

# CARIBBEAN DROUGHT PRECIPITATION AND MONITORING NETWORK (CDPMN)

&

# COMPREHENSIVE DISASTER MANAGEMENT (CDM)

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# Presentation Outline

1. **Context Setting-** Hazards, Vulnerability, Impacts And Evolution Of Disaster Management In The Region
2. **CDM-** Definition, Framework and Strategy
3. **CDPMN and CDM-** A tool for CDM, Specific CDM Outcomes & Recommendations
4. **Take Home Messages**

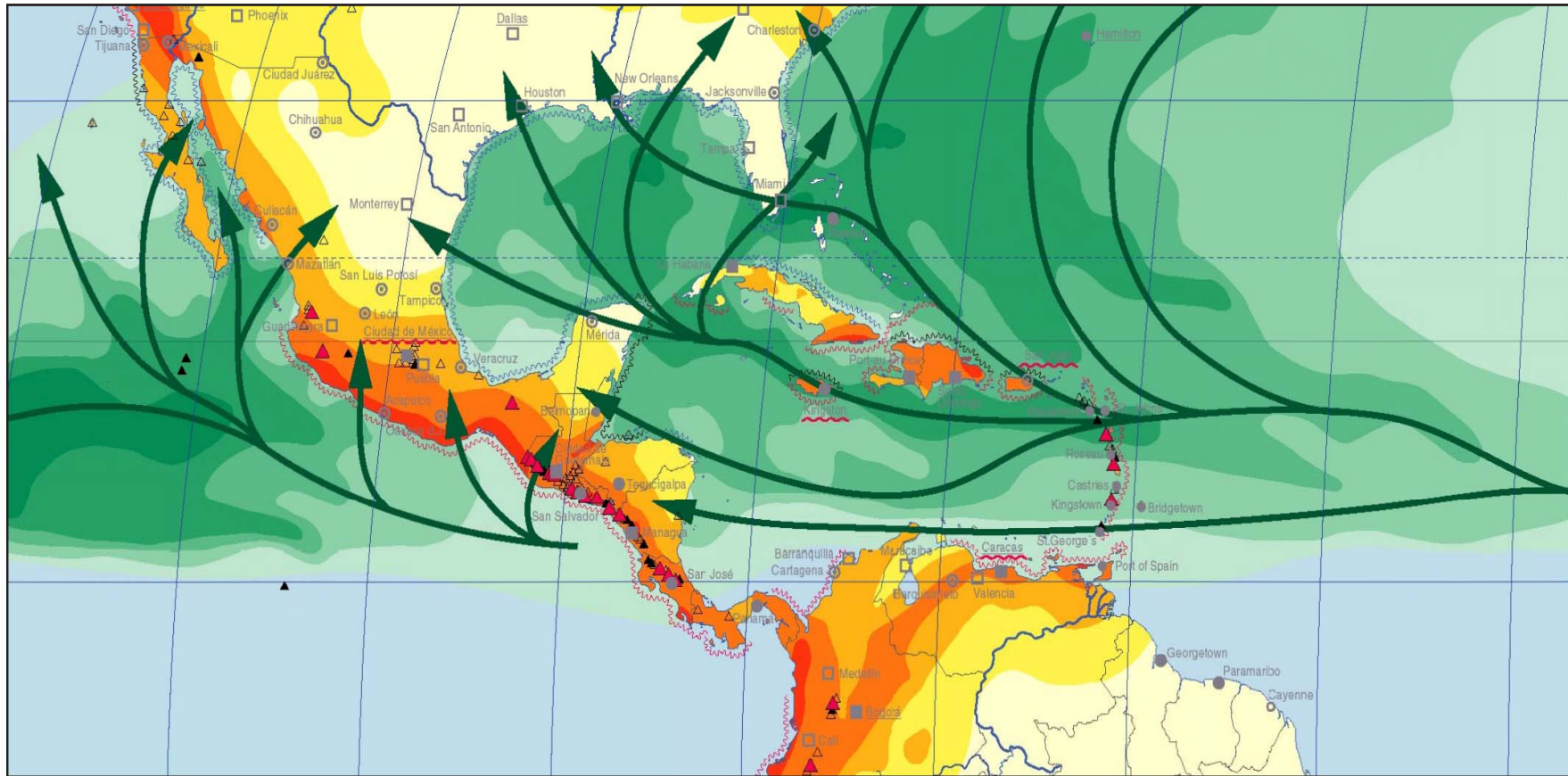
# Hazards, Vulnerability, Impacts And Evolution Of Disaster Management

In The Region

## **SETTING THE CONTEXT**

# CONTEXT- #1

## 1. Caribbean- 2nd Most hazard prone region



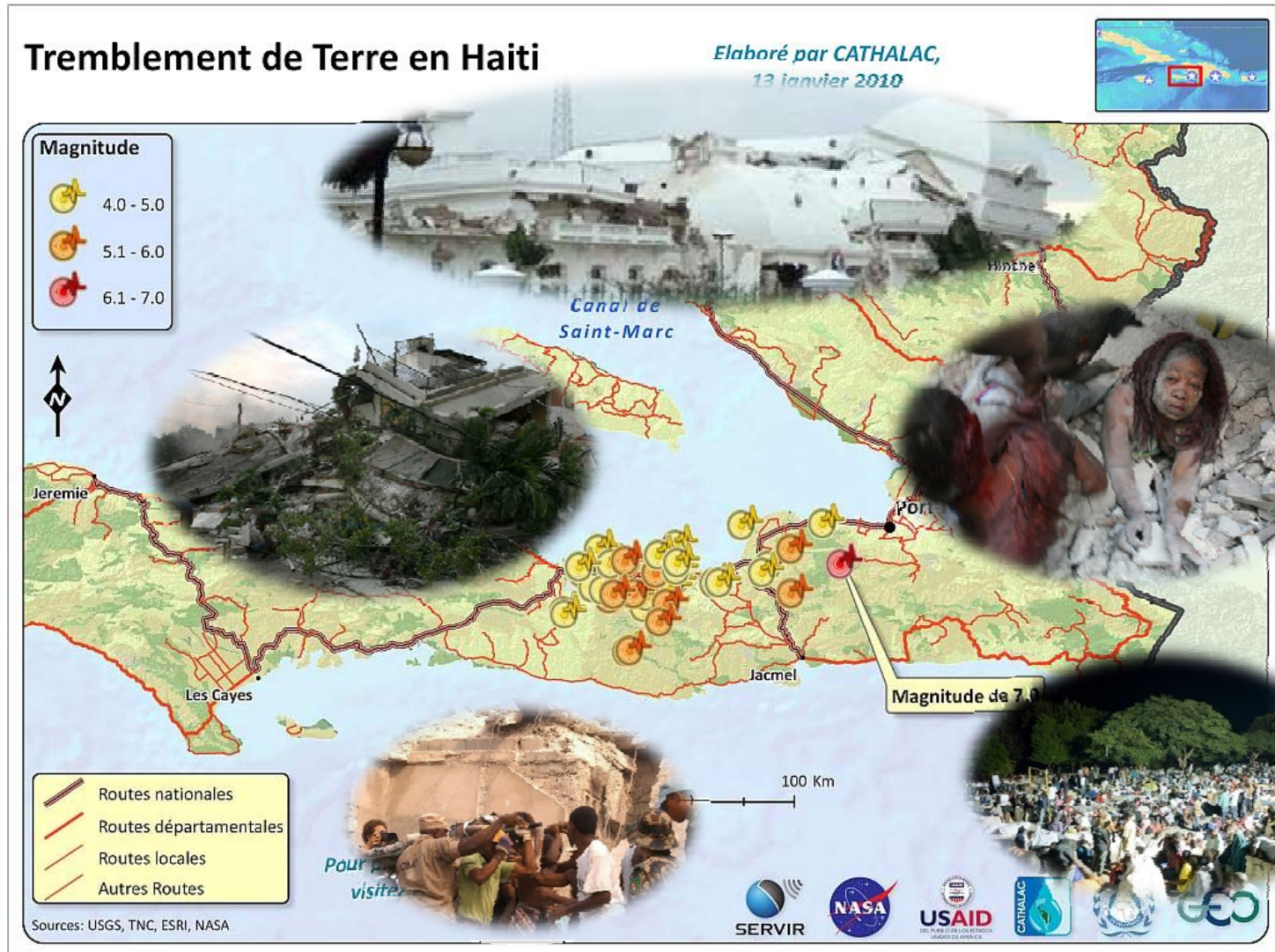
**Natural Hazards in the Caribbean**

Tropical storm		Earthquake		Volcanic Eruption		Tsunami (seismic sea-wave)	
Zone 1: SS 1 (118-153 km/h)	Probable maximum intensity (SS: Saffir-Simpson hurricane scale) with an exceedance probability of 10% in 10 years (equivalent to 'return period' of 100 years)	Zone 0: MM V and below	Probable maximum intensity (MM: modified Mercalli scale) with an exceedance probability of 10% in 50 years (equivalent to 'return period' of 475 years) for medium subsoil conditions	▲ Last eruption before 1800 AD	● Hazard in coastal areas	— Storm Surge	● Hazard in coastal areas
Zone 2: SS 2 (154-177 km/h)		Zone 1: MM VI		▲ Last eruption after 1800 AD			
Zone 3: SS 3 (178-209 km/h)		Zone 2: MM VII		▲ Particularly hazardous volcanoes			
Zone 4: SS 4 (210-249 km/h)		Zone 3: MM VIII					
Zone 5: SS 5 (>250 km/h)		Zone 4: MM IX and above					
— Principal tracks of tropical storms							

Source: World Map of Natural Hazards, Munich Re

# CONTEXT- #2

## Caribbean Vulnerability- Haiti, Earthquake



## CONTEXT- #2

### Caribbean Vulnerability- Experiences ctd.



**Volcanic Eruption,  
Montserrat, 1990s**



**Flood Event,  
Clarendon Jamaica, May 2002**



**Earthquake, Dominica,  
2004**

# CONTEXT- #2

## Caribbean Vulnerability- Climate Change

7

- The IPCC Fourth Assessment Report concluded that climate change is now a certainty, and that it has begun to affect the frequency, intensity, and length of many climate-related hazard events, such as **floods, droughts**, storms and extreme temperatures, thus increasing the need for additional timely and effective adaptation.

# CONTEXT- #2

## Caribbean Vulnerability- Experiences ctd.

8



**Storm Surge**  
St. Vincent & the Grenadines,  
2008



**Flood Event – Trinidad**  
August 2008



**Hurricane Lenny,**  
Palmiste, Grenada,  
1999



# CONTEXT- #3

## Damages and Losses

9

- Regular annual losses of US\$ 3 billion
- Increasing value of losses across all economic sectors – tourism, agriculture, housing, infrastructure
- Disruption to social infrastructure, loss of livelihoods – poverty links

YEAR	PLACE	DISASTER	IMPACT
1988	Jamaica	Hurricane Gilbert	65% GDP
1989	Dominica, Montserrat, Antigua-Barbuda, the British Virgin Islands and St. Kitts Nevis	Hurricane Hugo	US\$412 M
1999	Dominica	Hurricane Lenny	53% GDP
2004	Haiti & DR	Flooding	270 deaths
2004	Grenada	Hurricane Ivan	US\$895 M
2004	Jamaica	Hurricane Ivan	US\$592 M
2005	Guyana	Flooding	60% GDP
2008	Turks and Caicos Islands	Tropical Storm Ike and Hanna	23% GDP; 85.3% of tourism GDP

# CONTEXT- #4

## Disaster Management Cycle

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# CONTEXT- #4

## Evolution of Disaster Management in the Caribbean

11

- Evolution from improvisation and largely ad hoc response to systematic disaster preparedness and response (1960s-1990s)
- Dedicated and more advanced disaster management institutions at the regional and national levels (CDERA ,1991 /CDEMA, 2009 and NDOs)
- Movement towards and adoption of Comprehensive Disaster Management (Strategy and Results Framework developed 2001, revised in 2006)

# CONTEXT- #5

## Overview of CDEMA

### □ CDEMA:

- Established in 1991 by an Agreement of Heads of Government of CARICOM
- The regional Inter-governmental Agency responsible for disaster management in the Caribbean Community (CARICOM)
- Transitioned from CDERA to CDEMA September 1, 2009
  - Strengthening Governance;
  - Broaden Stakeholder Participation;
  - Expansion of mandate and capacity

### Overview of CDEMA ctd.

#### □ CDEMA :

- **Composed** of 18 member Caribbean nations known as the CDEMA Participating States.
- **Coordinates** the Regional Response Mechanism
- **Champion** for Comprehensive Disaster Management (CDM) in the Caribbean Region

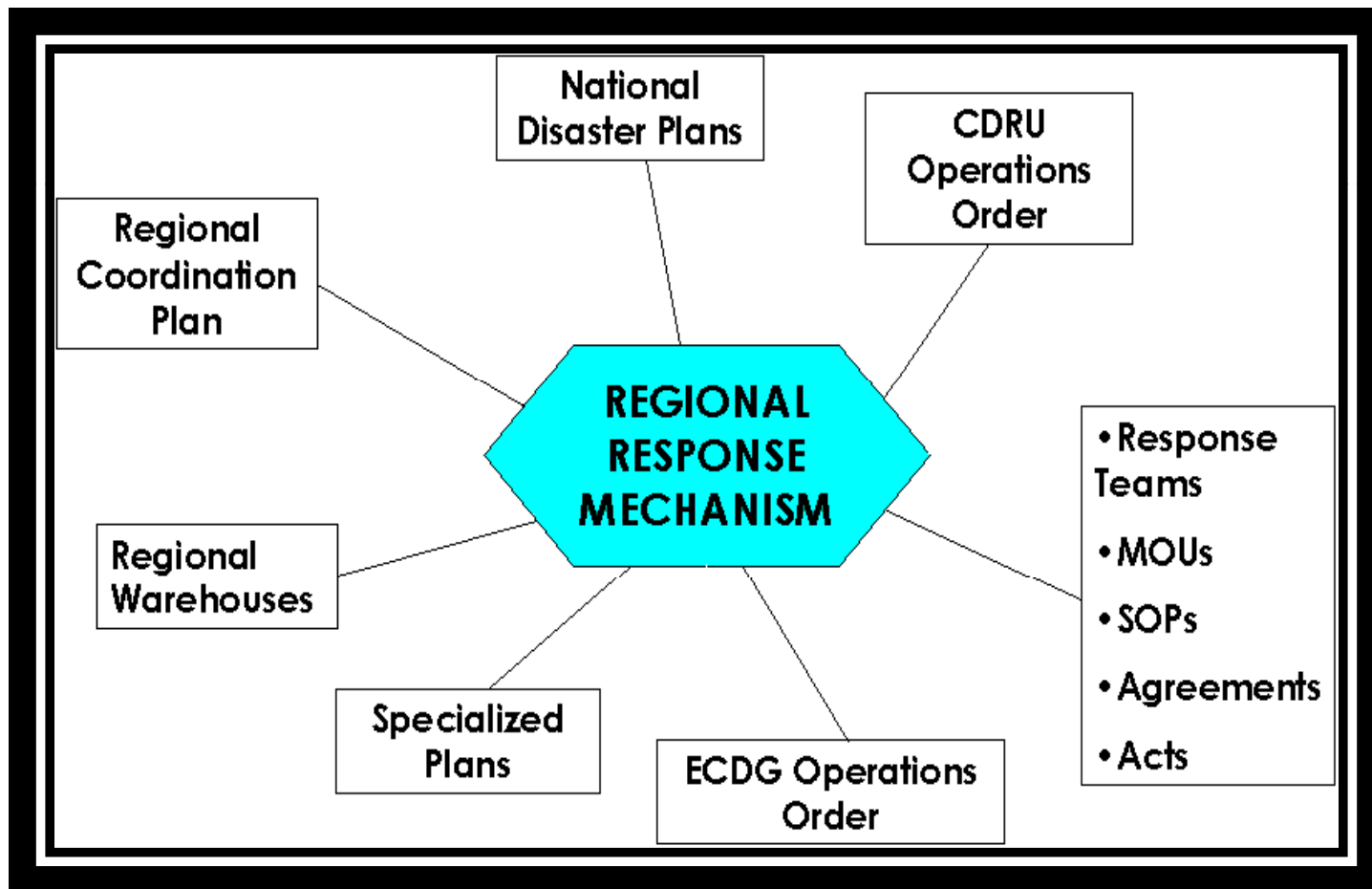


# CONTEXT- #5

## Overview of CDEMA (Cont'd)

14

### THE REGIONAL RESPONSE MECHANISM (RRM)



## CONTEXT- #5

### Overview of CDEMA (Cont'd)

#### CDEMA's functions:

- (a) ***mobilising and coordinating disaster relief;***
- (b) ***mitigating or eliminating, as far as practicable, the immediate consequences of disasters in Participating States;***
- (c) ***providing immediate and coordinated response by means of emergency disaster relief to any affected Participating State;***
- (d) ***securing, coordinating and providing to interested inter-governmental and nongovernmental organisations reliable and comprehensive information on disasters affecting any Participating State;***

## CONTEXT- #5

### Overview of CDEMA (Cont'd)

#### CDEMA's functions:

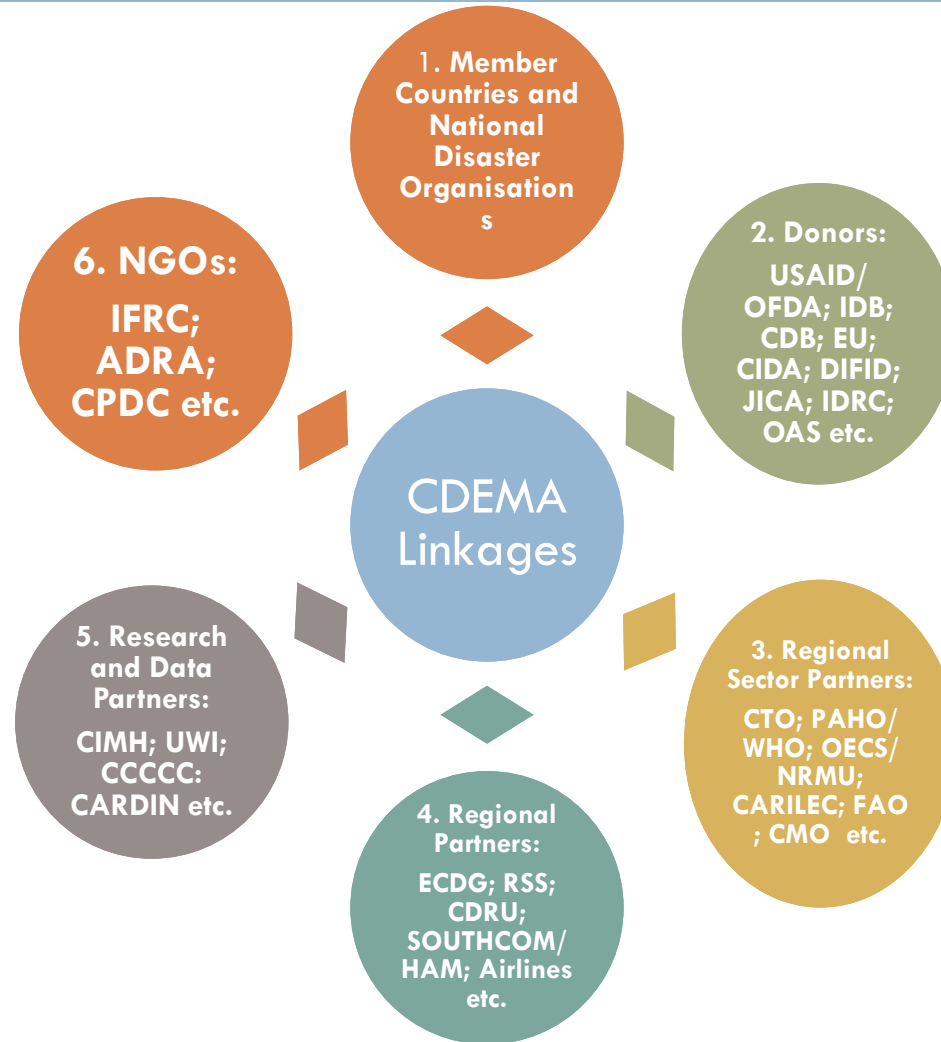
- e) *encouraging –*
  - (i) *the adoption of disaster loss reduction and mitigation policies and practices at the national and regional level*
  - (ii) *cooperative arrangements and mechanisms to facilitate the development of a culture of disaster loss reduction; and*
  - (iii) *coordinating the establishment, enhancement and maintenance of adequate emergency disaster response capabilities among the Participating States.*




# CONTEXT- #5

## Overview of CDEMA (Cont'd)

17



Definition, Framework and Strategy



# **Comprehensive Disaster Management (CDM)**

# Comprehensive Disaster Management (CDM): A Paradigm Shift

19

*Reactive*



*Anticipatory*

*Disaster Office*



*Shared Responsibility*

**FROM:** *a focus on individual hazards*

**TO:** *viewing hazard exposure as an ongoing process  
and aims to reduce vulnerability across all sectors  
(CGCED 2002)*

# Comprehensive Disaster Management (CDM)

20

## *All phases*

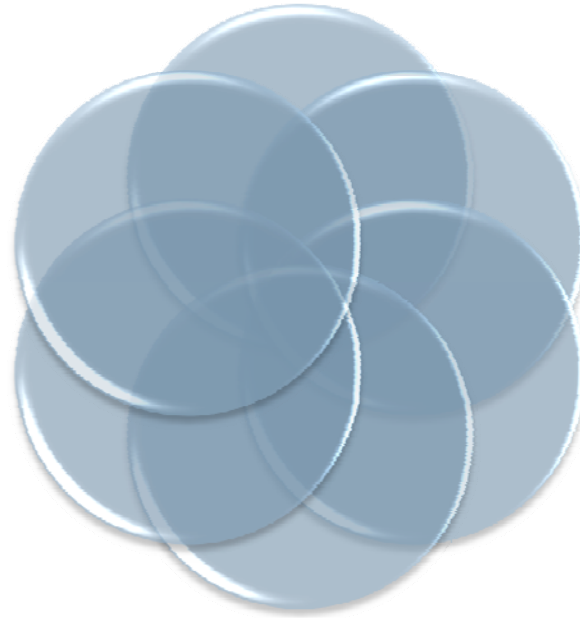
- Prevention, preparedness
- Mitigations & response

## *Empowerment of partners*

- lead dissemination and
- advocacy

## *Strategic partner alliances*

- CTO
- CHA
- ACS



## *All hazards & climate change*

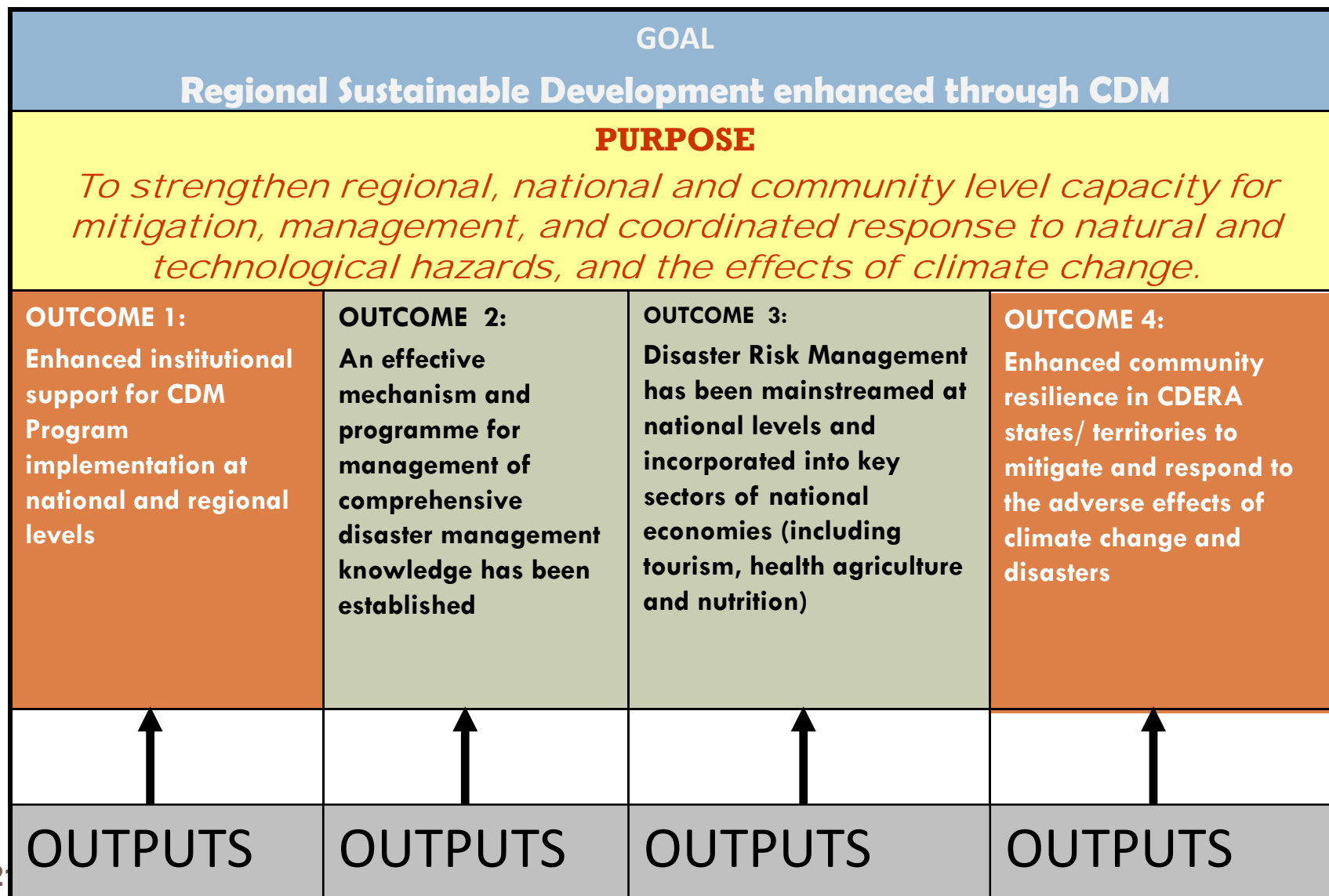
- Natural and
- Man-made

## *Disaster risk reduction*

- planning
- policy

## *Culture of safety*

# CDM- Strategic Framework (2007-2012)



# CDM Framework- Global and Regional Agendas



- The CDM Framework and Strategy is informed by:
  - Hyogo Framework for Action 2005-2015
  - CARICOM Regional Programming Framework
  - Caribbean Single Market and Economy
  - St. George's Declaration



# **CDPMN and CDM**

A tool for CDM, Specific CDM  
Outcomes & Recommendations

# CDPMN a Tool for CDM

- Droughts and Floods are Natural Hazards
- CDPMN is a disaster management tool for early warning (preparedness) and mitigation
- The CDPMN is supporting the achievement of CDM outcomes 2, 3 and 4, whereby:
  - ▣ At outcome 2 the CIMH as a Centre of Excellence has developed the tool and serves as a knowledge base
  - ▣ At outcome 3 the information generated by the CDPMN can inform fact based policy development and national programming and action
  - ▣ At outcome 4 communities take actions to mitigate the impacts of drought and flooding

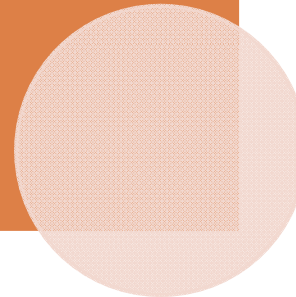


# CDPMN and CDM Outcome 2

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- CIMH continues to develop and validate the tool
- Establish modalities for sharing the tool with interest groups

**The CIMH is the Center of Excellence and knowledge base on the CDPMN**

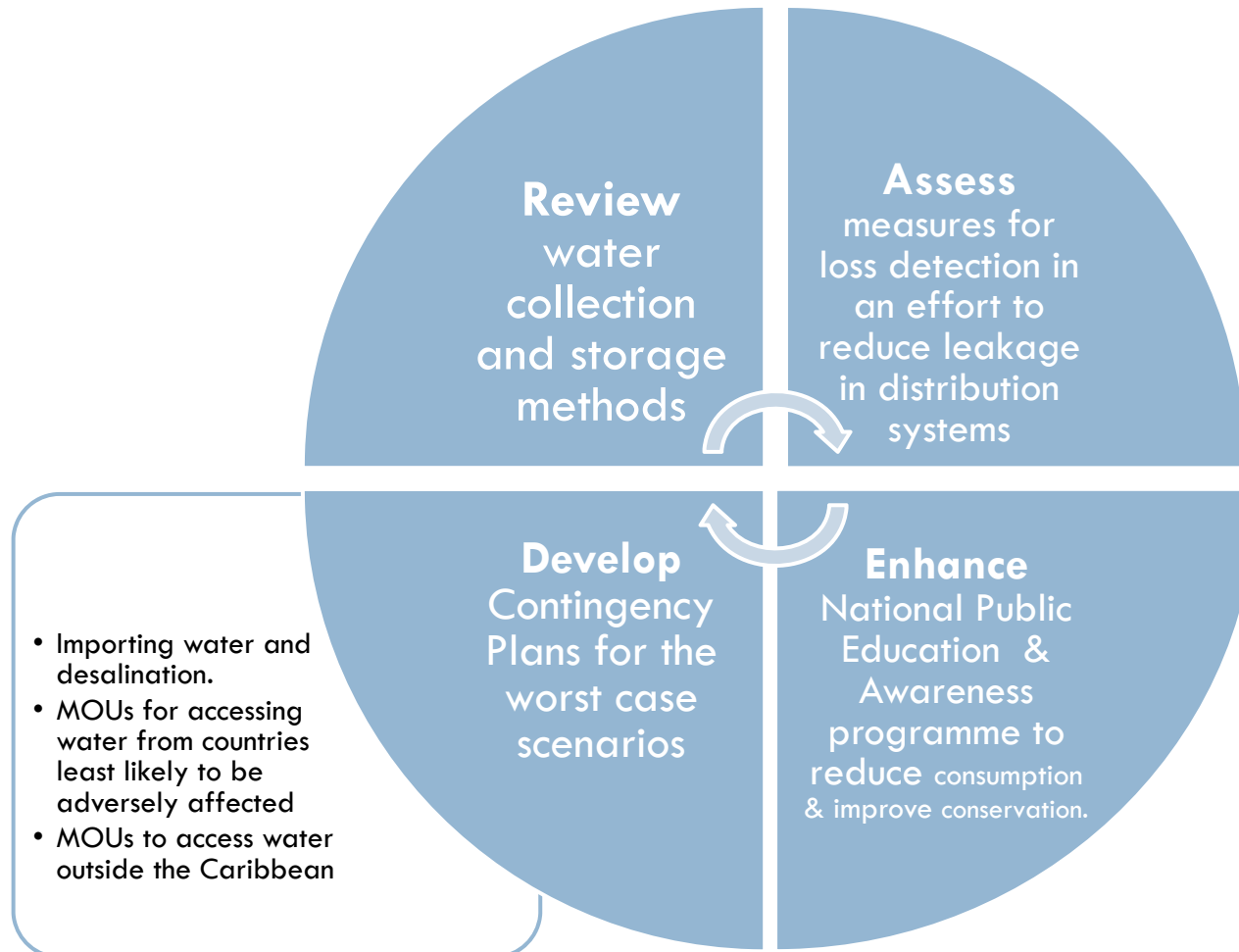


# CDPMN and CDM Outcome 3

- Planning through inter-agency and sectoral level consultations
  - Disaster , water utilities, meteorological services and major users
  - Critical sectors such as the agriculture, tourism, manufacturing and health
- The risk analysis is undertaken for each country in the region
  - Hazard analysis aided by historical records of rainfall, water storage capacity and for daily consumption
  - Vulnerability analysis (identify and analyse all vulnerable elements- population, crops etc)
  - Examine potential risk and the ability to deal with reduced rainfall assessed specifically in those countries which are prone to drought conditions.
- Identify mitigation measures
  - Identify sectors likely to be affected
  - Determine level of risk and what measures can be put in place to mitigate or respond to the impact

**CDPMN informs fact based policy development and national programming and action**

# CDPMN and CDM Outcome 3- Mitigation Measures ctd.



Reference: **IMPACT OF THE EL NINO ON GUYANA, 1998**

# CDPMN and CDM Outcome 4

- **Enhance** Preparedness, response and mitigation capacity (technical and managerial) among public, private and civil sector entities for local level management and response
- **Improve** coordination and collaboration between community disaster organizations and other research/data partners on applications of the CDPMN
- **Build** awareness at the community and national level on the CPMN as an Early Warning System for disaster risk reduction and social benefit.
- **Develop** products based on CDPMN which can be utilised and understood at the community level based on gender sensitive community methodologies for mapping vulnerability and risk assessments, and recovery and rehabilitation procedures

Communities take action to mitigate the impacts of drought and flooding

# Take Home Messages

1. The Caribbean has suffered repeatedly from natural disasters; the result has been set backs to achieving the MDGs
2. CDM is an integrated approach to managing disasters and is currently being programmed through the implementation of the CDM Strategy and Framework
3. CDPMN is a disaster management tool for early warning (preparedness) and mitigation
4. The CDPMN is supporting the achievement of CDM outcomes 2, 3 and 4:
  - i. CIMH as a Centre of Excellence has developed the tool and serves as the knowledge base
  - ii. Information generated by the CDPMN can inform fact based policy development and national programming and action
  - iii. Communities take actions to mitigate the impacts of drought and flooding

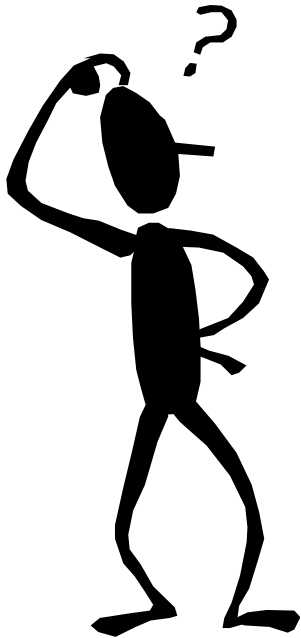
# Thank You For Your Attention!

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**CDEMA**  
The Caribbean Disaster  
Emergency Management Agency