ECONOMIC COMMISSION FOR LATIN AMERICA AND THE CARIBBEAN

Subregional Headquarters for the Caribbean

Socio-economic Impacts of Natural Disasters in the Caribbean

The ECLAC Mission

"Our mission is to deepen the understanding of and contribute to solutions to the development challenges facing the Caribbean by conducting research and analysis and providing sound policy advice and technical assistance to Caribbean Governments with a focus on growth with equity and an appreciation of the region's vulnerability".

Millennium Development Goals

ECLAC's work programme is guided by the imperative of the MDGs

- Eradicate extreme poverty and hunger
- Achieve universal primary education
- Promote gender equality
- Reduce child mortality
- Improve maternal health
- Combat HIV/AIDS and other diseases
- Ensure environmental sustainability
- Develop a global partnership for development

Global Platform for SIDS

- Conference on Small Island Developing States
- Barbados Plan of Action (1994)
- Mauritius Strategy (2005)

Mauritius Strategy for SIDS

"Small island developing States are located among the most vulnerable regions in the world in relation to the intensity and frequency of natural and environmental disasters and their increasing impact, and face disproportionately high economic, social and environmental consequences …..

SIDS are already experiencing major adverse effects of climate change…

Adaptation to adverse impacts of climate change and sea-level rise remains a major priority …."

Vulnerabilities of Small Island Developing States

- **Economic**
  - Open economies
  - Vulnerability to changes in global trade regimes
  - Small domestic markets
  - Limited institutional capacity
  - Inadequate skills base
- **Social**
  - Settlements located in vulnerable areas
  - Poverty
  - Unemployment
- **Ecological**
  - Fragile natural resource base
  - Vulnerable coasts
  - Waste management challenges
  - Particularly susceptible to natural disasters

Disasters:

- Highlight the challenges caused by the interface of human societies with the natural environment
- Retard development and upset development plans
- Have become more costly in real terms. Disaster costs were 15 times higher in 1990-1999 than between 1950-1959 ($652 and $38billion, respectively in 1998 dollars)
- Have wide ranging social effects. Between 1994-2003, 2.6 billion people globally were affected by natural disasters
- Emphasize the unique vulnerability of small societies

ICT and the New Development Paradigm

Widespread use of the Internet and the technologies associated with it called into question some of the traditional assumptions associated with small size and the vulnerability associated with this and pointed to the need for an alternative development paradigm

(ECLAC, 2001)

Those questions were soon answered, emphatically!!!

Grenada 2001-2006

- 2001 - 9/11, economic recession
- 2002 - Tropical Storm Lilly
- 2004 - Hurricane Ivan
- 2005 - Hurricane Emily
- 2006 - High Oil prices

Source: Grenada Budget Speech 2006.

Grenada: Estimated affected population due to Hurricane Ivan

Parish	Total population [b]	Population		Population affected
		Male	Female	
St. George's	37,057	17893	19164	35575 [a]
St. John's	8591	4314	4277	7732 [c]
St. Mark's	3994	1965	2029	799 [d]
St. Patrick	10,674	5256	5418	2135 [d]
St. Andrew's	24,749	12311	12438	23,759 [a]
St. David's	11,486	5770	5716	10337 [a]
Carriacou	6081	2972	3109	1216 [d]
Totals	102,632	50481	52151	81,553

ECLAC Subregional Headquarters for the Caribbean

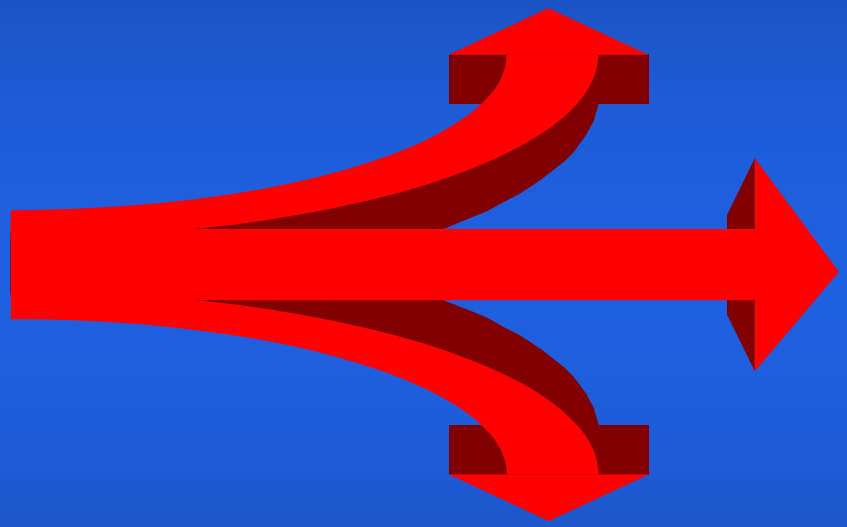
United Nations Development Programme

Guyana

Macro-Socio Economic Assessment of the Damage and Losses Caused by the January-February 2005 Flooding

Main findings of the assessment

37 % of the population severely affected



$93 billion in total impact

Impact equivalent to 59% of GDP

Summary of effects on the social sector Guyana 2005

Education (Millions of G$)

Total damages	**371.70**
Total	
Direct effects	352.10
i.Damage to schools	303.70
ii. Damage to school furniture and equipment	39.00
iii. Damage to libraries*	9.40
Imported Component	35.20
Total Indirect effects	19.60
i. Cleaning of Schools	19.50
ii. Losses from use as shelters	
iii. Losses from service	0.10

Health (Millions of G$)

Total damages	173.4
Direct effects	52.5
i. Damage to Health Centres	27.5
ii. Damage to furniture and equipment	20.1
iii. Damage to Hospitals	4.9
Imported Component	21
Total Indirect effects	120.9
i. Cleaning supplies for Health Facilities	23
ii. Establishment of temporary sites	2.1
sess due to increased spending on drugs and me	73.1
sses due to provision of increased public health s	19.9
v. Losses incurred due to increased transportatio	2.7

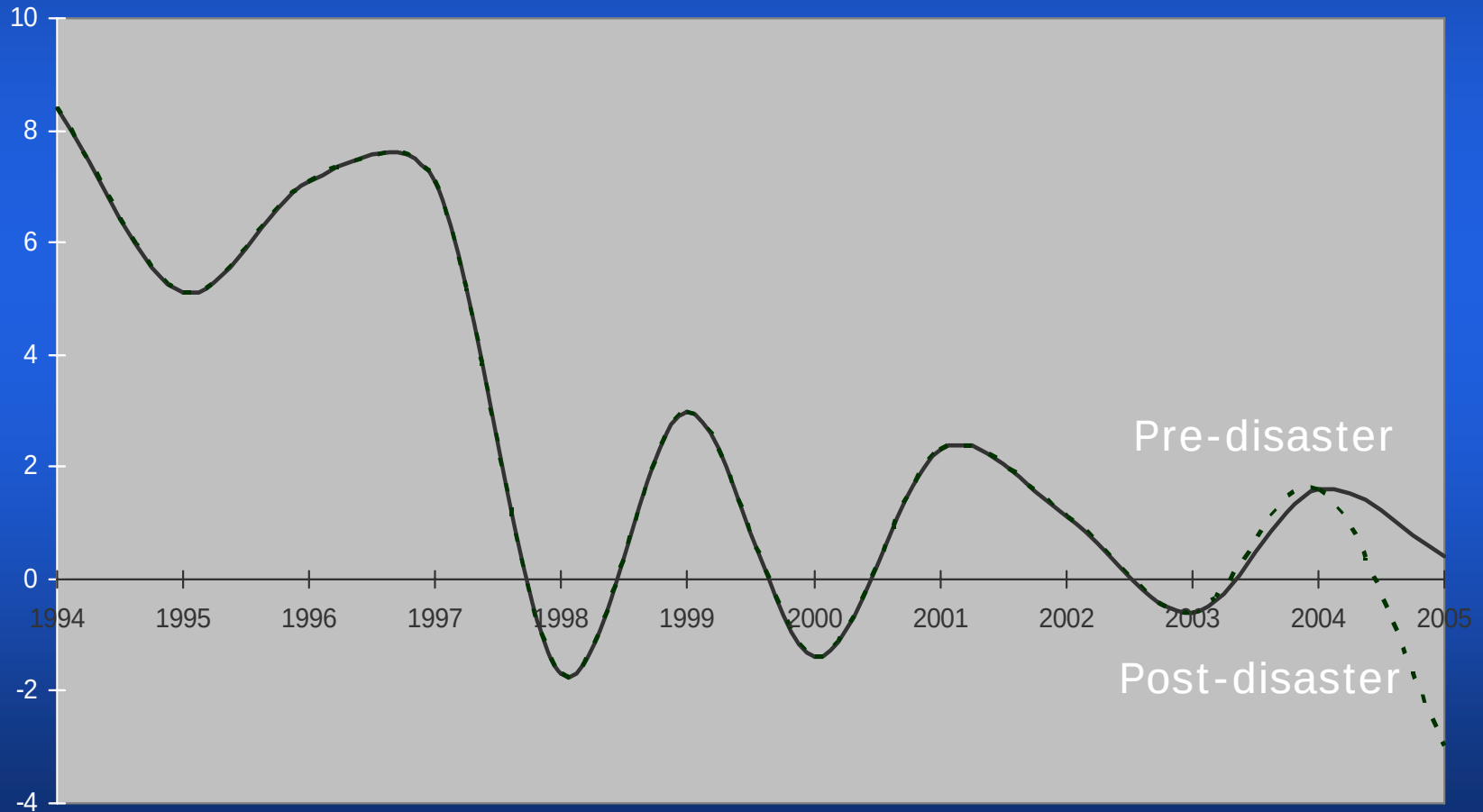
Housing (Millions of G$)

Total	55,120.80
Direct effects	54,842.50
i.Damage to housing	33,911.40
ii. Damage to furniture/equip	20,931.20
Imported Component	5,484.30
Total Indirect effects	
i. Cleaning of Homes	278.20

Impact on the Social Sector

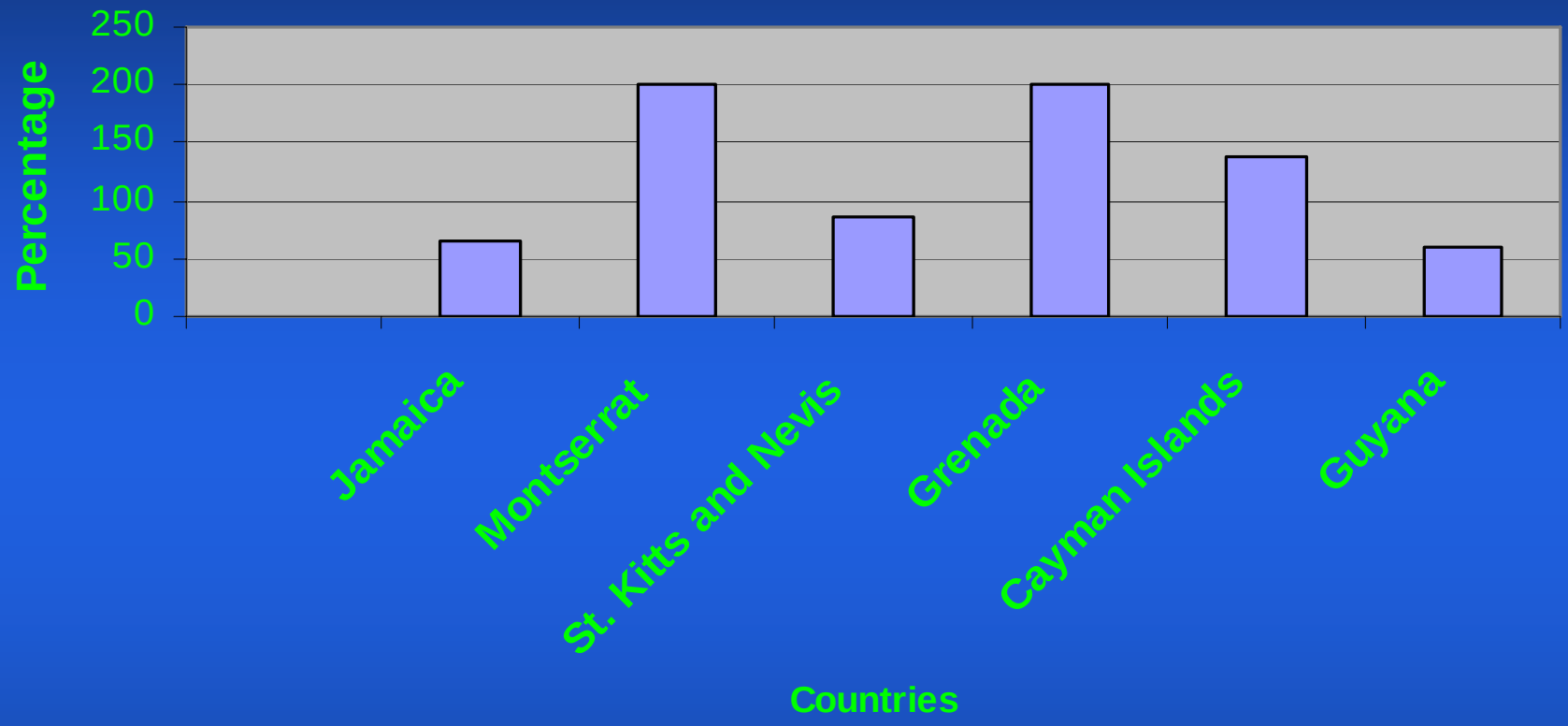
- Damage to social sector accounts for 35% of GDP.
- 99% of damage to the social sector is accounted for by the housing sector.
- Damage to the housing sector accounts for 44% of national housing stock or 70,000 dwellings.

Guyana
Real GDP growth (1994-2005)
Pre- and Post-disaster scenarios

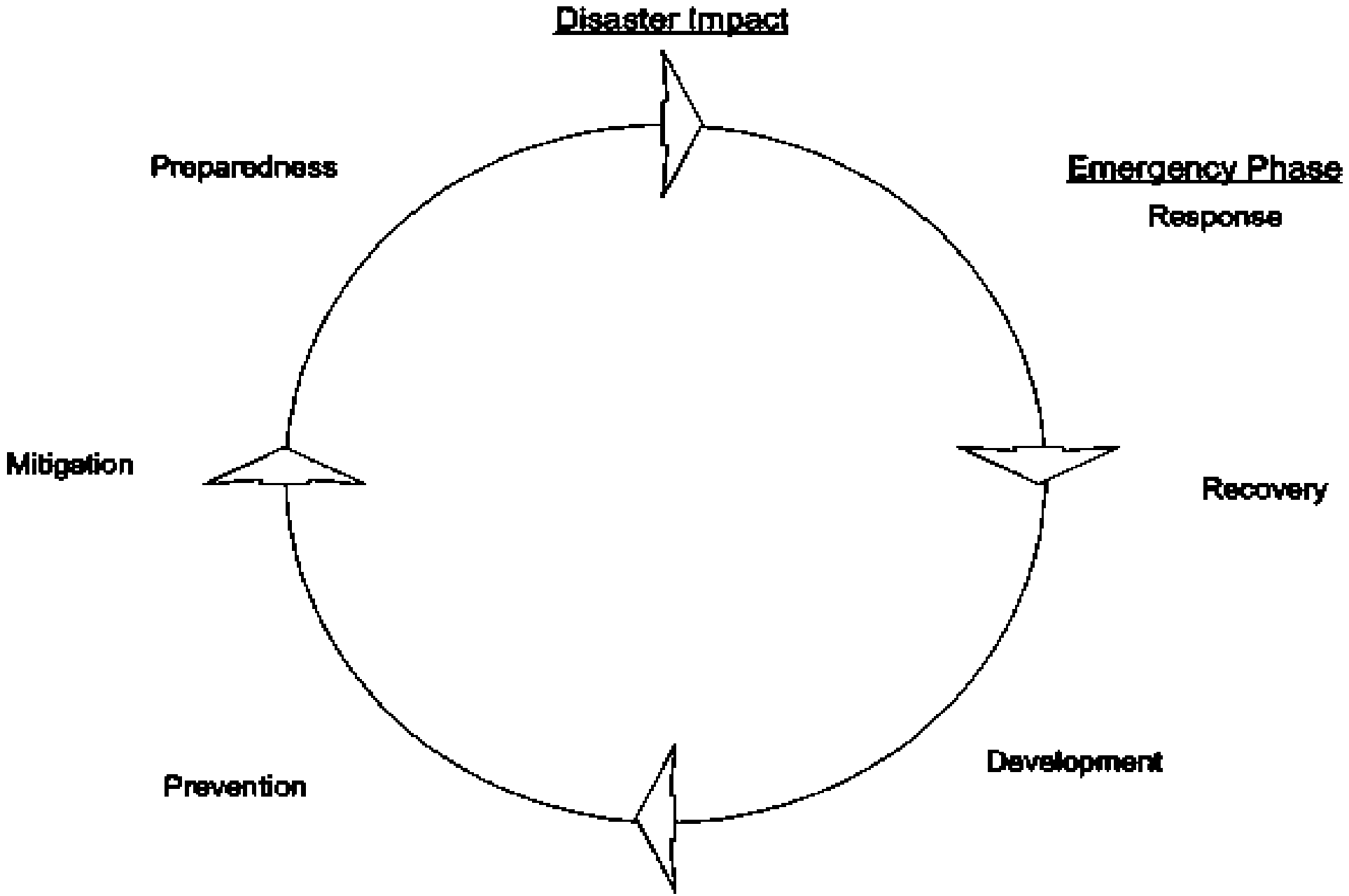


Impact of natural disasters on selected Caribbean countries

Impact as percentage of GDP



Disaster Management Cycle



The ECLAC Methodology
The procedure

Part I

Description

What is it?

Whom has it affected?

Where?

What has been done?

Part II

Assessment

How much?

Magnitude?

What is required

to go back

Part III

Rehabilitation and reconstruction

What needs to be done?

The ECLAC Methodology - The assessment

Part 1

Social and productive sectors, infrastructure and environment

Immovable Assets

Stocks

Income foregone

Higher costs

Direct losses → Indirect losses → Secondary effects

At the time of the disaster

Following the disaster

1 to 5 years

Part 2

Macroeconomic effects

- GDP
- Fiscal Accounts
- Balance of payments
- Employment
- Prices

Basic Requirements for Disaster-Related Information

- To reach a defined addressee
- To be relevant
- To be on time
- To be reliable
- To be multi-sourced
- To be understandable
- To be standardized

- *ICTs are a powerful tool to facilitate a qualitative flow of disaster-related information.*
- *The application of ICT in disaster management is multi-dimensional and complex.*

Conceptual Model for ICT in Disaster Management

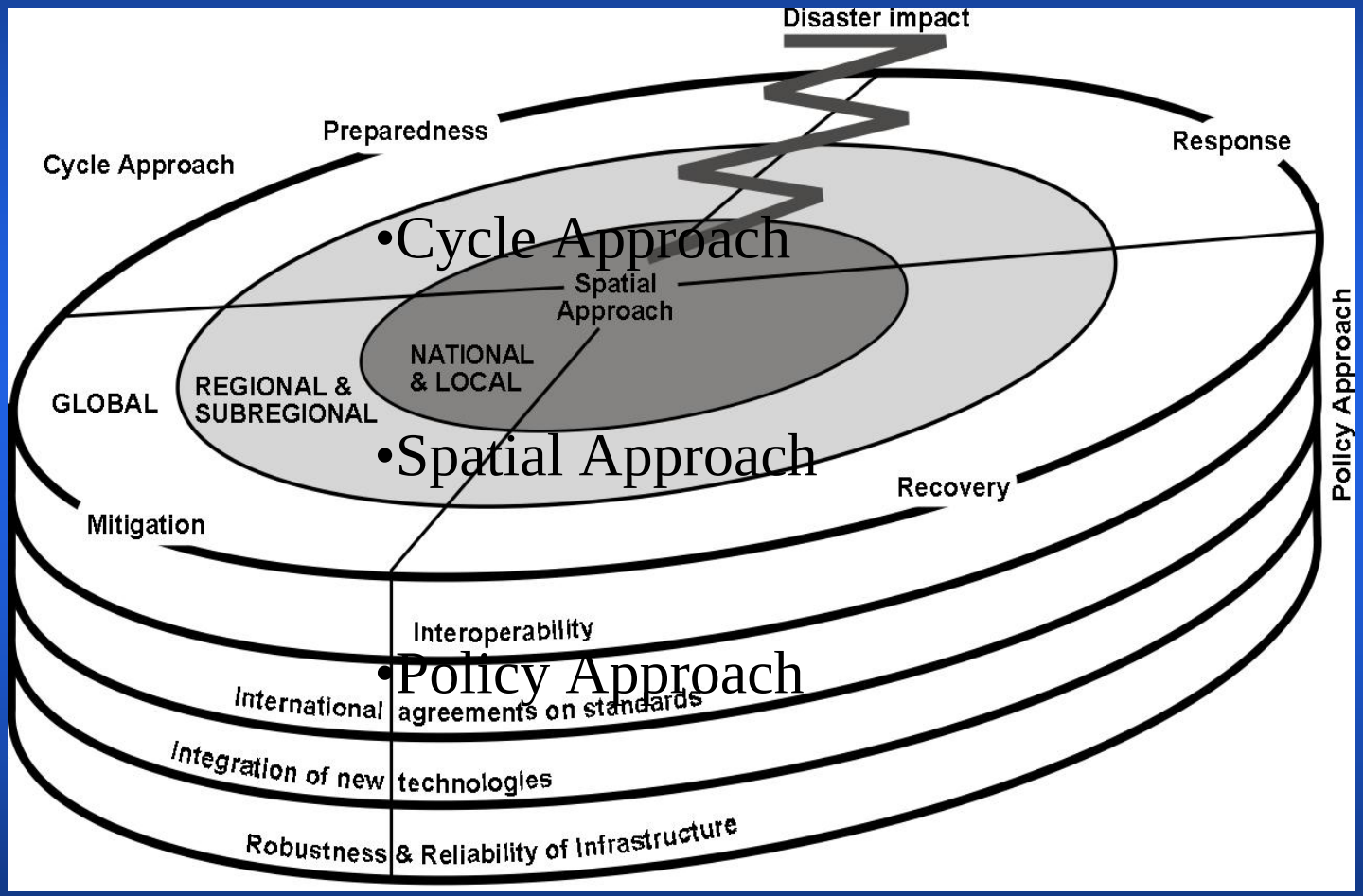


Figure 1 Conceptual Model for ICT in Disaster Management. The model is composed of three approaches: The Cycle Approach, the Spatial Approach, and the Policy Approach

Cycle Approach

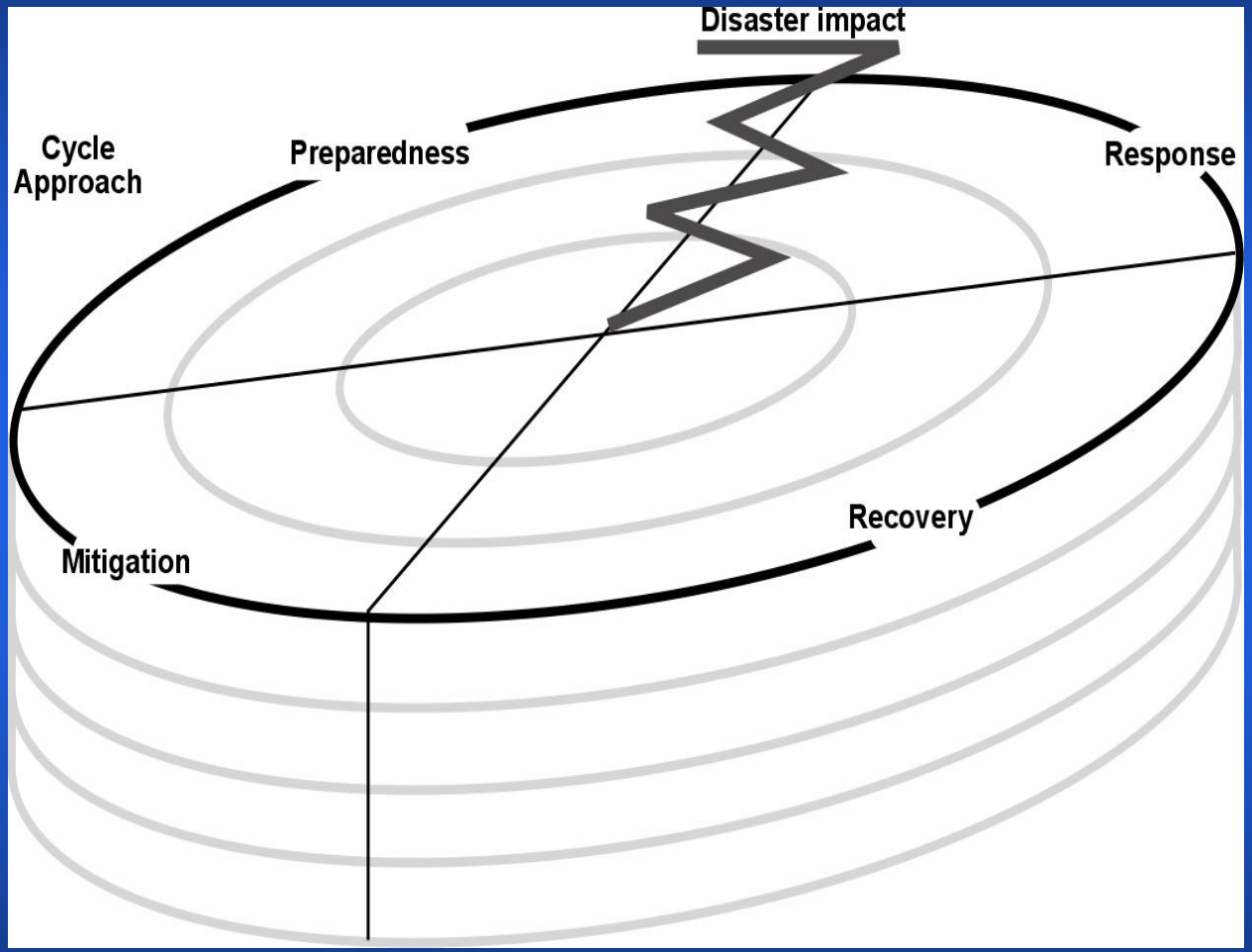


Figure 2 The Cycle Approach.

This Partial Model Describes the Four Phases of the Disaster Management Cycle.

Spatial Approach

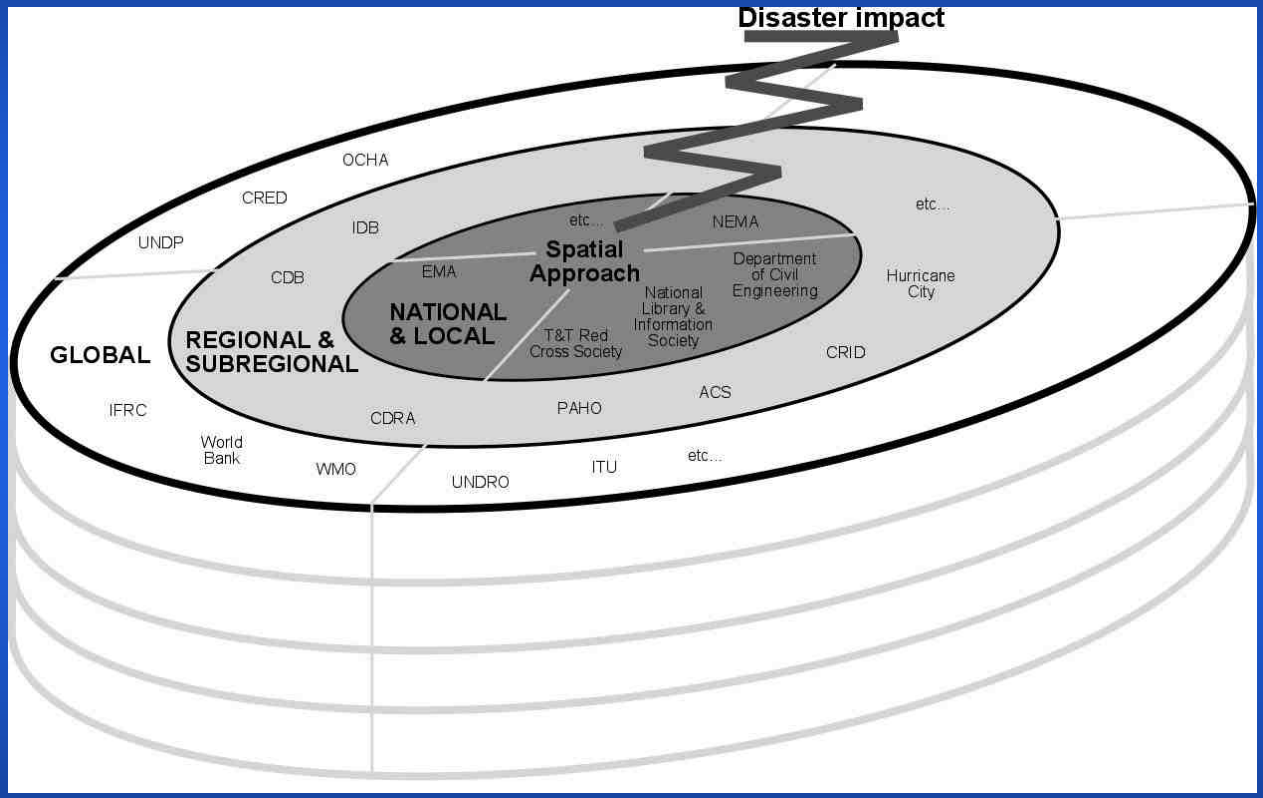


Figure 3 The Spatial Approach

This Partial Model Describes the Different Geographical Systems.

Policy Approach

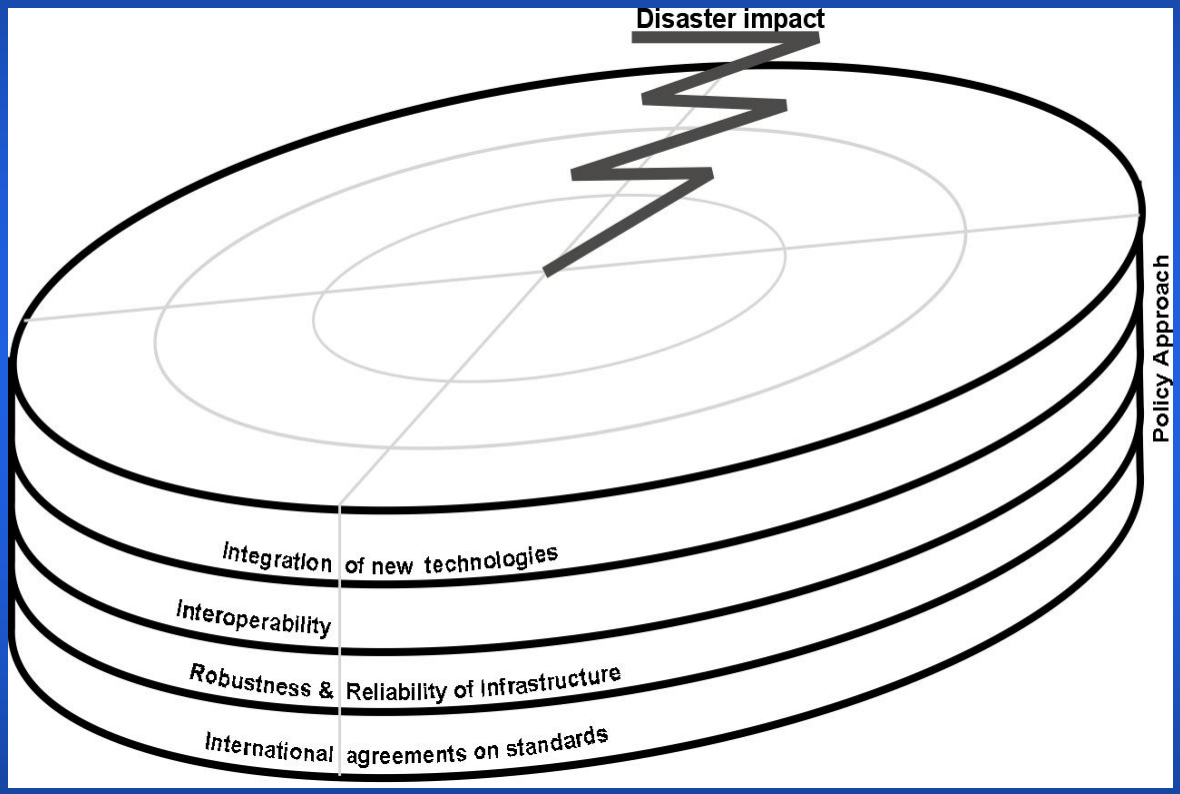


Figure 4 The Policy Approach.

The Partial Model Integrates Four Requirements on Public Policies.

A recent ECLAC ICT Policymakers Seminar (Barbados Sept 2006) recommended that future work emphasize

- Data gathering for effective benchmarking of the Caribbean Information Society
- Digital content creation
- Maintenance of ICT profiles of each country
- Continue to facilitate dialogue through a Caribbean ICT Policy Makers Working Group

THANK YOU