



# Comparative Study on Recovery & Reconstruction

## CHALLENGES AND WAY FORWARD

A presentation by:

**Anil Kkumar Sinha**

Senior Technical Advisor, Asian Disaster Reduction Center, Kobe,  
Japan

Vice Chairman (Corporate Affairs), Hindustan Construction Company, Mumbai, India

Former Executive Director, National Center for Disaster Management, India



# Recovery<sup>1</sup>

implies

- ◆ **Decisions and actions after a disaster**

- ✚ **Restoring the living conditions of the affected community**
- ✚ **Encouraging and facilitating necessary adjustments to reduce disaster risk.**

provides

- ◆ **An opportunity to develop and apply disaster risk reduction measures.**

<sup>1</sup> *Living with Risk: A global review of disaster reduction initiatives, ISDR: Annex 1 Terminology*





## • Recovery and reconstruction

- ✚ A complex, interactive, and decision-making process
- ✚ Largely determined by the post disaster situations
- ✚ Societal trends should not be examined in isolation
- ✚ Affected by previous preparation/ immediate response
- ✚ Difficult to generalize disaster situations

## However...

- ✚ A number of similar trends across different disasters
- ✚ Lessons to be learned from regional experiences
- ✚ Identification of common themes and issues





**ORISSA SUPERCYCLONE**



**GUJARAT EARTHQUAKE**



**MARMARA EARTHQUAKE**



**HURRICANE MITCH**





**VENEZUELA FLASH FLOODS**



**PINATUBO VOLCANIC ERUPTION**



**EL SALVADOR EARTHQUAKES**





## Seven case studies under review

### ☩ Pinatubo Volcanic Eruption, June 1991

Death Toll	:	657
Total Population Affected	:	2.1 million
Infrastructure Damaged	:	US \$ 6.76 million
Houses Damaged	:	81,654
Economic loss	:	US \$ 222.4 million

### ☩ Hurricane Mitch, October 1998

Death Toll	:	10,000 (Approx)
Total Population Affected	:	3.5 million (approx)
Infrastructure Damaged	:	US\$ 5 billion (approx)
Houses Damaged	:	3,86,000
Economic loss	:	US\$ 6 billion (approx); slowed the expected annual growth rate for 1999 from 5.3 to 2.9%

### ☩ Venezuela Flash floods and landslides, December 1999

Death Toll	:	15,000-20,000
Total Population Affected	:	-NA-
Infrastructure Damaged	:	US\$ 1,961 million
Houses Damaged	:	8,000
Economic loss	:	US\$3,237 million; losses amounted to 3.3 % of Venezuela's GNP.





## ☩ El Salvador earthquakes, Jan. – Feb. 2001

Death Toll	:	1,259
Total Population Affected	:	1.5 million
Infrastructure Damaged	:	-N.A-
Houses Damaged	:	3,34,866
Economic loss	:	US\$1,255 billion

## ☩ Orissa Super Cyclone, October 1999

Death Toll	:	9,893
Total Population Affected	:	11 million ( Approx.)
Infrastructure Damaged	:	US\$ 390 million ( Approx.)
Houses Damaged	:	1.649 million
Economic loss	:	US\$ 540 million ( Approx.)

## ☩ Gujarat earthquake, January, 2001

Death Toll	:	20,000 ( Approx.)
Total Population Affected	:	15.9 million
Infrastructure Damaged	:	US \$4.5 billion
Houses Damaged	:	4,24,510
Economic loss	:	US \$2.1 billion

## ☩ Marmara Earthquake, August, 1999

Death Toll	:	17,000
Total Population Affected	:	93,000
Infrastructure Damaged	:	US\$ 500 million
Houses Damaged	:	US\$ 1.1 to 3 billion
Economic loss	:	US\$ 3.1 to US\$ 6.5 billion





# RECONSTRUCTION OBJECTIVES







## RECONSTRUCTION OBJECTIVES

- Largely framed in consultation with the international aid and donor agencies
  - Broadly were the same but varied in some specifics from countries to countries
  - Aim of the recovery and reconstruction efforts focussed on
    - ✚ Restoration of infrastructure
    - ✚ Building of roads, hospitals and homes
    - ✚ Restoration of economic activity
    - ✚ Reduction of vulnerability
- by the adoption of disaster reduction measures.





# RECONSTRUCTION ASSESSMENT


















# CRITERIA FOR ASSESSMENT OF REHABILITATION AND RECONSTRUCTION WORKS



- ✚ **Appropriate institutional and operational frameworks**
- ✚ **Assessment of the existing protocols for cooperation & coordination**
- ✚ **The presence of systems to assist swift and efficient recovery**
- ✚ **Legal, institutional and financial mechanisms/ structures**
- ✚ **The presence of an advisory group**
- ✚ **Training of personnel in charge of recovery on a regular basis**
- ✚ **Incorporation of risk reduction concerns and practices to reduce overall vulnerability of the affected communities**
- ✚ **Ability to provide an impetus to socio-economic recovery**
- ✚ **Ability to initiate structural reform in the socio-political & economic environment**



TABLE : ASSESSMENT OF RECONSTRUCTION AND RECOVERY

EVENTS	INSTITUTIONAL FRAMEWORK	PROJECTS IMPLEMENTED	REVITALISATION OF SOCIAL INFRASTRUCTURE	VULNERABILITY REDUCTION
PHILIPPINES		X		X
VENEZUELA		N.A.		X
HURRICANE MITCH		N.A.	X	
EL SALVADOR	N.A.	X	N.A.	N.A.
MARMARA EARTHQUAKE	N.A.			N.A.
GUJARAT EARTHQUAKE				
ORISSA SUPERCYCLONE				X

LEGEND:



EFFECTIVE

X

MARGINALLY EFFECTIVE

N.A.

REQUISITE DATA NOT AVAILABLE



# RECONSTRUCTION

## CHALLENGES



## OBSERVATIONS

- ◆ **Quantitative and qualitative improvement in International emergency aid over time**
- ◆ **Reconstruction and recovery processes have also shown corresponding upswing**
- ◆ **Recovery and reconstruction require greater attention by the international agencies**
- ◆ **International efforts at reconstruction were able to achieve a considerable success**



## Some of the identified challenges are:

- **The support of the local government and a favourable political climate**
- **Legal and institutional frameworks to assist recovery**
- **Financial mechanisms to support the rehabilitation works**
- **Lack of any well formulated reconstruction plan incorporating mitigation and structural changes**
- **Involvement and participation of the local communities**



- **Incorporation of risk reduction measures and promote sustainable development**
- **Managing recovery efforts requires understanding socio-cultural, economic and political structure of the affected country**
- **Rehabilitation effort to closely cooperate with the local community**
- **Minimise cost over-runs and adhere to the time schedule**
- **Need for socio-economic reconstruction**





# WAY FORWARD





## **Recognize the need for an international system/framework**

- to address gaps and constraints
- to engage in global advocacy
- to streamline, coordinate and unify fragmented responses
- to help take total and long-term view of disaster risk reduction



◆ **Enlisting support of local authorities imperative**

- ▶ **Understand political, socio-economic and cultural structures**
- ▶ **An international forum could facilitate collection and assimilation of global data, easily accessible for consultation**
- ▶ **This data could be rapidly and efficiently accessed when required**

◆ **Providing impetus to the development of legal and organisational structures to implement reconstruction**



- ✚ **A system should be developed to assist the country in recovery**
- ✚ **Disaster mitigation to integrate with public policy, urban planning and development**
- ✚ **An advisory group of international experts could be constituted to provide the necessary guidance**



◆ **An international framework with a body of experts to be set up, easily accessible for consultation**

▶ **Need for an established and tested methodology for**

- ✚ **rapid assessment of needs**
- ✚ **rapid programming of action**
- ✚ **rapid deployment of required technical teams**





## The international framework could

- ▶ Network and document skills, knowledge and best practices
- ▶ Draw from their experience for the benefit of affected countries
- ▶ Provide training to personnel engaged in recovery and reconstruction
- ▶ Coordinate the activities of agencies engaged in the implementation
- ▶ Help in the development of international protocols
- ▶ **During peace time**, provide training to disaster managers and build an extensive database for ready usage anywhere in the world





Broad framework to fund the reconstruction projects



In wake of trans-national disasters (recent **Tsunamis**), an international body imperative to coordinate and unify massive recovery efforts.



The **'window of opportunity'** to be utilised to usher in long-term changes

It is therefore **vital to have a body,**  
which could **set benchmarks** based on  
comprehensive reviews of the work done by the  
international agencies.



**Complex processes of recovery and reconstruction require expertise often beyond the capacity of individual nations and organisations**

**To further streamline international recovery and reconstruction, there is an**

**urgent need for an international framework**

- ❖ **to take** a holistic and comprehensive view of the situation
- ❖ **to help** evolve appropriate frameworks and mechanisms
- ❖ **to coordinate international responses and efforts**







Thank you  
for your patient hearing!!

