposes to focus its programming around the critical actions needed to advance implementation of the five (5) Intermediate Results (IRs) of the CDM Strategy and Framework. The CDM Strategy and Framework, which was developed through extensive and multi-faceted consultations with the private and public sectors, civil society, bilateral and multilateral partners, and is explicitly connected to the Bridgetown Programme of Action. The Strategy and Framework have been endorsed by Caribbean governments, and the donor community, and has been used as a medium for mobilizing resources to effect disaster loss reduction initiatives. Priority areas agreed for the region therefore, include:

- Hazard Mapping And Vulnerability Assessment,
- Flood Management,
- Community Disaster Planning,
- Early Warning Systems,
- Climate Change, and
- Knowledge Enhancement.

The five (5) Results Packages (RPs), as Intermediate Results (IRs), must be implemented in order to achieve the Strategy's overall Goal and Strategic Objective (SO). The WSSD and Millennium Development Goals both reinforce the CDM Goal of Sustainable Development in the Caribbean, its Strategic Objective of infusing CDM into the development processes of CDERA member countries .

4.0 LINKING THE CDM AGENDA TO WCDR

The Goal, Objectives, and Priority Actions identified for the WCDR Outcomes document are closely aligned with the Goal, Strategic Objective and Results Packages articulated in the Caribbean CDM Strategy and Results Framework, which addresses all phases of the disaster cycle.

Figure 1 below illustrates the Goal, Objectives and Priority Actions for the Outcomes document, which is entitled as noted above, *"Consensus Framework for Building the Resilience of Nations and Communities to Hazard Impacts"*. The CDM Strategy and Results Framework is presented in **Figure 2**, and **Figure 3** illustrates the linkage between the priority areas of the WCDR and the CDM Strategy and Framework.

Figure 1: WCDR OUTCOMES

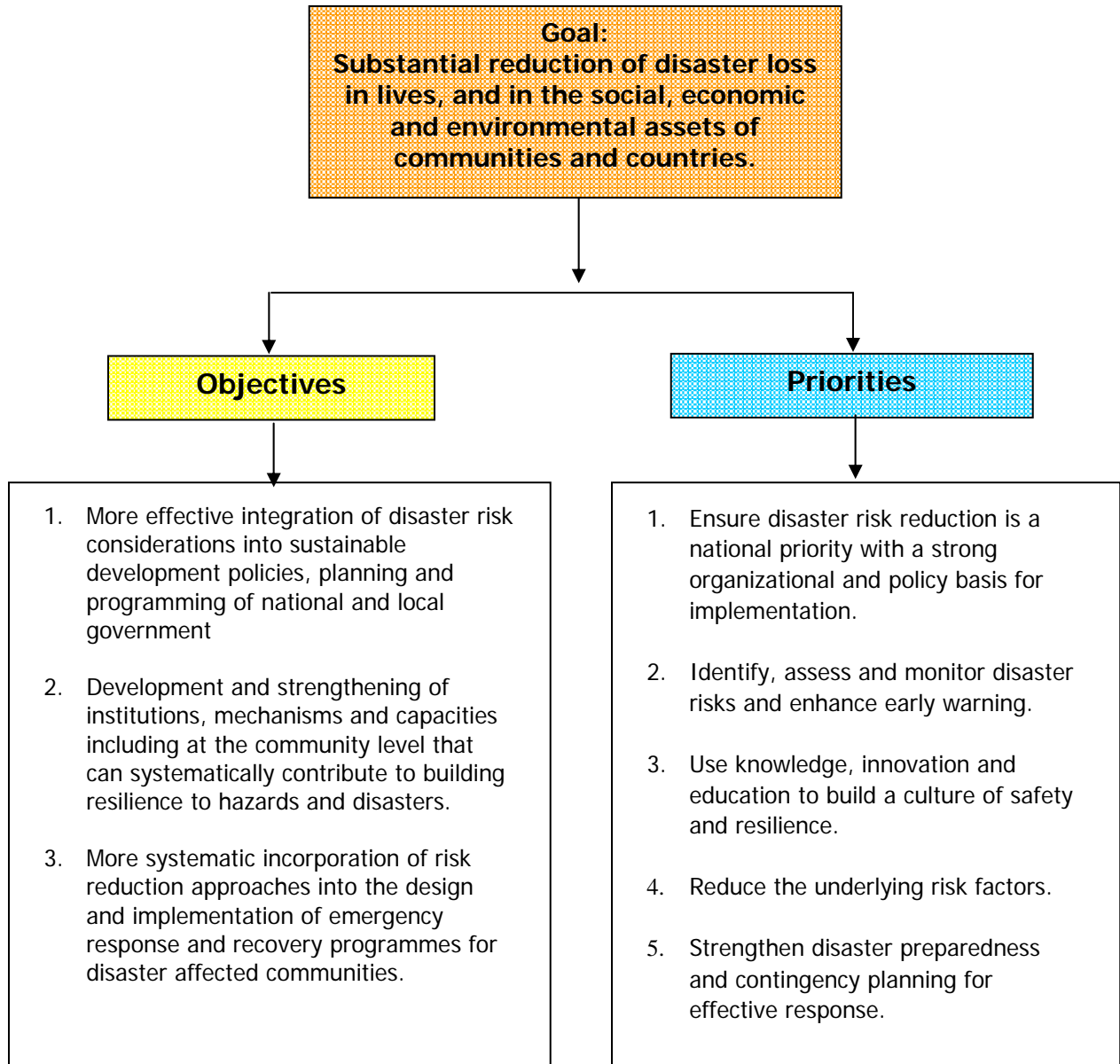


Figure 2: CDM STRATEGY AND RESULTS FRAMEWORK

GOAL: Sustainable Development in the Caribbean

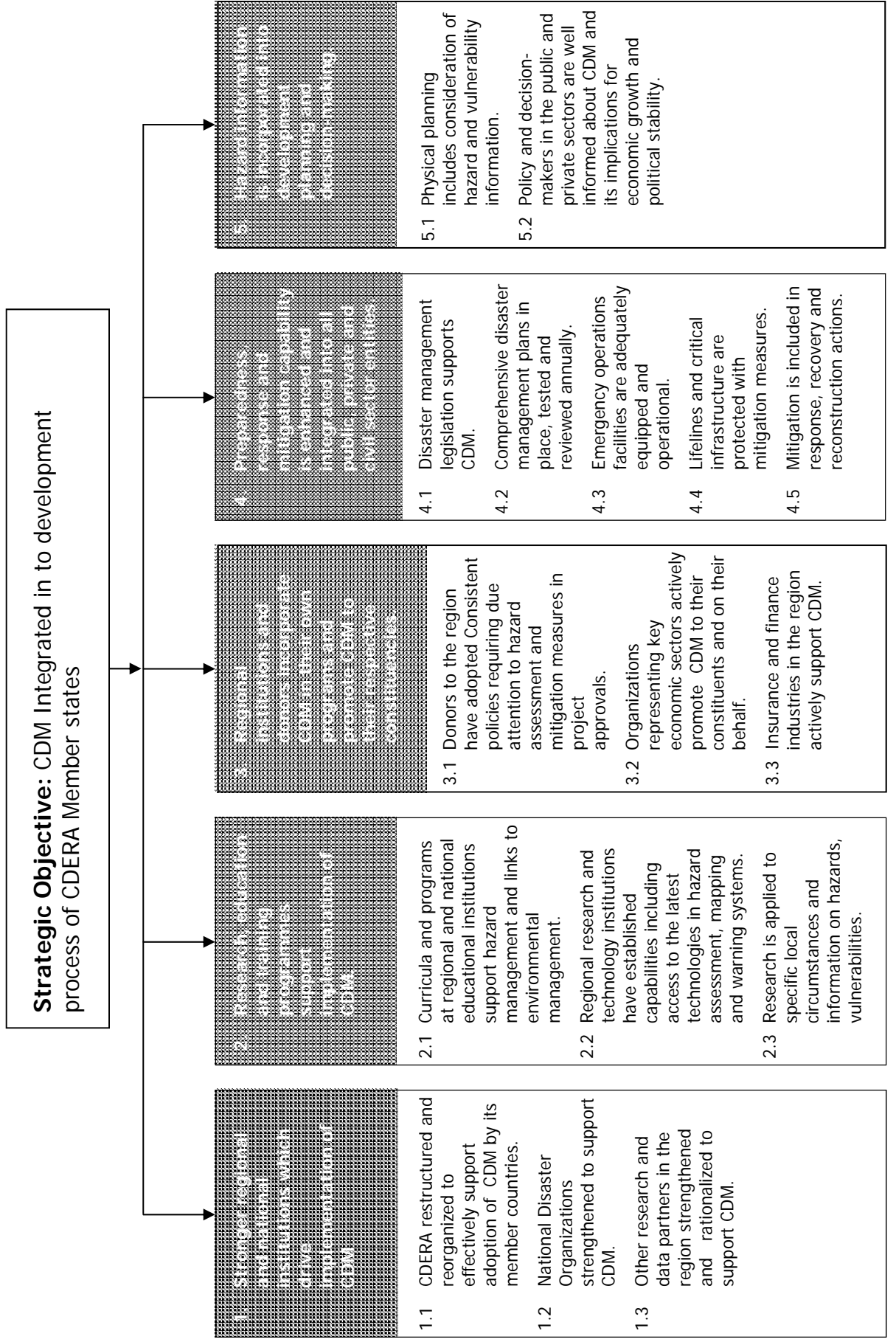


Figure 3: LINKING WCDR AND CDM AGENDA

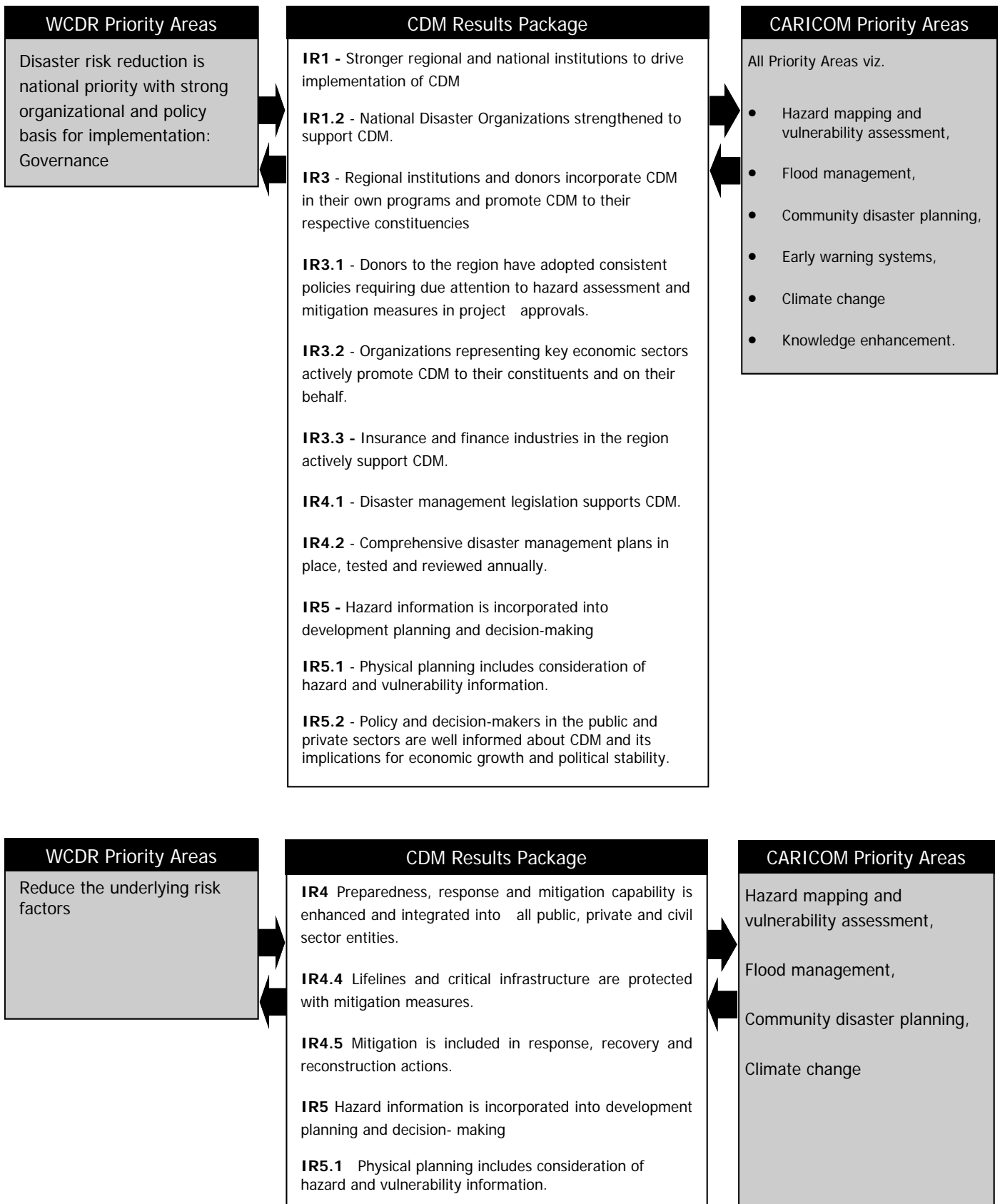
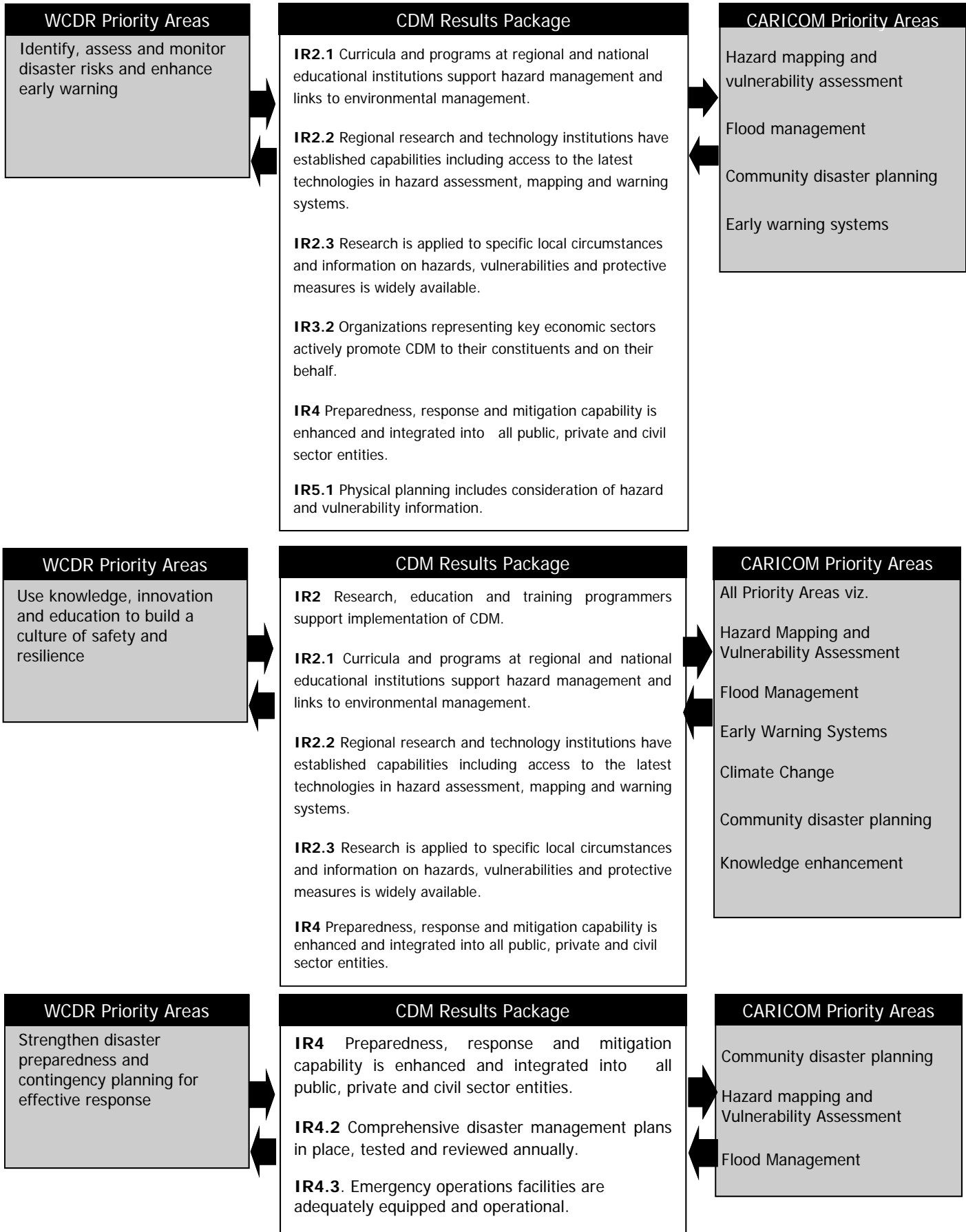


Figure 2: LINKING WCDR AND CDM AGENDA Cont'd



5.0 THE CARIBBEAN AGENDA 2005-2015

Building resilience of nations and communities to hazard impacts will be the overall focus for the Caribbean region, and it is proposed that resources will be sought to expand and replicate several on-going best practices throughout the region. The focus of the Kobe dialogue is broad and there is no indication of additional resources to support the implementation of the 2005-2015 programme framework. The principal issue for CARICOM at this time, therefore, appears to be how to effectively link national and regional actions to existing and projected resource support. At the national level, governments and civil society will be encouraged to include disaster loss reduction principles in development decisions and project design so as to increase the likelihood of access to technical assistance programmes.

Resilience refers to reduction of the probability of, as well as actual damage to property, loss of life, and community disruption, and to prompt reconstruction and restoration of livelihoods. This 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 is proposed that this resilience can be advanced through the pursuit of the following courses of action in line with the following themes:

Theme I Governance: Institutional and Policy Frameworks for Risk Reduction

Promotion, adoption and implementation of the Comprehensive Disaster Management Strategy requires an established multi-sector, multi-tier and targeted organizational structure with highly trained professional staff, and well-established and functioning linkages/partnerships for disaster management. Public policy must seek to promulgate the provisions of a national as well as community-based multi-hazard disaster plan with policies and institutional roles and responsibilities carefully articulated. An appropriate legislative and regulatory framework is required to support strong national disaster organisations as well as the mainstreaming of mitigation, preparedness and recovery/reconstruction strategies within the context of the environmental hazards characteristic of the respective CARICOM state.

The CDM strategy emphasises building a foundation of solid disaster management organizations in each country, and integration of mechanisms and procedures for disaster loss reduction into the development process. This means that the full range of government agencies and private sector players should be directed to incorporate vulnerability information and mitigation measures into their development planning and decision-making processes.

Guiding Principles

- Disaster reduction is essential to poverty alleviation
- Disaster reduction requires an effective partnership among public, private and civil entities
- Disaster reduction requires political will and must be central to the development agenda in each member state
- Models for legislation organization and policy/plan that incorporates CDM principles should be developed for application at national and community levels.

Theme II Knowledge Management

Disaster management must be based on accurate information about the type and extent of the hazards, vulnerable geographic areas within the respective country, and procedures to minimise loss of life and property. Hazard and vulnerability assessments and mapping are essential as the first step of a variety of measures under CDM. Relevant information must be gathered, stored, processed and disseminated at the regional, national and community levels, and there is need for continuing research to develop region and country specific information and technologies. A competent cadre of persons must be educated and trained to implement physical, technological, and social measures necessary for disaster risk and loss reduction.

The CDM Strategy in IR2 identified three major outcomes: education and training and the role of educational institutions in support of CDM; continuing research requirements; and application of the research. A recent survey commissioned by CDERA on Disaster Management Teaching and Research in Caribbean Tertiary Institutions identified existing programs, gaps in the context of CDM requirements, and suggested specific action steps.

The Caribbean region has the advantage of a strong educational system including several tertiary institutions, a primary and secondary system, as well as widespread and diverse continuing education programs. While the region may not be able to afford a complete range of specialized disaster management education and training programs, there is ample potential within the existing institutions and programs for intellectual leadership and for professional training in support of CDM.

Guiding Principles

- 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
- Healthy natural resources and ecosystems are integral to natural hazard vulnerability reduction.

Theme III Community Disaster Planning

The physical, economic and social effects of natural hazard strikes are often severe and long lasting at the community level within Caribbean states. Disaster reduction planning therefore needs to be grounded at the community level in order to work effectively for minimization of suffering, dislocation and economic loss. Community level vulnerability and risk assessment should inform approaches to preparedness, recovery planning and mitigation interventions which also activate latent capacities within the respective communities.

The flood hazard mapping programme being implemented through the CADM project is an example of best practice which should be expanded to strengthen community resilience as the impact of floods on communities is frequent and often devastating. This builds on the support ECHO has provided to CDERA and the IFRCs in helping to produce products for standardization of community disaster planning training and the establishment of Early Warning Systems in two (2) vulnerable communities.

Community-based disaster planning requires awareness building, partnerships, role differentiation, involvement, and a sense of individual and collective ownership or responsibility for vulnerability reduction. Specific roles and activities must be defined and executed for each stage of the hazard impact, and programming should be an on-going exercise. Logistics and an organizational framework need to be defined, and resilience building requires education, awareness, and political will. Recent events within the Caribbean have heightened attention at the national and community levels and it is important to seize the moment to influence change in attitude and behaviour. Private sector entities also have a large untapped potential and need to be integrated .

Guiding Principles

- Hazard information developed through mapping and vulnerability interpreted and effectively communicated
- Engagement of the community in risk reduction through awareness and creative models of governance
- Formation of meaningful partnerships among respective stakeholders – especially engagement of business enterprise, service clubs and other community-based organizations.

Theme IV Flood Management

Floods are the most serious natural hazard in CDERA member countries in terms of frequency and damage. Between 1996 and 2000 90% of the member states were affected by flood events and only 25% had a flood hazard management plan. In 2003, 60% of the US\$100 million damage from disasters was due to flood events. Floods in the region are triggered by extreme rainfall events from tropical systems, and the maintenance and or low-lying topography of most territories but also result from the inadequacy of drainage infrastructure, poor maintenance of existing structures, and inappropriate land use and siting of housing, livelihoods, and development projects. Poor communities often occupy vulnerable locations, and consequently suffer greatly from these events. In those circumstances land use and management exacerbate poverty and disastrous losses.

A 3-year (2002-2005) Japanese (JICA) funded technical cooperation project in Caribbean Disaster Management (CADM) is being implemented to address this in Small Island Developing States. It is providing professional expertise, expert training, and equipment to enhance the capability within CDERA and its member territories for community disaster management planning through the preparation of flood hazard maps, incorporation of hazard maps in the community disaster plans, and establishment of disaster information clearing house capabilities. Three pilot countries were selected for the mapping and planning exercise, which includes partnerships with UWI, CIMH, and CDERA..

A review of the status of flood hazard mapping in the region indicated that maps are available for only a few areas within CDERA countries. Whilst these show potential inundation for selected return periods, they do not provide sufficient information for the appropriate suite of disaster management activities. It is proposed that the program of the CADM project be extended and replicated to all CDERA member territories over the next decade. In addition to flood management inland as well as coastal flood risk must be handled.

Guiding Principles

- Identification and mapping of Flood hazard zones and assessment of vulnerability is essential to reducing the underlying causes of flood risk, and to building community resilience to flood hazard
- Replication and expansion of best practices with respect to flood management will greatly facilitate disaster loss reduction.

THEME V ADAPTATION TO CLIMATE CHANGE

The Intergovernmental Panel on Climate Change (IPCC) has warned that the Earth's climate is likely to change over the decades to come, owing to increases in concentration of atmospheric greenhouse gases caused by human activity. There are likely to be increases in temperature, sea levels and extreme weather events, such as droughts, hurricanes, and intense rainfalls.

The Caribbean, like other small island developing states is vulnerable to the effects of climate change and is also under pressure from forces such as population growth, resource depletion, and poverty. Sea level rise and increasing variability of climate are two of the major considerations for climate change adaptation strategies in the Caribbean. Many coastal areas will experience increased levels of flooding, accelerated erosion, loss of wetlands and mangroves, and seawater intrusion into freshwater sources as a result of climate change. Impacts on highly diverse and productive coastal ecosystems such as coral reefs, atolls and reef islands, salt marshes and mangrove forests will depend upon the rate of sea-level rise relative to growth rates and sediment supply. Future sea surface warming could increase stress on coral reefs and result in increased frequency of marine diseases thus impacting Caribbean coastal assets.

The Adaptation to Climate Change projects implemented in the Caribbean since 1996/97 have sought to build a database to inform climate change adaptation strategies and to build the institutional mechanisms for capacity enhancement. It is important that collaborative mechanisms be developed so as to avoid unnecessary duplication, and to optimize allocation of scarce resources to the important issue of disaster reduction.

Guiding Principles

- Climate change is a real threat to the viability of Caribbean states and adaptation strategies should be incorporated in the overall thrust toward sustainable development and integrated development planning
- Data should be generated in a manner that can be effectively utilized for planning at the national and community levels

Actions, Lead responsibilities, and Expected Outcomes are outlined in **the Caribbean Action Plan**.

CARIBBEAN ACTION PLAN

Theme 1: Governance

Institutional and Policy Frameworks for Risk Reduction

Goals:

- Completion of Restructuring of CDERA.
- Institutional assessment of NDOs and their strengthening to the level of minimum requirement.

Key Objectives:

1. Establishment of an effective institutional and policy framework for disaster reduction appropriate to each member state of CARICOM.
2. Enacted Legislation regulations and standards to support the effective functioning of the relevant institutions to drive the process of CDM toward disaster reduction.
3. Disaster reduction becomes a mainstream activity of all public, private and civil entities.
4. CARICOM member states develop a culture of disaster reduction.

Expected Outcomes:

1. Well-established institutional and policy framework at the regional, national and community levels leading effective disaster management through all phases of the disaster cycle.
2. Disasters reduced in CARICOM member countries.

Suggested Actions	Lead Actors/ Responsibilities	Resources	Partnerships	Current Activities
Strengthen CDERA with human and financial resources to meet the challenge as the hub for a regional service. Build structures for professional advancement, management training and human resource development to assist CDERA to perform the CDM leadership function.	CDERA (CDERA Strategic Plan)	CARICOM National governments Donor funded projects.	Tertiary institutions within and outside the region Existing and planned project implementers	Organizational development and strategic plan
Support the provisions of the CDERA Strategic Plan to build the agency's capacity to lead the process of CDM in CARICOM and its member states.	CDERA	CARICOM National governments Donor funded projects.	Donors – existing and projected Institutional linkages	
Complete institutional assessments of National Disaster Organizations with respect to capacity to lead the CDM process in each member territory. Build the required capacity – human, strategic planning, advocacy, public information and education, research and documentation.	CDERA	Donor funded projects	Relevant regional and national agencies/ institutions.	Institutional assessments v/v CDM completed for some territories.

Theme 1: Governance cont'd.

Suggested Actions	Lead Actors/ Responsibilities	Resources	Partnerships	Current Activities
Design and Implement Hazard Risk Assessment Project for each territory – Build scenarios for each hazard, assess vulnerable elements, associated risk and potential loss, and institute policy and framework for mitigation/risk reduction	CDERA	DFID USAID/OFDA	BVI UWI	BVI complete
Integrate natural hazard impact reduction with environmental management policies through structured interaction of environmental agencies and disaster management entities	UWI, UTECH, Relevant national government agencies	CDB, UWI, DFID, JICA, EU	Ministries of Development and Planning.	CDB/OAS integration national hazard assessment and climate change into Environmental Assessment.
Enact Disaster Legislation in each Member State to enable strong and effective leadership from a well-constituted National Disaster Management Agency	CDERA/CARICOM	Nat'l legal bodies		Selected CDERA Participating States
Develop an integrated program at the country level to reduce vulnerability and losses within each of the key economic sectors. Build sector-specific CDM programs (tourism, agriculture, housing, etc.)	CDERA	Gov'ts, Private sector	CTO, CHA/CAST, respective gov't and private sector agencies by sector	Hurricane Procedures Manual and Training for the hotel sector
Design/amend land use policy and development control to integrate vulnerability and risk reduction in each territory	Gov't agencies with responsibility for Land Use and development control		Related	Hazard Mitigation Policies Floodplain mapping Hazard Vulnerability Assessments
Develop mechanisms for strengthening the political will. Sensitise Ministries of Finance and other key agencies on the link between development investment, recurrent budgets, GDP, and disaster loss and reconstruction	CDERA, CDB		Nat'l disaster Organisations. Key Ministries/ Agencies Int'l Disaster Organisations Change agents	

Theme 2: INFORMATION AND KNOWLEDGE MANAGEMENT

Goals:

- Establishment of Disaster Management and Resource Center.
- Expansion of continuing and vocational education programs with CDM principles.
- Establishment of linkage with extra regional institutions.

Key Objectives:

1. Developed database on vulnerability of natural resources and hazard impacts.
2. Knowledge and Information on disaster scenarios generated and appropriately disseminated.
3. Continuing education and training programs in relevant aspects of comprehensive disaster management implemented for all sectors through existing vocational and specialist training institutes.
4. CDM teaching and research fully incorporated in tertiary institutions.
5. Systems established for on-going data capture and documentation of hazards, risks, and impacts, fully incorporating community-based sources.
6. Strengthened capacity for dissemination of disaster management information for each phase of the disaster management cycle. Early warning systems informed by appropriate data sets and institutional strategies.

Expected Outcomes:

1. A multi-tier, multi-sector and integrated program for comprehensive disaster management education at the regional and national levels.
2. Effective mechanisms for dissemination and application of comprehensive disaster management information.

Suggested Actions	Lead Actors/ Responsibilities	Resources	Partnerships	Current Activities
Establish a Disaster Management and Resource Centre dedicated to applied multidisciplinary research, data base development and teaching.	CDERA, UWI, UTECH, CARICOM	Donor funded programs University of the West Indies and Technology.	UWI, UTECH, CDERA, UNDP/Donor agencies	Selected programs in disaster management at UWI, UTECH and other tertiary level institutions.
Review and implement the recommended plan of action suggested by the CDERA Survey of Tertiary Institutions	CDERA CARICOM		CDERA, CARICOM, Donor Agencies	
Encourage and assist institutions that offer continuing and vocational education programs for development within the public and private sectors to incorporate principles of CDM in the relevant course curricula. Develop CDM modules for the target group as may be required/requested	CDERA/respective Institutions, Thematic Cooperation Group on Education, Training and Research			CDERA/Mexico/UWI initiative.

Theme 2: Information and Knowledge Management cont'd.

Suggested Actions	Lead Actors/ Responsibilities	Resources	Partnerships	Current Activities
Build linkages for technology transfer and professional exchanges with extra regional institutions.	CDERA, UWI	Extra regional Institutions and professionals		
Build awareness among secondary and vocational school teachers of multi-sectoral / multi-subject applicability of CDM principles. Seize opportunities to introduce CDM concepts and principles to students	Teacher Training Institutions; Universities; CDERA and strategic partners			DIPECHO funded Schools Programme
Develop and implement within existing institutions programs for emergency services: fire, civil defence, police, medical services), for all the professions involved in disaster management (such as medical personnel, engineers, architects, social workers, economists, etc.) and for all administrative and political decision makers involved in the development and implementation of risk reduction activities.	National Disaster Organisations CDERA		Professional and trade organisations	Programs Caribbean Maritime Institute
Develop and implement policies and programs for effective disaster management communication strategies.	International Telecoms Union	CARIMAC	CARIMAC	CARIMAC programs
Develop mechanisms to enable access to and application of data and information for comprehensive disaster management.	UWI, UTECH			

Theme 3: COMMUNITY DISASTER PLANNING

Goals:

- Vulnerability assessment for all member states.
- Identification/list up of highly vulnerable communities.
- Completion of hazard mapping for those communities
- Establishment of early warning system for those communities

Key Objectives:

1. Identification of communities in high risk areas and community disaster management for those communities.
2. Communities sufficiently resilient to absorb shocks, bounce back, and recover to become even stronger than before a disaster.
3. Established partnerships among the business, government, and non-governmental/community-based organisations.
4. Early warning systems installed and operating effectively especially in high risk communities.
5. Effective immediate post-impact assessment, response and coping mechanisms.
6. Environmental management integrated with disaster reduction initiatives.
7. Combined structural and non-structural measures for vulnerability reduction at the community level.

Expected Outcomes:

1. Vulnerable communities take charge of preparedness and are better able to recover from effects of event and rehabilitate loss assets.
2. Reduction in losses from disasters through reduced vulnerability.

Suggested Actions	Lead Actors/ Responsibilities	Resources	Partnerships	Current Activities
Hazard mapping and vulnerability assessment completed for each member state. Replicate outcomes from the Japanese funded CADM project.	CDERA	Donor funded projects	JICA, UNDP, CIDA, USAID/ OFDA, OAS	CADM project
Establish timely and reliable data access (ground satellite, radar) and mechanisms for sharing data between countries consistent Res 40 WMO Cg XII; data assimilation, telecommunications	CIMH, Telecoms, Union, National Governments	Government of Japan, Global Environment Facility, EU, MACC, UNDP Resilience building facility		
Improved outreach for agricultural extension techniques and the development of practices to reduce livelihood losses from disaster impact.	Agricultural support agencies	Donor funded projects etc. IICA, DFID, JICA, FAO, USAID	Agro-meteorological services, watershed management entities and projects, relevant financial institutions and crop insurance schemes	

Theme 3: COMMUNITY DISASTER PLANNING cont'd.

Suggested Actions	Lead Actors/ Responsibilities	Resources	Partnerships	Current Activities
National awareness building and institutional framework for food security in rural as well as urban areas (i.e. at the community as well as national levels)	Ministries of Agriculture farming organizations.	Public information networks.	FAO, other relevant UN organizations.	
Identify and enhance community dynamics and leadership.	National Disaster organizations/ IFRCS/		CDERA/IFRCS	
Improve access to accurate information and basic communication, energy and water systems for high-risk communities by facilitating appropriate technology alternatives.	CDERA/National Disaster organizations, Media		Public and private print and electronic media, public utilities – water and electricity. Local government entities	
Develop system of incentives for increased involvement of business sector	Ministries of Finance Development Banks Financial institutions Insurance sector	Best practice case studies from within and outside the region	Business organisations	
Strengthen damage assessment and response capacity at the community level through training and provision of equipment/ materials	CDERA/National Disaster Organisations	Donor funded projects	Red Cross, ADRA, PAHO, Emergency services, CBOs	
Reduce underlying risk factors – natural and built	CDERA/National Disaster Organisations Community Organisations	Local Gov't, Donor- funded projects,	UWI, Ministries of Works, Tourism, Housing, and Agriculture, et al.	
Review and enhance institutional framework and policy provisions in each state for application of the findings of hazard mapping and vulnerability assessment	CDERA Nat'l disaster Organisations (NDOs)	JICA CIDA UNDP Donor funding	JICA, UWI, Respective Nat'l government agencies	
Review and enhance institutional framework and policy provisions in each member state for early warning systems, community disaster planning, flood management, and adaptation to climate change.	CDERA Nat'l disaster Organisations (NDOs)	MACC JICA EU DFID	UWI Gov't agencies such as Ministries of Works, Local Government, Water resources Division,	

Theme 4: FLOOD MANAGEMENT

Goals:

- Identification of flood hazard areas
- Implementation of flood hazard and vulnerability mapping in all CDERA member territories
- Establishment of early warning system for flood hazard areas

Key Objectives:

1. Identify and Map Flood Hazard areas for use in community disaster planning
2. Reduce underlying causes of flood risk
3. Build community resilience to flood hazard

Expected Outcomes:

1. Complete flood hazard and vulnerability mapping in all CDERA member territories
2. Reduction in flood disasters-inland and coastal

Suggested Actions	Lead Actors/ Responsibilities	Resources	Partnerships	Current Activities
Complete CDERA Sustainability Plan for CADM project.	CDERA/JICA	JICA	JICA	
Build community capacity for flood hazard mapping and monitoring	CDERA/JICA	JICA	JICA, UWI, CIMH, Cobs, Private sector	
Replicate CADM project throughout CDERA member countries	CDERA	JICA, CIDA, other donor partners, national governments	JICA, UWI, CIMH, CBOs, Private sector, relevant government agencies	
Implement early warning system for weather, climate and water related events				
Strengthen information sharing mechanisms	CDERA/National Disaster Organisations / JICA	MACC, JICA, EU	MACC, UWI, Media	
Reduce Underlying Risk Factors	CDERA/National Governments	CDB DMFC, CIDA, FAO, DFID,	Watershed management projects, drainage improvement projects	

Theme 4: FLOOD MANAGEMENT

Suggested Actions	Lead Actors/ Responsibilities	Resources	Partnerships	Current Activities
Apply community-based approaches and appropriate technologies to flood loss reduction	National/local government entities/NGO's		Private/Public partnerships at local and national levels	
Develop organizations and capacity for flood management				
Determine status of data collection, identify gaps and implement corrective measures	Water resources agencies	Project funding		

Hazard Mapping and Vulnerability Assessment

Goals:

- Flood hazard mapping for all member states with small scale at national level.
- Flood hazard mapping for vulnerable communities with large scale.
- Expand and replicate CADM Project

Early Warning

Goals:

- Development of hydrological equipment appropriate to community based early warning especially for flash flood.
- Establishment of early warning system for all vulnerable communities.

Establishment of early warning systems that take account of local conditions as well as technologies appropriate to the circumstance.	CDERA/National Disaster Organisations	Platform for Promotion of Early Warning Donor funded projects	JICA Meteorological services. Drainage/ Water/Flood management agencies Seismic Research Unit.
Implement Caricom Recommendations for Early Warning systems for weather climate and water related hazards which includes Data Acquisition and Management, Information Dissemination and Communication, and Research and Development	CDERA/CIMH, UWI	WMO/SIDS-Car Project Government of Finland; Government of Japan; Global Environment Facility EU, MACC, UNDP Resilience building facility IADB, WB, CDB	IDRC, DFID, IICA, FAO, Foundations and other endowment funds, UWI, External partnerships with universities and other research institutes SIDS University Consortium

Theme 5: CLIMATE CHANGE

Key Objectives:

1. Integrate climate change adaptation strategies into comprehensive disaster management programs in each CDERA member state.
2. Establish collaborative arrangements with the Climate Change Centre and the relevant departments of UWI so as to optimize allocation and deployment of resources

Expected Outcomes:

1. A well informed Caribbean population motivated to implement Climate Change Adaptation Strategies
2. An integrated program of action incorporating the work of MACC and the Climate Change Centre with the work of CDERA

Suggested Actions	Lead Actors/ Responsibilities	Resources	Partnerships	Current Activities
Implement recommendations from the CDERA Tertiary Institution Survey with respect to climate change modeling and regional applications	UWI	MACC/UWI Donor funded projects	UWI/CDERA/ MACC	
Integrate data from CPACC and successor projects into Community Disaster Planning Initiatives	CDERA/CADM	JICA/MACC	MACC, UWI	
Embed Climate Change and Coastal vulnerability considerations into Sustainable Development Policies	National Govt's and climate change focal points	MACC/GEF	UWI, Nat'l governments	
Incorporate the precautionary principle or the "No regrets" approach to development planning which may be influenced by climate change scenarios				
Develop Food security plan for each territory	National Governments	IICA, FAO		

6.0 CONCLUDING REMARKS

In summary,

- Mainstreaming disaster loss reduction through institutional policy and programmes is a challenge, for it represents a changing paradigm. However, the need is glaring and effective change agents and mechanisms will need to be identified, and best practices expanded.
- Country level institutional assessments are essential steps toward institutional strengthening
- The programme framework proposed will facilitate on-going dialogue within the context of CDM.
- Annual programming and consultation among key stakeholders – national, regional, and international – will greatly facilitate moving the agenda forward.
- Diversity of interaction will greatly assist resilience building
- Opportunities provided by events –“teachable moments” – must be seized to effect incremental as well as major change.
- Best practices should be documented and replicated and expanded as appropriate.

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