INTEGRATING CLIMATE CHANGE ADAPTATION AND DISASTER RISK REDUCTION: THE APPROACH WITHIN THE REGIONAL IMPLEMENTATION PLAN

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THE VULNERABILITY OF THE CARIBBEAN

The Caribbean is acknowledged as being among the most prone regions in the world to a range of natural hazards, including tropical storms and hurricanes, drought, floods, landslides, earthquakes and volcanic eruptions. Statistics from the Inter American Development Bank (IDB) indicate that during the 1990s, natural disasters in the Caribbean region killed more than 45,000 people, affected 40 million people and caused over $20 billion in direct damages. With an average of 40 major disasters a year, the region ranks second only to Asia in terms of the frequency of disaster occurrence.

The increasing frequency of climate related extreme events are very close to the conditions that the climate models predict but due to the underlying variability in our climate it is not possible to conclude that any one of these extreme events was caused by climate change. The predictions are however that the Caribbean is likely to experience more extreme events and disaster situations in the future.

It should be noted that natural hazards by themselves do not necessarily cause disasters – rather it is the combination of an exposed, vulnerable and ill-prepared population or community with a hazard event that results in a disaster. Cuba for example, seem to be better prepared to adapt to natural hazards such as hurricanes, compared to say Haiti.

THE CDEMA CDM STRATEGY AND THE CCCCC REGIONAL IMPLEMENTATION PLAN

✓CDEMA is the regional organ established by the CARICOM Governments for coordination of emergency and disaster management response.

✓The CCCCC is the organization established by the CARICOM Governments to coordinate the region's response to climate change.

- **Disaster risk reduction (DRR) and climate change adaptation are inextricably linked as they share the same ultimate and common goal of reducing vulnerability to weather and climate hazards.**
- **They utilize similar mechanisms and approaches for building resilience of the vulnerable populations to the existing climate variability and climate changes we are already experiencing.**

✓The leading policy initiative at the regional level for disaster risk reduction can be found in CDEMA's 'Enhanced Comprehensive Disaster Management Strategy and Programming Framework' (CDM strategy).

✓The leading policy and strategic initiative at the regional level for climate change adaptation can be found in the "Regional Framework for Achieving Development Resilient to Climate Change.

The CDM strategy and the Regional Framework provide the regional platforms for the integration of climate change adaptation and DRR. They provide the governance mechanisms and overarching guidance for the advancement of the Region's approach to climate change adaptation and disaster risk management. Both, while pursuing independent mandates have overlapping and integrated responsibilities.

The CDM strategy and the Regional Framework provides a number of linkages for further integration. These include:

- Climate change is a cross cutting theme of the CDM strategy: Priority Outcome 4 specifically addresses building resilience to mitigate and respond to the adverse effects of climate change and disasters. The outputs under this outcome directly support the achievement of a number of the goals of the Regional Framework under SE 1, 2 and 3.

The CDM strategy and the Regional Framework provide a number of linkages for further integration. These include:

- DRR is a cross cutting theme in the Regional Framework and requires that government entities advance the goals and objectives of the strategy by ensuring that disaster risk reduction is taken into account in designing development programmes and projects.

The CDM strategy and the Regional Framework provide a number of linkages for further integration. These include:

- DRR is directly supported under Regional Framework Strategic Element 1, goal 2, "Reducing vulnerability to a changing climate", which aims to "build in-country capacity to formulate and analyse adaptation policy options and to develop and implement multi-sectoral adaptation strategies".

The CDM strategy and the Regional Framework provide a number of linkages for further integration. These include:

- The Regional Framework captures DRR under its Strategic Elements 1 and 2, to "Mainstream climate change adaptation strategies into the sustainable development agendas of CARICOM Member States" and; to "Promote the implementation of specific adaptation measures to address the key vulnerabilities in the region" respectively.

THE APPROACH OF THE CCCCC TO DISASTER RISK REDUCTION

The climate change approach to DRR require that we define the risk that the population or asset (including eco-systems) will be exposed to in terms of parameters such as:

- Temperature
- Precipitation (patterns and intensity)
- Sea level rise
- Frequency of extreme climate/weather events
- Frequency and intensity of hurricanes
- The return periods of extreme flood and drought events

- (a) downscaling
- (b) regional climate change projections
- (c) regional climate change scenarios
- (d) (c) + bio-physical impact models (crop, hydrology , coastal and marine environment models)

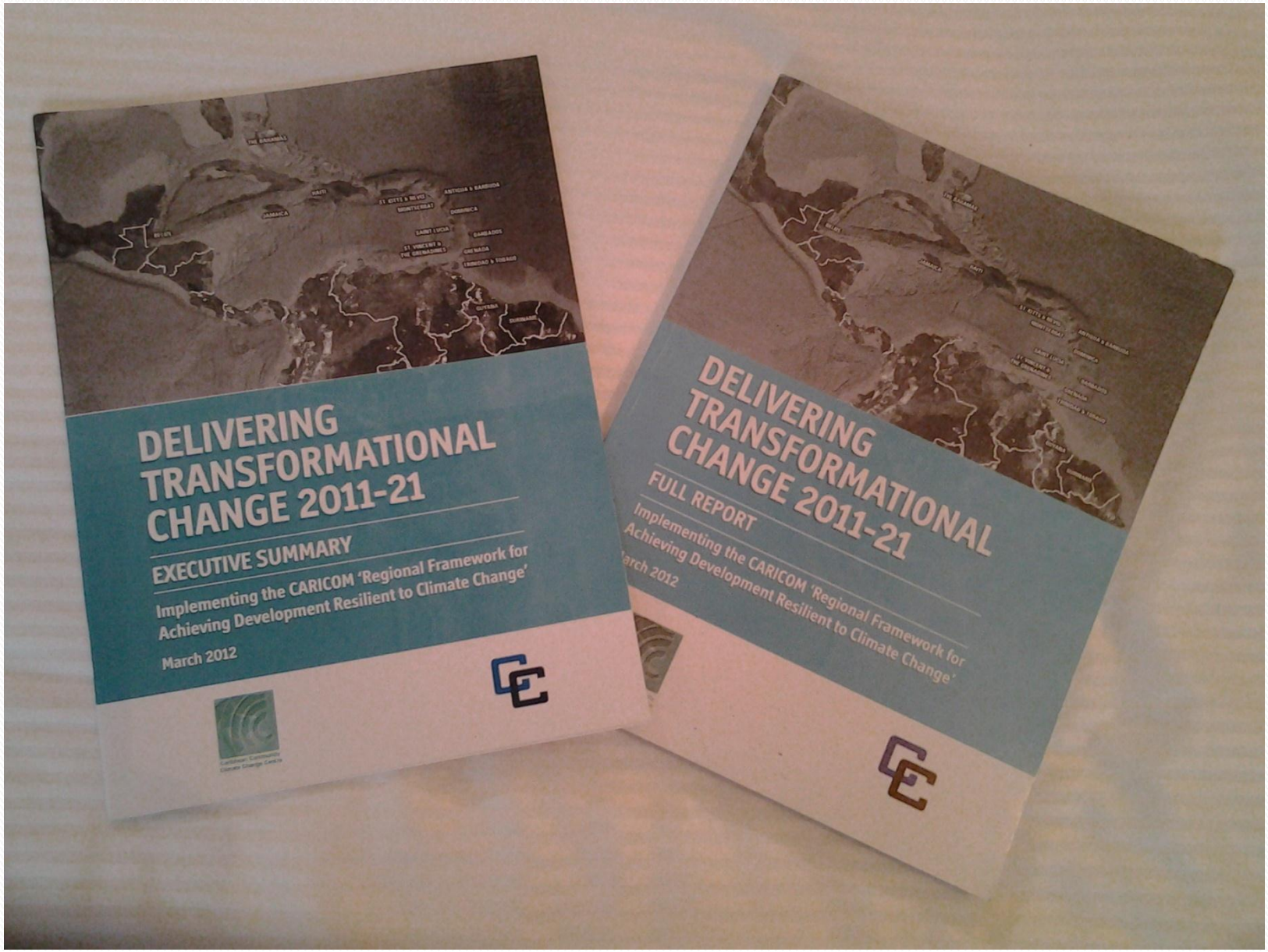
- (e) impacts of extreme events under different climate scenarios
- (f) Climate impact scenarios
- (g) Adaptation options

Contribution of CC activities to DRR

- Provide the knowledge base on which policy decisions and response actions and provide tools to facilitate rational decision making –
  - EWS for e.g. floods, drought,
  - Weather forecasts
  - Vulnerability Assessments
  - Risk maps
- Basis for complementarity and collaboration to avoid duplication

THE REGIONAL IMPLEMENTATION PLAN

SOME IDENTIFIED DRR ACTIONS


DELIVERING TRANSFORMATIONAL CHANGE 2011-21
EXECUTIVE SUMMARY
Implementing the CARICOM 'Regional Framework for Achieving Development Resilient to Climate Change'
March 2012
DELIVERING TRANSFORMATIONAL CHANGE 2011-21
FULL REPORT
Implementing the CARICOM 'Regional Framework for Achieving Development Resilient to Climate Change'

In the preparation of the Implementation Plan (IP) to support the Regional Framework, the above mentioned linkages and synergies between climate change adaptation and disaster risk reduction were taken into consideration in the design and development of actions within the IP. The following slides will highlight some of the identified actions

The IP has identified and developed a number of actions to generate data that will assist policy and decision makers to address and respond to the threats and predicted adverse effects of climate change and the risk/hazard that could result in disaster

Strategic Element 1:
Mainstream CC Adaptation Strategies into Sustainable Development Agendas of CARICOM Member States

Goal 1: Assess The Vulnerability and Risks Associated With A Changing Climate

Sector or Area	Program or Project Activity	Lead Agency and Collaborators	Country or Location	Time-frame	Estimated Cost (US$,000)
Coastal Zone and Marine	Revise and upgrade regional and national fisheries and marine resource management policies, legislation and regulations to incorporate and address climate change and DRM considerations	Lead: CRFM, Ministries of Fisheries Collaborators: CNFO, UWI	All countries	2011 to 2015	
Coastal Zone and Marine	Strengthen the capability of fisher-folk organisations at the regional, national and local levels to enhance community participation in planning and implementing programmes to increase resilience to climate change.	Lead: CMS/UWI Lead: CRFM, Ministries of Fisheries Collaborators: CNFO, UWI, NGOs, Private sector, CZMAI Belize	All Countries	2011 to 2021	1,000

Strategic Element 1:
Mainstream CC Adaptation Strategies into Sustainable Development Agendas of CARICOM Member States

Goal 1: Assess The Vulnerability and Risks Associated With A Changing Climate

Sector or Area	Program or Project Activity	Lead Agency and Collaborators	Country or Location	Time-frame	Estimated Cost (US$,000)
Capacity building	Impact assessments in the agriculture sector for agriculture professionals (10 day course developed by CCCCC/INSMET). Six courses over a two year period.	Lead: CCCCC, INSMET Collaborators: CARDI, Ministries of Agriculture,	All countries	2011 - 2013	750
Capacity building	Impact assessments in the health, water and coastal and marine sectors for professionals (10 day course developed by CCCCC/INSMET). Six courses over a two year period.	Lead: CCCCC, INSMET Collaborators: Ministries of Health, Water and Coastal Zone and Marine Affairs	All countries	2011 - 2013	750

Strategic Element 1:
Mainstream CC Adaptation Strategies into Sustainable Development Agendas of CARICOM Member States

Goal 1: Assess The Vulnerability and Risks Associated With A Changing Climate

Sector or Area	Program or Project Activity	Lead Agency and Collaborators	Country or Location	Time-frame	Estimated Cost (US$,000)
Capacity building	Training for Disaster Managers and Met. Officers in the use of short term forecasts for Disaster Management. The three day workshop will focus on training Disaster and Met personnel to access and use this resource to inform disaster management action during the hurricane season.	Lead: CCCCC, INSMET Collaborators: CIMH, National Meteorological Services, NEMOs	All countries	2011 - 2013	250

Strategic Element 1:
Mainstream CC Adaptation Strategies into Sustainable Development Agendas of CARICOM Member States

Goal 2: Reduce Vulnerability To A Changing Climate

Sector or Area	Program or Project Activity	Lead Agency and Collaborators	Country or Location	Time-frame	Estimated Cost (US$,000)
Multi Sector	Vulnerability and capacity assessment of the impacts of climate change on water, agriculture, tourism, coastal and marine and forestry sectors for the years 2020 and 2050 in all CARICOM states.	Lead: CCCCC, Natl. Water Agencies and Line Ministries for each sector Collaborators: CARDI, CIMH, CTO, GWP, Universities, Private sector, Civil society	All countries	2012 to 2017	1,500
Water	Develop climate resilient IWRM strategies in all countries	Water Agencies and Ministries Collaborators: Ministries of Agric., CIMH, GWP Caribbean, Ministries of Agric., Universities, Private sector, Civil society	All countries	2011 to 2016	1,000

Strategic Element 1:
Mainstream CC Adaptation Strategies into Sustainable Development Agendas of CARICOM Member States

Goal 2: Reduce Vulnerability To A Changing Climate

Sector or Area	Program or Project Activity	Lead Agency and Collaborators	Country or Location	Time-frame	Estimated Cost (US$,000)
Coastal Zone and Marine Areas	Protection, including reforestation, of mangrove swamps in selected coastal areas	Lead: CRFM Collaborators: NEPA, national agencies, UNDP, University of Surinam	All countries	2012 to 2017	
Coastal Zone and Marine Areas	Planning and Policy Development in place for the Coastal and Marine Areas (that includes Climate Change and Disaster Risk Reduction considerations)	Lead: CRFM Collaborators: NEPA, national agencies, UNDP, University of Surinam	All countries	2011 to 2016	

Strategic Element 2: Promote The Implementation of Specific Adaptation Measures To Address Key Vulnerabilities In The Region

Goal 1: Promote The Adoption Of Measures And The Disseminate Information That Would Make Water Supply Systems Resilient To Climate-Induced Damage

Sector or Area	Program or Project Activity	Lead Agency and Collaborators	Country or Location	Time-frame	Estimated Cost (US$,000)
Water	Strengthening the resilience of water infrastructure to extreme events/natural hazards	Lead: Natl. Water Agencies and Ministries, Water utilities Collaborators: Ministries of Agric., Private sector, Civil society.	Jamaica St. Kitts Dominica Belize Antigua	2012 to 2021	
Tourism	Conduct hazard mapping, vulnerability/risk assessments and economic valuation based on existing standards (assets, resources, communities etc.)				

Strategic Element 4:

Promote Actions To Reduce The Vulnerability of Natural And Human Systems In CARICOM Member States To The Impacts Of A Changing Climate

Sector or Area	Program or Project Activity	Lead Agency and Collaborators	Country or Location	Time-frame	Estimated Cost (US$,000)
Agriculture	Develop and implement strategies to secure, store and distribute food supplies and germplasm, particularly for use during low production periods and at times of natural and other disasters	Lead: CARICOM Sec. OECS Sec., CARDI Collaborators: Line Ministries, Private sector, CBOs, NGOs, CDEMA, NEMOs	All countries	2012 to 2016	
Agriculture and Coastal Zone and Marine Areas	Regional and national emergency preparedness institutions to become an integral part of the climate change adaptation response strategy.	Lead: CDEMA, NEMOs Collaborators: CARDI, Ministries of Agric., Ministries of Works, Private sector, CBOs, NGOs	All countries	2011 - 2021	

FINANCING THE IP ACTIONS (Including DRM)

FINANCING THE IP ACTIONS (Including DRM)

The CCCCC acknowledges the financial and technical support provided by our development partners in general and in the implementation the actions identified under the IP. The EU as a group and some of its member states, including Italy, the United Kingdom, Germany and Greece have provided support over the years.

The IP is now being used as a resource mobilizing tool for regional level actions such as those identified above. Although support is being provided, to date the inflows are not sufficient to support full implementation.

CONCLUSIONs

- **The CCCCC will continue to implement its mandate to coordinate the CARICOM's response to climate change.**

- **The Regional Framework and its Implementation Plan provide the policy and strategic guidance for the implementation of CC adaptation and mitigation options for the CARICOM region.**

- **DDR and CC Adaptation requires the cooperation of regional agencies, national governments and other stakeholders to achieve their common and shared goals and objectives.**

THE REGIONAL IMPLEMENTATION PLAN

SOME IDENTIFIED DRR ACTIONS

Let's Connect!

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