WS on the Disaster Risk Reduction in the Pacific Islands

18th March 2008

Community Participation in the Better Recovery

Recovery Expert,

International Recovery Platform

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International Federation
of Red Cross and Red Crescent Societies








TWO KEY QUESTIONS??

1. Does post-disaster recovery lead to risk reduction?

   Perhaps, No.. Post-disaster recovery often leads to rebuilding of risks and vulnerability

2. What makes recovery most challenging?

   Lack of coordination, knowledge accumulation and sharing (good practices, lessons…)

Post-disaster Recovery

Post-disaster recovery
often leads to rebuilding risk
<Same Vulnerable Situation>

Disaster risk reduction should be taken up as an **aim in recovery activities**

Need for
- Recovery Coordination,
- **Experience/ Knowledge Sharing**,
- Capacity Building
- Needs **Assess Methodologies**

Agreed to be launched at the WCDR

IRP functions in line with HFA <4 (ii) (h)>

"incorporate disaster risk reduction into post-disaster recovery through building capacity and sharing expertise, knowledge and lessons learned"

Advocacy, Networking and Knowledge Management
Facilitate dissem. of lessons

Capacity Build. And Training
Strengthen national capacities

IRP <Secretariat; Kobe>
Provide a coordination framework and network

Enhanced Recovery Operations
Provide advice/ support on formulation of reconstruction plan

A Global Catalyst for Better Recovery-

International Federation
of Red Cross and Red Crescent Societies

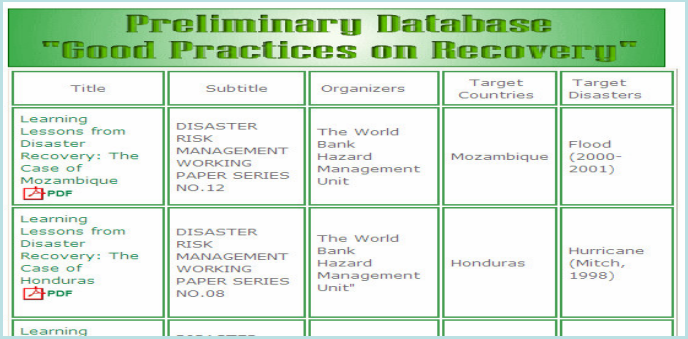
Opening: 11th May 2005

12 Partner Organizations

Advocacy, Knowledge Management

Current Website

Most of all IRP Outputs are available

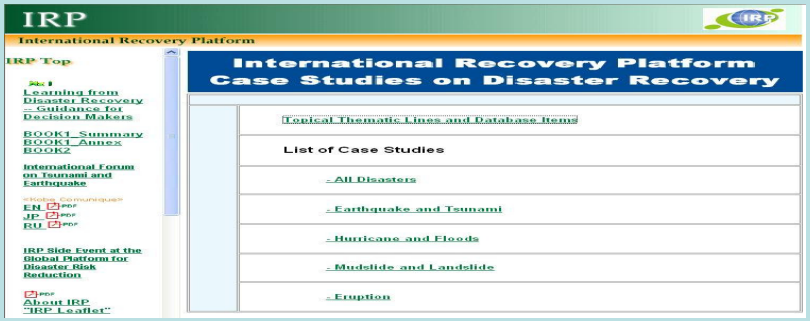


Preliminary Database "Good Practices on Recovery"

Title	Subtitle	Organizers	Target Countries	Target Disasters
Learning Lessons from Disaster Recovery: The Case of Mozambique PDF	DISASTER RISK MANAGEMENT WORKING PAPER SERIES NO.12	The World Bank Hazard Management Unit	Mozambique	Flood (2000-2001)
Learning Lessons from Disaster Recovery: The Case of Honduras PDF	DISASTER RISK MANAGEMENT WORKING PAPER SERIES NO.08	The World Bank Hazard Management Unit"	Honduras	Hurricane (Mitch, 1998)
Learning				

DB on Recovery Reports and Case Studies

Direct link to 290 data resources



DB on LL along 8 thematic lines

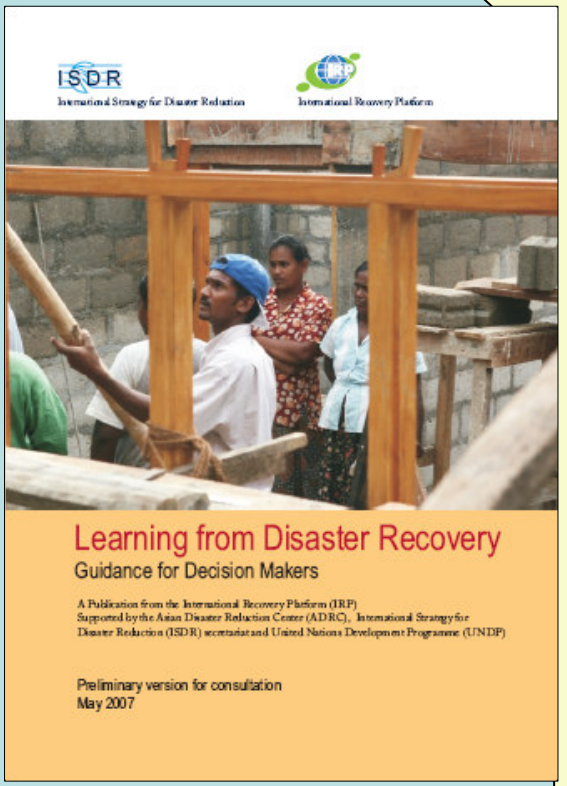
Target: 30+ Past Disasters in 20 years

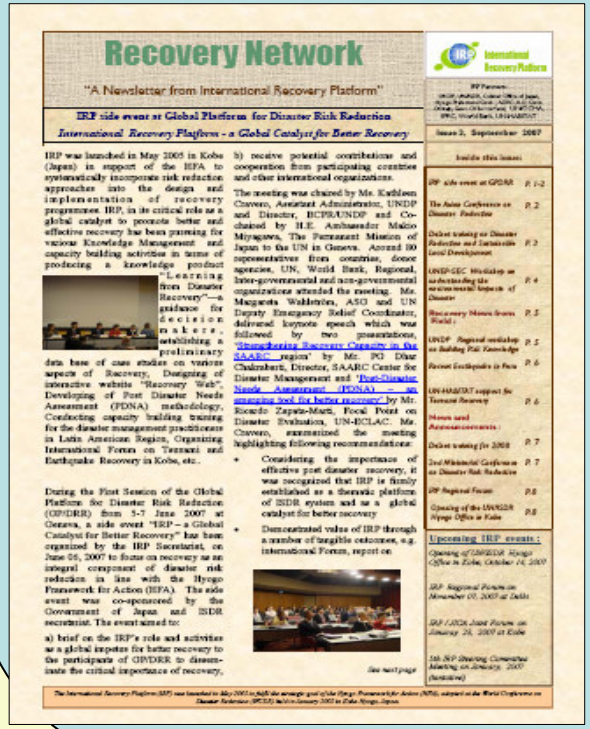
Knowledge Management, Net Working

IRP Recovery Kit

‘Learning from Disaster Recovery’

- Evidence-based analysis of prior disasters
- Field based investigation




Recovery Network

"A Newsletter from International Recovery Platform"

IRP side event at Global Platform for Disaster Risk Reduction

International Recovery Platform - a Global Catalyst for Better Recovery

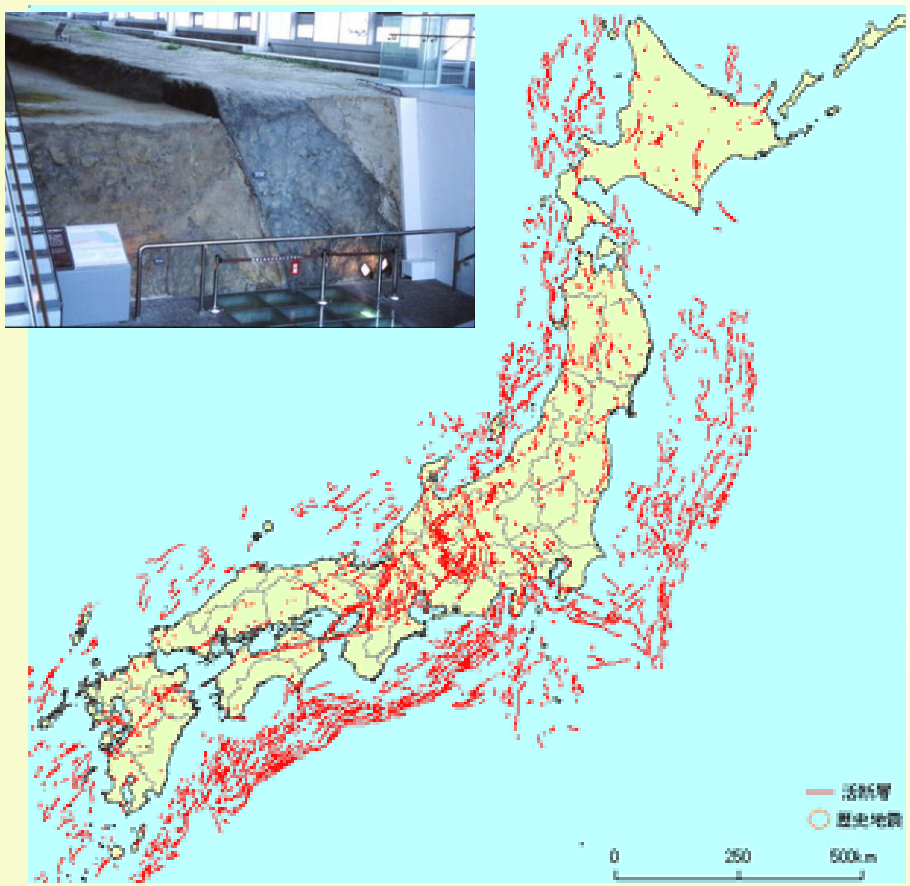
IRP Newsletter

‘Recovery Network’

Japanese Experiences and Lessons from disasters

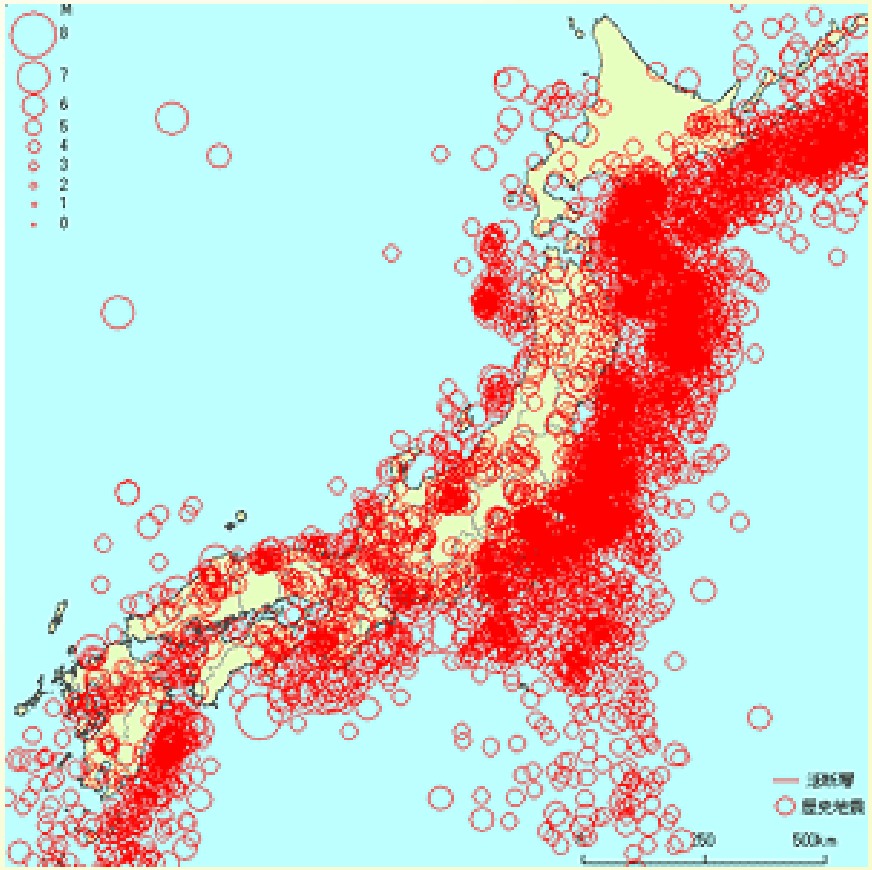
Know Potential Risk on Hazard

Active Faults, Historical Earthquakes



Distribution of active faults

2000:Known, much more unknown

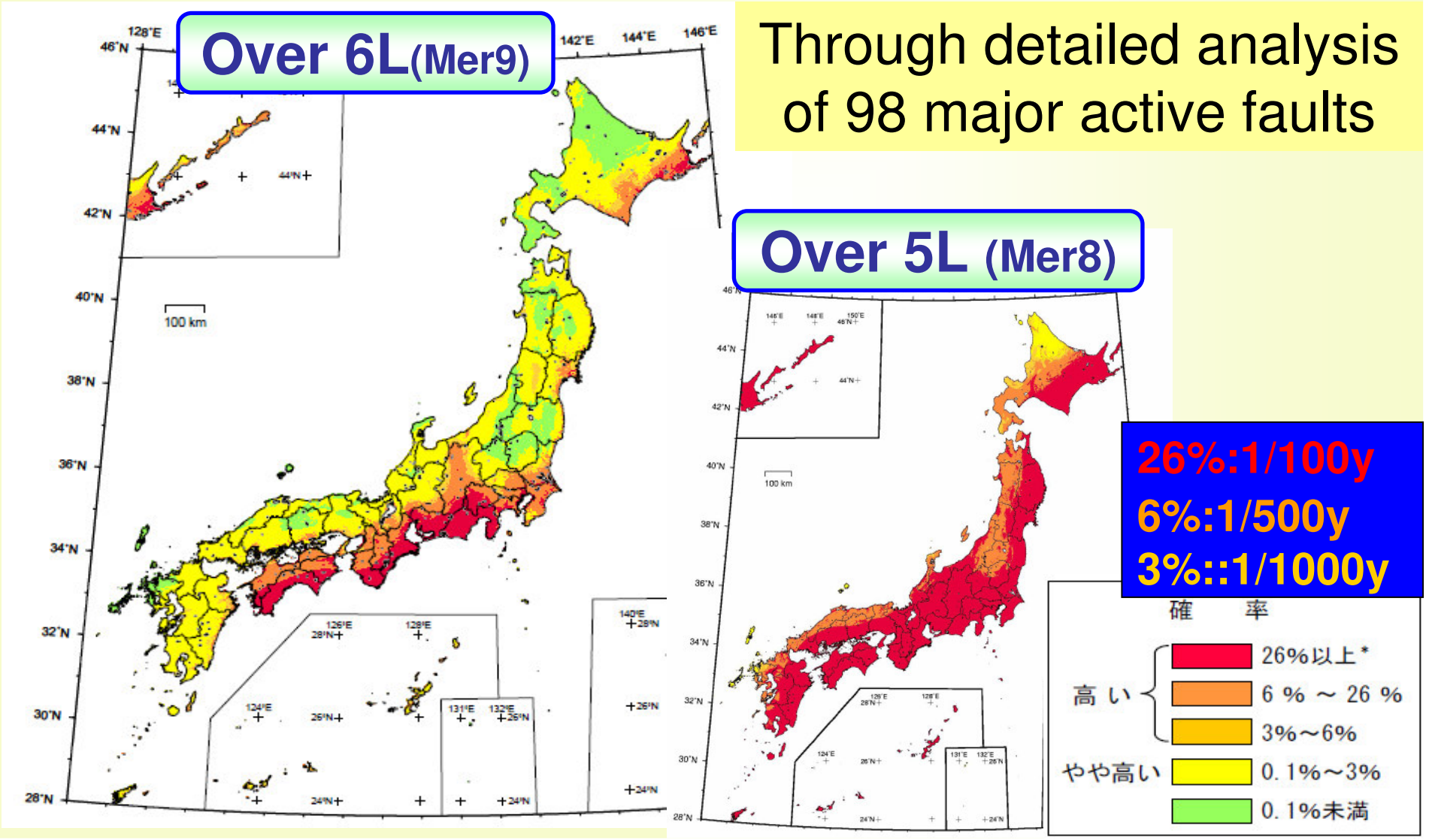


Distribution of historical Eqs

Border of 4 Plates

(Eurasian, Philippine Sea, Pacific, North American)

Distribution map of probability of two shake levels within 30 years



Live experiences of the GHA Eq.

➢Outline of the Damage>

Scale： M 7.3

Dead：6,433

Financial damage:$87bil

Com/ Half destroyed:
249,180 bld'gs

Lessons learned from the GHA Eq.

Lack of preparedness for Eq.

- **Schools, public buildings, houses were not seismic resistant**

  <Earthquake doesn't kill people, but collapse of buildings kill people>
- **Not well prepared for Eq. disasters**

  <There is no record of great Eq. in Kobe. Didn't know the Eq. Risk>
- **Rescue workers couldn't reach to individuals**

  <Importance of local community.
  Save our lives by ourselves and community,
  Outstanding activities by Volunteers>

The Great Hanshin-Awaji Earthquake Reconstruction Plan (Hyogo Phoenix Plan)

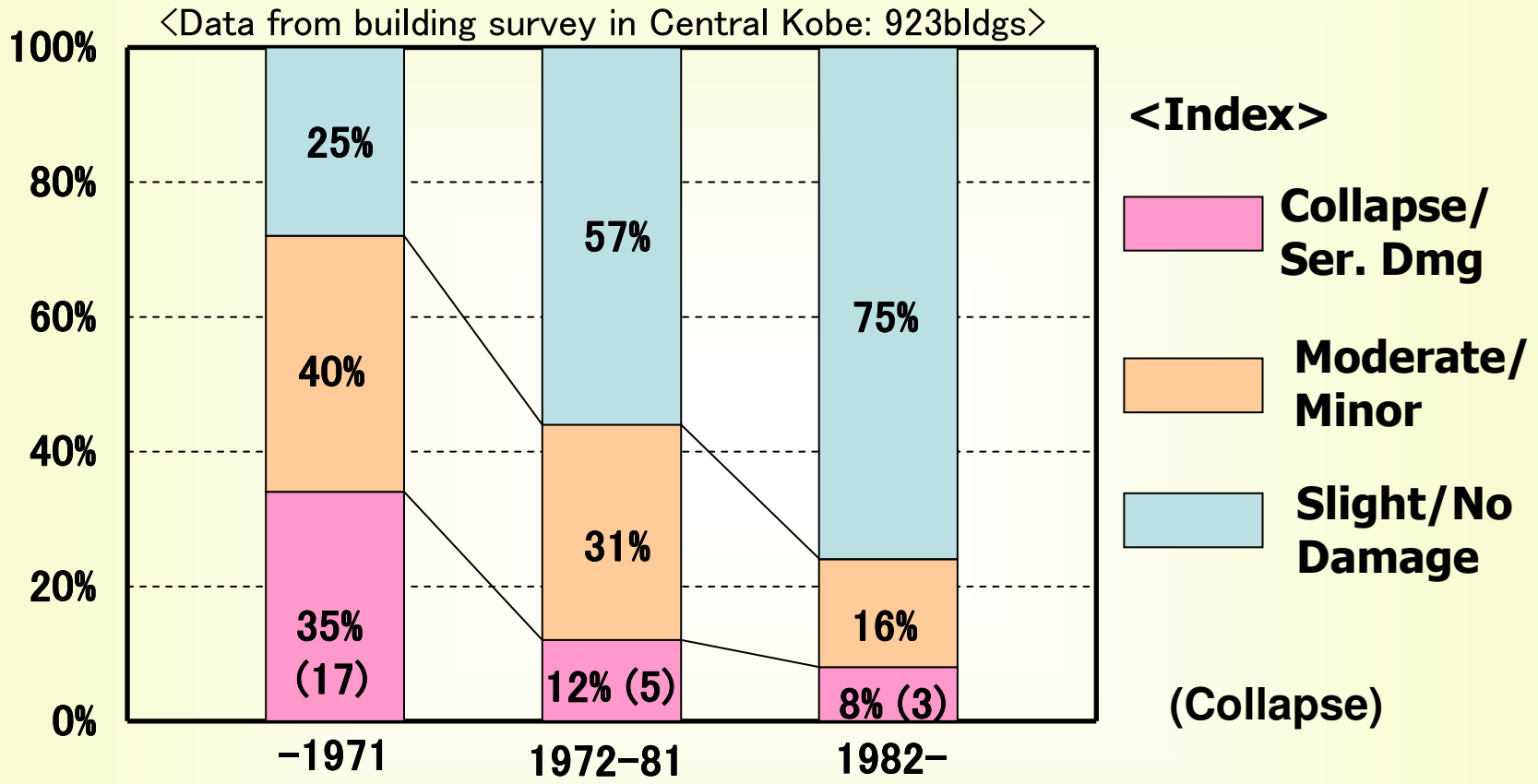
"Creative Reconstruction:

Build Back Better than Before"

- **Key Principle: Creation of a Disaster-Resistant Metropolis Where People Can Live Safely and Securely**

- **Started 4 days after the disaster**
- **Adopted in July 1995 *(took 6 months)***
- **Targeted completion: 2005**
- **Targeted areas: 10 Cities & 10 Towns**
- **Projects planned: 660**

Towards Build Back Better (BBB) Recovery
-- Compliance of appropriate Building Code --



In Japan, 21mil. houses are built before 1981 (out of 44mil)
14mil. Houses are not seismic resistant: needs reinforcement

Towards BBB Recovery
-- Recovery of the Hanshin Express Way--

高速道路の崩壊（平成７年１月）
Collapsed highway（January 1995）

Photo : The Kobe Shimbun

高速道路の復旧工事
Restoration work on the highway

復旧した高速道路（平成８年９月）
Restored highway（September 1996）

写真提供：共同通信社
Photo : Kyodo News

Towards BBB Recovery

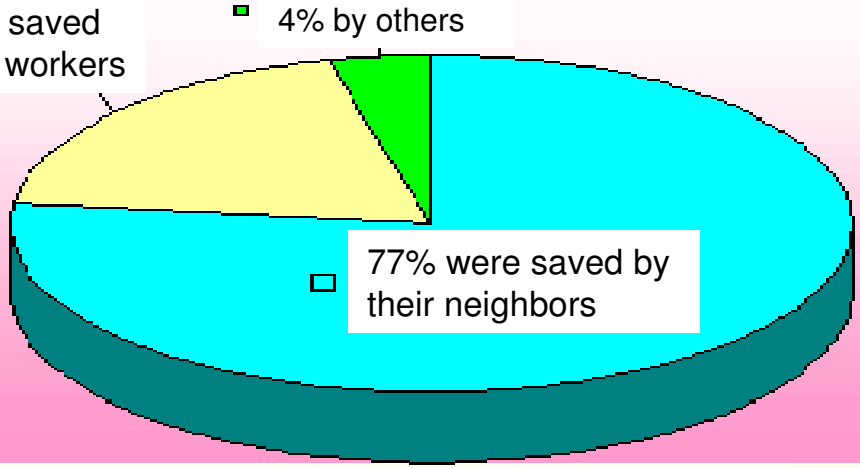
Land Readjustment, Urban Redevelopment

Fixed Point ObservationShin-Nagata 1995→2004

Importance of the Local Communities

- During the immediate aftermath of a large-scale disaster or an accident, voluntary fire extinguishing activities & rescue/aid activities by local citizens were very effective.

Among some 35,000 people who suffered difficulties in evacuating themselves:

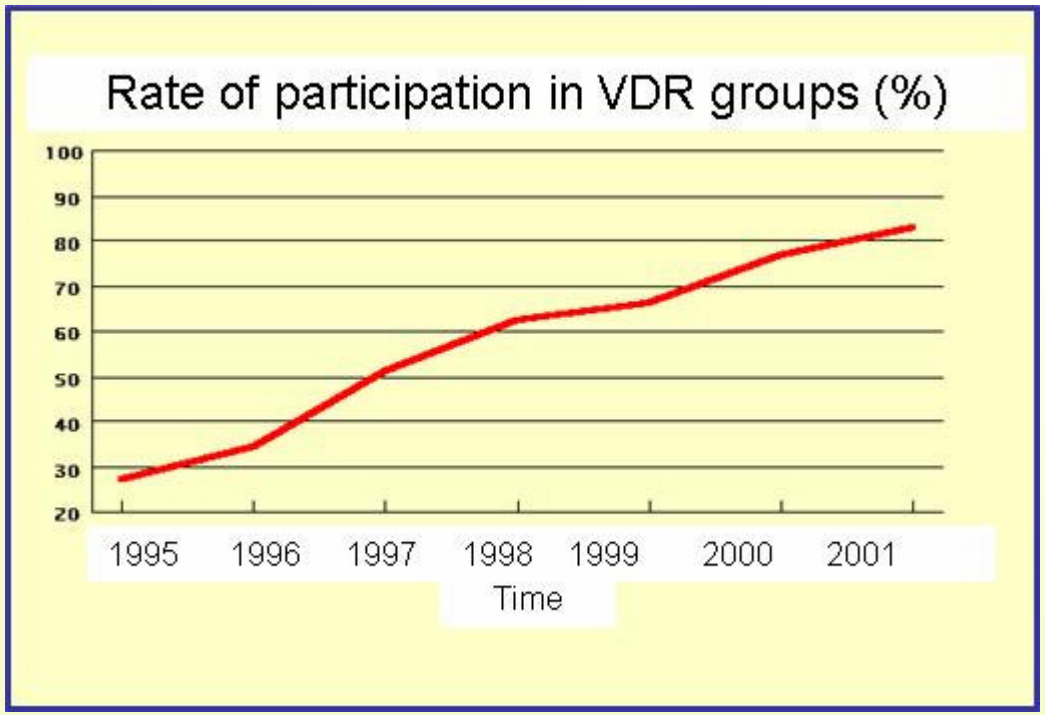


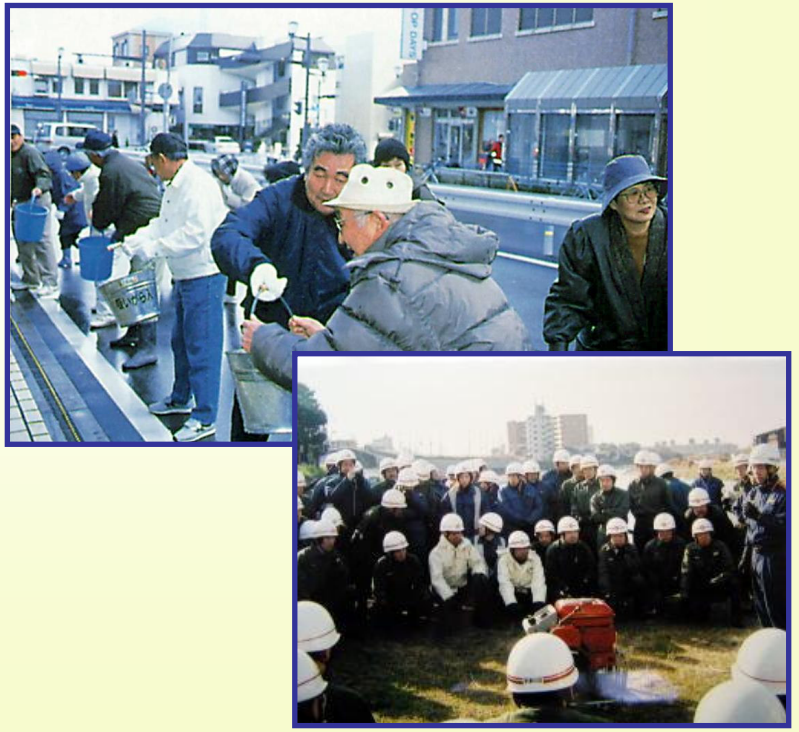
Improved & Reinforced Volunteer Disaster Response Groups

Support the improvement and reinforcement of the system and function of Volunteer Disaster Response (VDR) Groups

- Implement training of community leaders and offer goods and equipment
- Percentage of households participating in Volunteer Disaster Response Groups

27.4% (1995) →94.7% (2005)





Community Involvement in Recovery Planning

Community development with citizens

- **Establishment of the Town Planning Committee**
  - → to reflect opinions of citizens to their recovery town planning
- **Urban planning in double layers**
  - →While the local governments decided the overall urban planning, the detailed design being developed by citizens and the governments

Transfer Live lessons to the World and the Next Generation

Disaster Reduction & Human Renovation Institution <DRI>

- Simulate the earthquake damage through a reproduction film
- Collected and exhibiting materials related to the disaster (160,000)
- Training personnel in charge of disaster management
- Expert research, study and advise on disaster-hit areas

Collect, store, and exhibit materials

Effective & practical training

Research by experts

Dispatch of experts in times of disaster

500,000+ visitors every year to learn the Kobe Experience

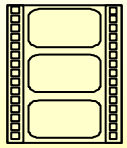
2nd April 2007

Solomon Islands Eq & Tsunami

DRR Knowledge of Community Reduced the Damage !!!

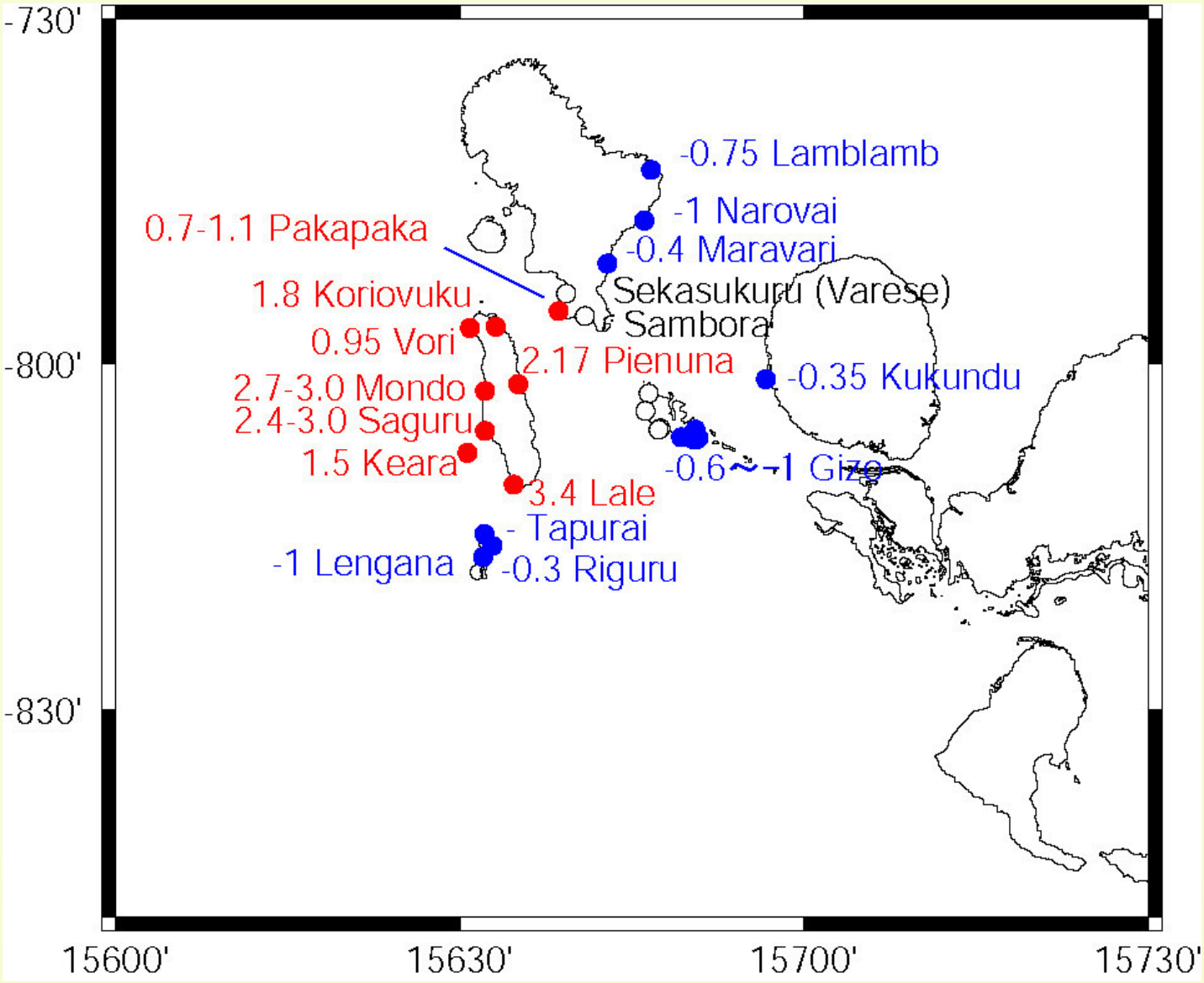
Earthquake and Tsunami in Solomons

- Eq. Date/Time:2007.Apr 2 AM7:40(9:40 JPT)
- Magnitude 8.1, 345km NW of Honiara, Depth 10km
- Created a tsunami, causing serious damage in Gizo, Simbo, Ranongga, Vella la Vlla, Kolombangara Isl. and others
- Dead：52 (OCHA/NDC)



- Most casualties are by Tsunami, some by Eq.

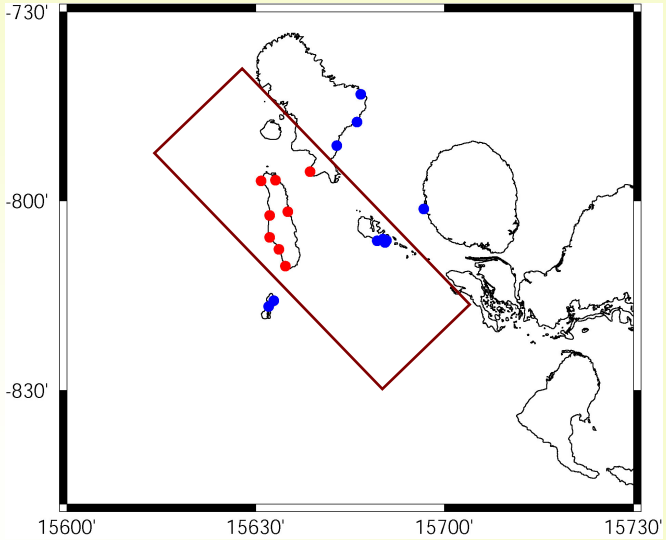
Cause of the Hazard: Uplift / Subsidence



Ranongga Is.

landslide

Uplift (1-3m)



The earthquake occurred beneath the Ranongga Is.

Sagheraghi, Gizo 4/15

No Casualty. Destroyed by Tsunami, Water active. Rebuild here. Shelter: Mile6

Vorivori, Gizo 4/15

No death.

H=3m.

Relocation?

Lessons of the Indian Ocean Tsunami (IOT) being transferred?

- Even at seriously damaged villages, there was no or few causalities, except for Titiana.

  (Titiana had many immigrants, who didn't know the Tsunami and some ran down to the sea to catch fishes when the sea dropped)

- Most villagers knew **their past experiences from elderly** and the **IOT** by news papers

  (TV, Radio are not available except for Gizo)

- Last year, some local NGO brought IOT videos to each villages (Gizo)

Lessons of the Indian Ocean Tsunami (IOT) being transferred? (continued)

- Just after the strong Eq. each house leaders asked his family to run up to the hill (hill is close)
- However, some house leaders went down to the sea. The sea level dropped, and found an approaching big wave, they ran up to the hill.
- Some were watching straight ahead, but Tsunami came from another direction, they had no time to evacuate (Tapurari Simbo)

Compared to the devastating situation, the casualties were quite few!!!

--- IOT & Local lessons were well transferred

Importance of DRR Education for Communities:
Lessons from the Indian Ocean Tsunami

Tsunami Simulation

➢**British Girl: Tilly Smith (10years old)**

She learned about tsunami at her school two weeks before her visit to the Maikhao Beech, Thailand. She recognised the receding shoreline and white bubbles on the surface of the sea and alerted her parents and they warned others on the beach, which claimed no causality on the beach

➢**Smong Song of SIMEULUE Island, IDN, close to the EC**

Tsunami has destroyed almost the whole island. However, just claimed 8 casualties in this island out of 84,000.
The villagers were told the signs of tsunami by the elderly peoples through "Smong(Tsunami) Song" based on the experience of the Tsunami occurred in 1907.

The SMONG Song <SIMEULUE Isl.>

Hear you all, this story: Once upon a time
A place gone under the sea. This is what happened

First there would be a quake. And then a wall of water. A village goes under water In a flash

So when the land shakes Run you all, run
Find places that are high

Smong that is ***Told by our great old ones***
Remember this and be aware Hear ye, message from elders before us:
Smong is your bathwater. Quake is your gentle swaying lullaby. Thunders are your tambourines
And lightning are your sparkling lights

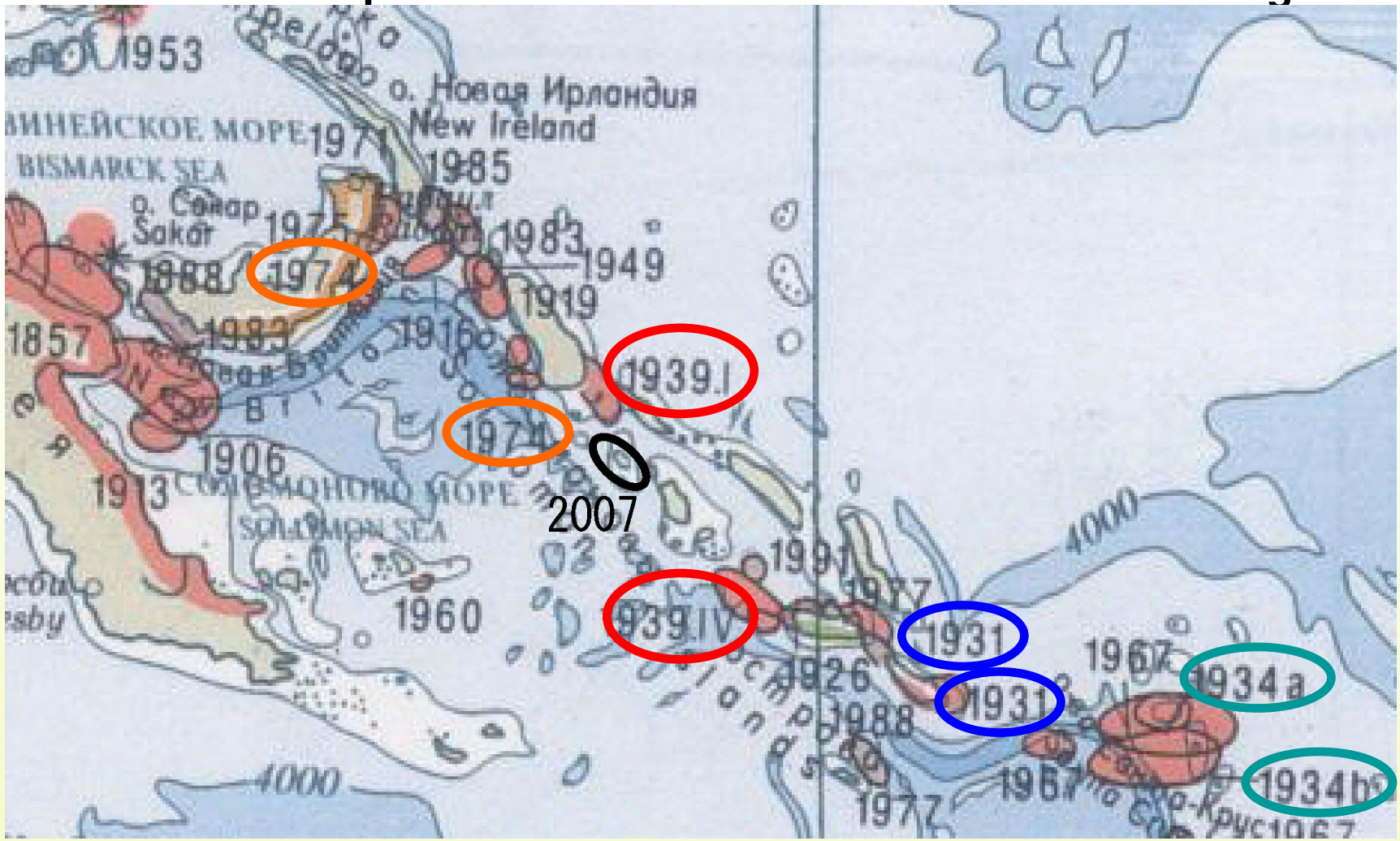
Recommendations for BBB Recovery

- **Quick damage assessment is the first step: Basic statistics of population, housing need to be prepared**
- **Development of end to end Early Warning Sys. (especially for Tsunami generated by faraway Eq.)**
- **Respect the local culture, life style and needs of each village for Recovery including relocation to safer places, infrastructures**
- **Masons training for Eq. and Tsunami resilient structure---- Development of good standards**
- **Raising public awareness and education for Eq. and Tsunami DRR (using Inamura no Hi !!)**

EW System is Crucial for DRR

Faraway Eq. (difficult to notice) may generate Tsunami

Historical Earthquakes-Tsunamis in the Solomon Islands Region



Earthquake and Tsunami in Chile (1960)

- Eq. Date/Time:1960. May 22

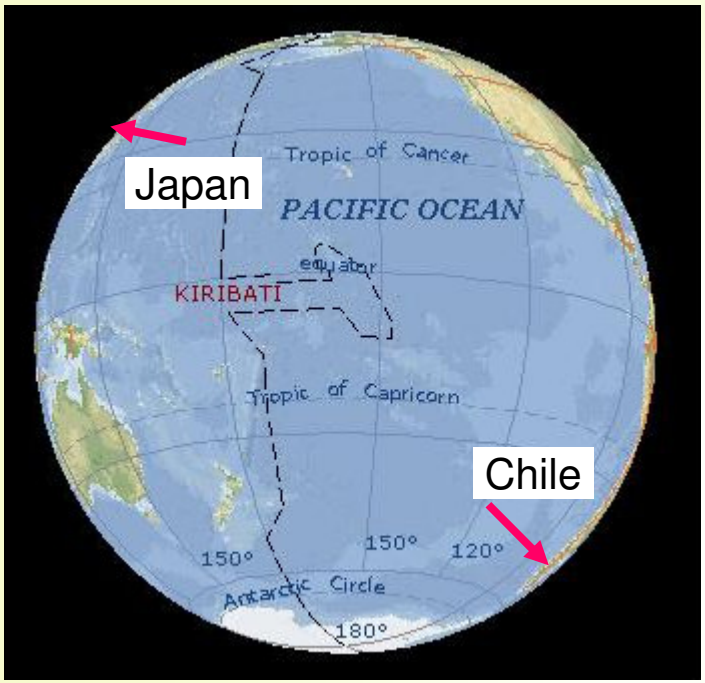
  PM07:11(AM04:11 JPT)

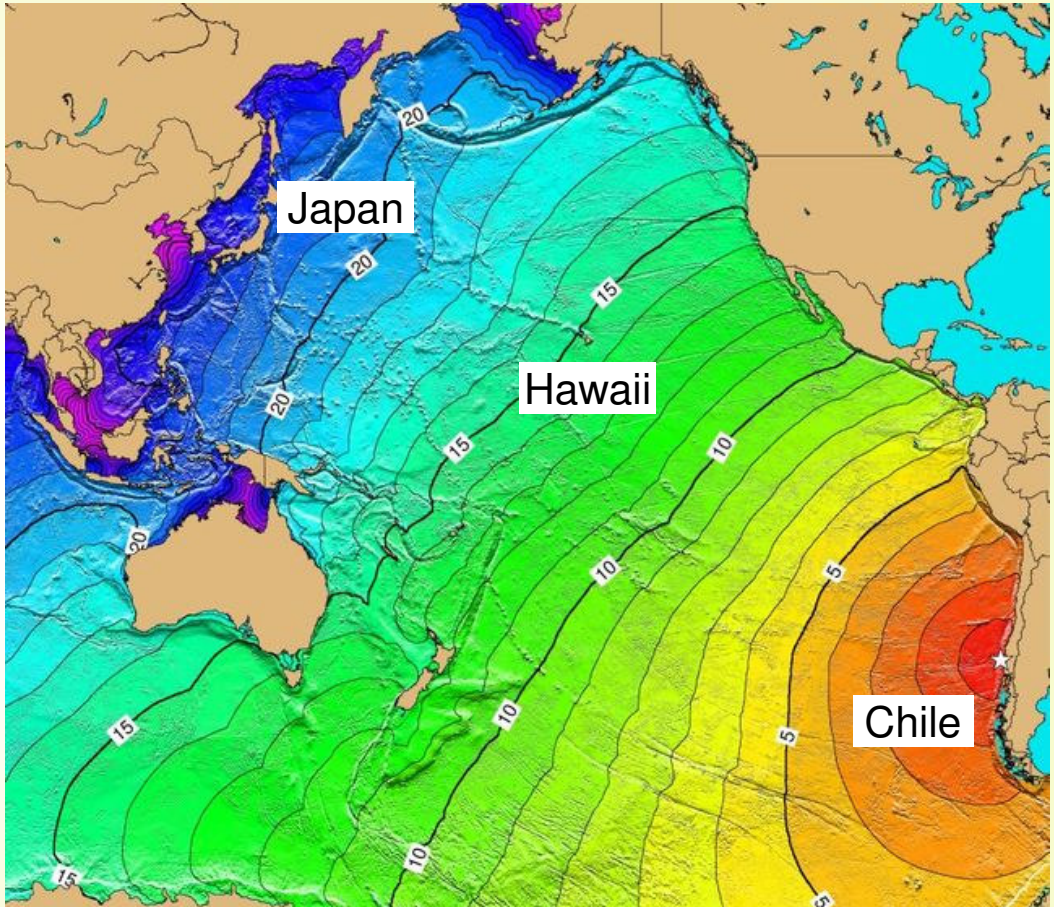
- **Magnitude 9.5**, 700 km south of Santiago, Chile
- **Depth 30km**
- Created a tsunami, causing serious damage in southern Chile, **Hawaii, Japan, the Philippines, New Zealand, Australia and Alaska**
- Dead：6,000　(never be precisely known)

  61 in Hawaii (15hours after, H11m)

  142 in Japan (22hours after, 18,000km away, H5m)

Faraway Earthquake and Tsunami (Japan) Chile (1960)





Cf. IOT Simulation

- Japan is located at the opposite side of Chile on Earth (Power re-focused).
- 22.5hours later Tsunami attacked killing 142. **No Early Warning!!!**
- Triggered the establishment of ICG/ITSU (International Coordination Group for the Tsunami Warning System in the Pacific)

Difficulties for Relocation (Examples)

➢**Adhoi Village** (3,000 Pop. 354 killed) **: Gujarat Eq. (2001)**

2000 families relocated to a newly developed area 3km away.

It is fully occupied, but unpopular with its residents because of lack of basic amenities such as shops

➢**Vondh Village** (9,000 Pop. 400 killed) **: Gujarat Eq. (2001)**

Half of 1,700 families relocated within 18 months (4km away)

Before Jan 2007, all of the villagers left the new village
It is because original Vondh was the location of their ancestors, (and lack of initiative of the authorities)

Why Some Relocation Unsuccessful ??

- **Donor oriented Relocation may be effective, but causes less cooperation with community**
  - **--- Lack of Community Involvement**
    Neglect of original culture, lifestyle <ex. Sri Lanka>
    Insufficient infrastructures,
    Lack of new job to generate income,
    Difficulties to continuity their original job

- **Reduced Buffer Zone : Sri Lanka: Tsunami 2004**
  Buffer zone once set 200m (North, East), 100m (South), reduced to 30m, 50m, 60m depend on each situation flexibly

  Enabled more fishermen to rebuild their houses at same places and to have same jobs as before

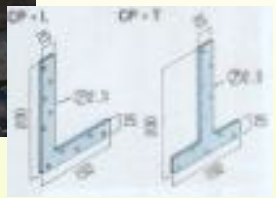
Cf. In Ache, based on the experience of relocation of 3 villages of Flores Isl. by 1992 Tsunami (all villagers moved back within a few years), 500m buffer zone disappeared

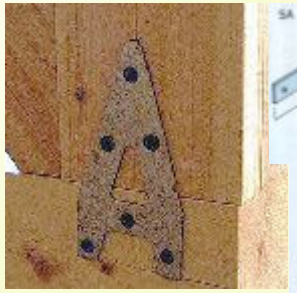
Damaged buildings by Eq: heavy structure

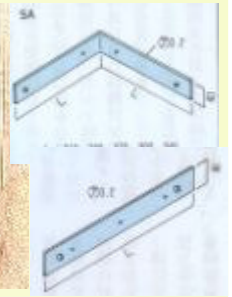
Church (bricks) at Gizo down town

Damaged house on a hill in Gizo

Leaned base frame of houses; Need reinforcement

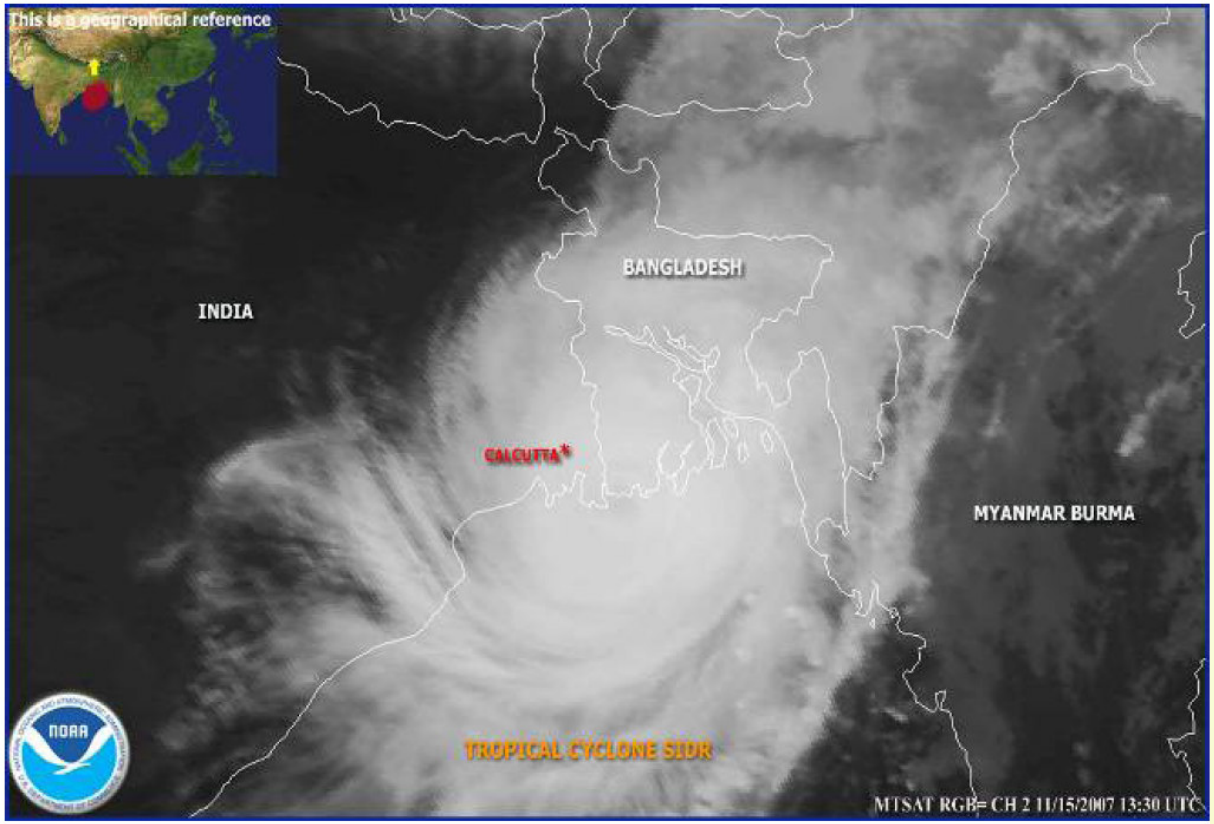






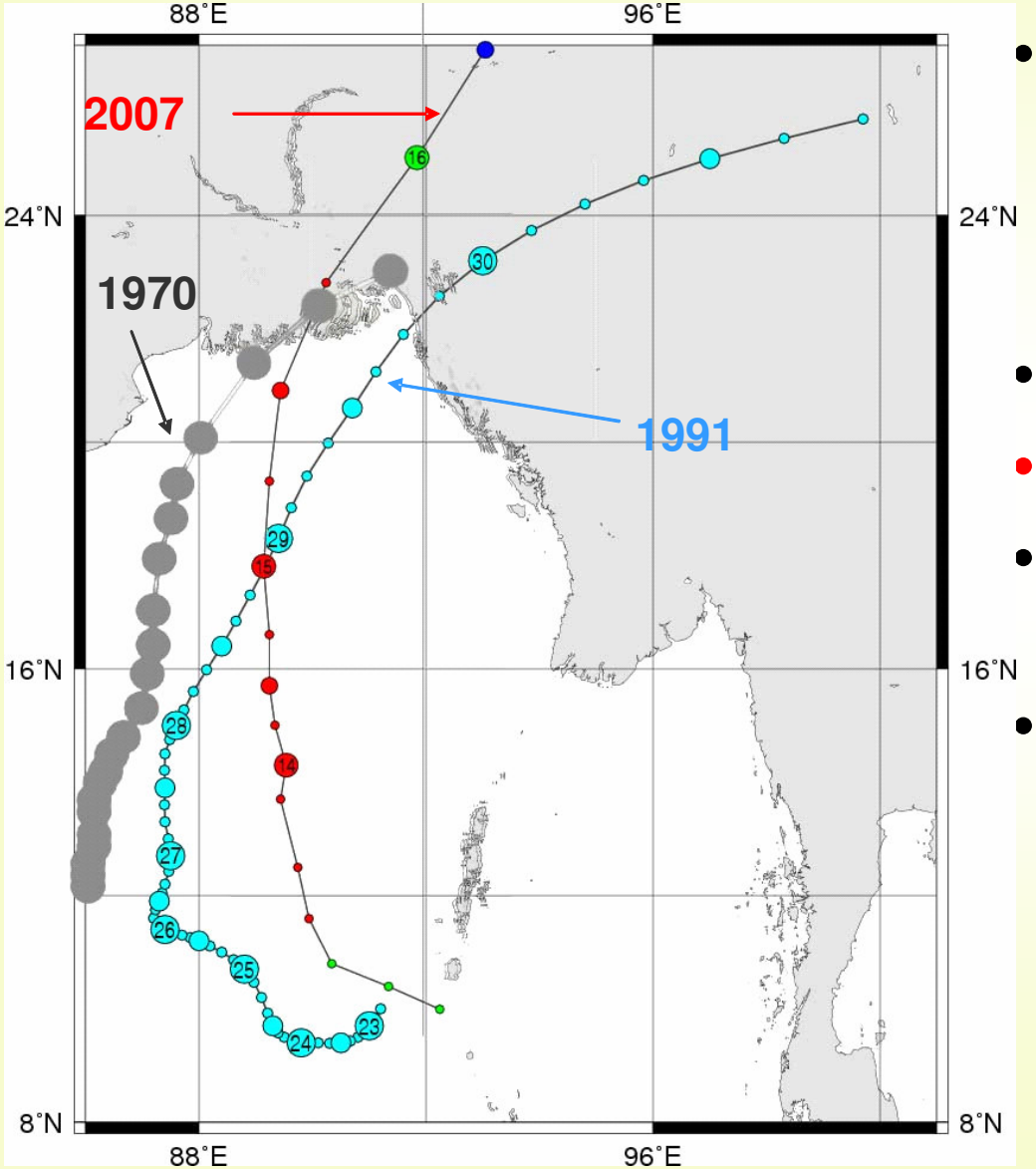
Steel plates for reinforcement

From Experiences of Bangladesh



Near about 6:30pm on 15 November 2007, Tropical Cyclone SIDR, a strong CAT-4 cyclone with maximum sustained winds of 150 mph and gust to 184 mph hit Bangladesh coast. *Map courtesy: NOAA*

Major Cyclones which hit Bangladesh



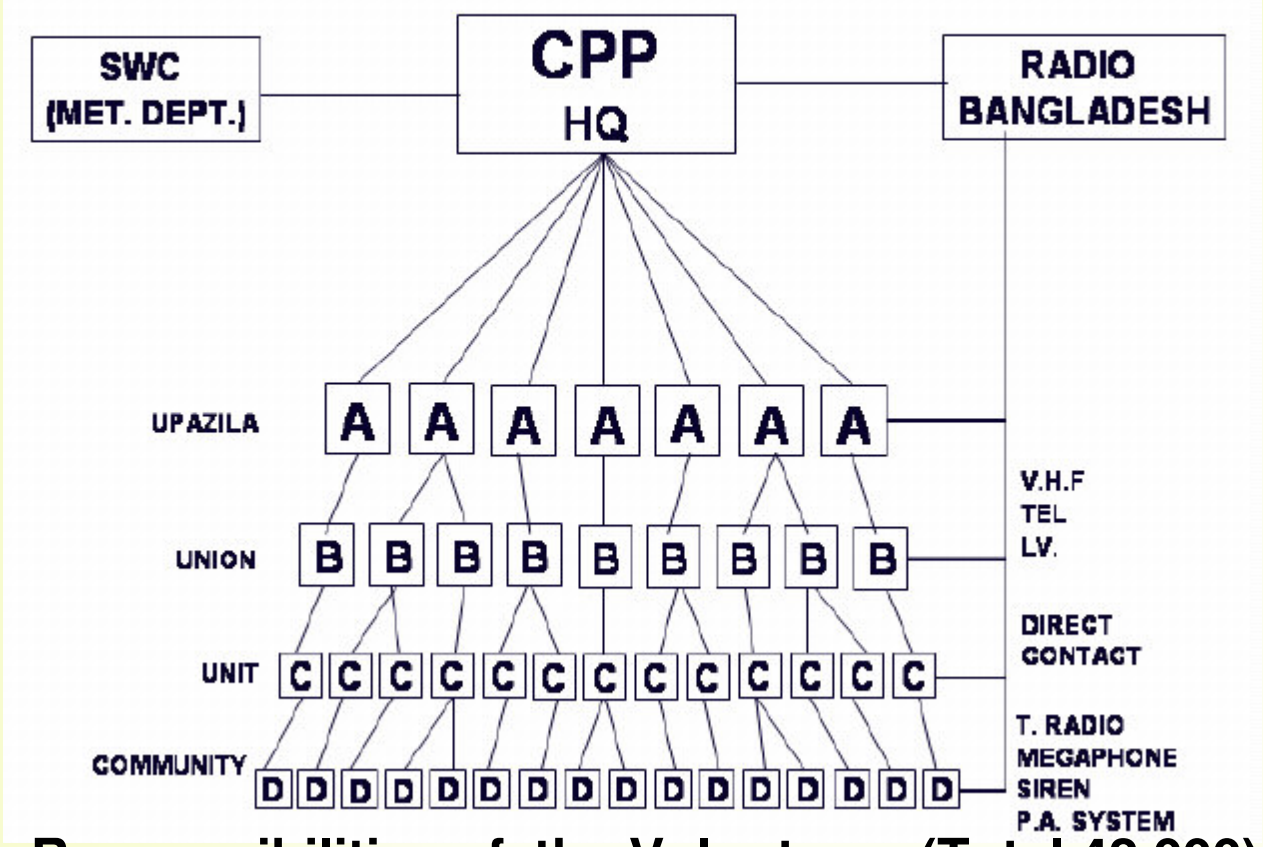
- **1970 : Approx. 300,000killed**
  Max Speed: 57m/s (205km/h)
  Min. Pressure: 966hPa

- 1991 : Approx. 140,000killed
- 2007 : Approx. 4,000 killed
- The landing point of SIDR is near to 1970 Cyclone.
- 1970 damaged mainly around Chitagon

Destroyed Villages

Photo: by BDPC

Cyclone Preparedness Programme

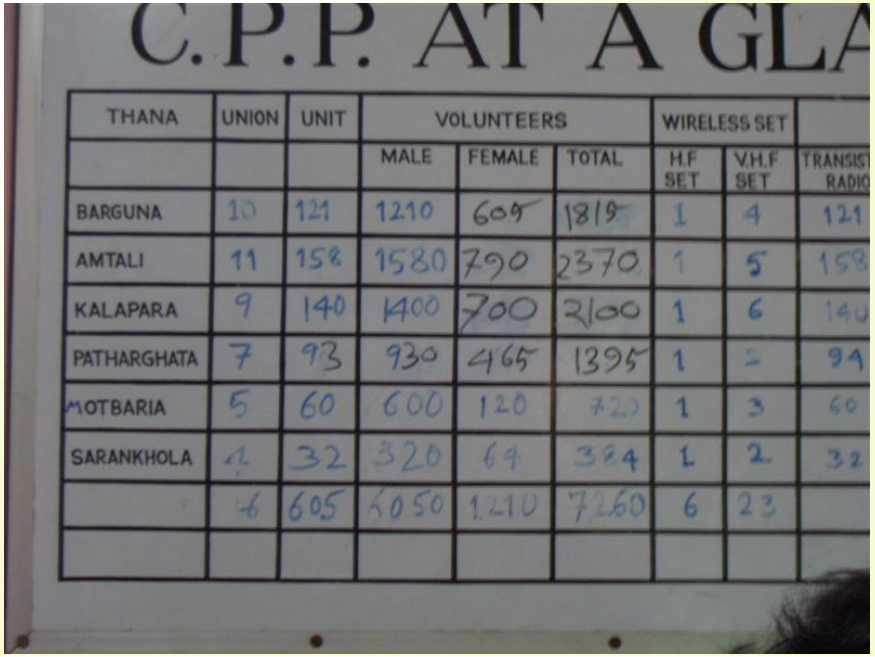


Responsibilities of the Volunteers (Total 42,000):

- **Dissemination of early warning**
- Evacuation to safe place and shelter management
- Conduction of rescue operation, Provision of first aid to the injured
- Assistance for post-cyclone relief and rehabilitation operations

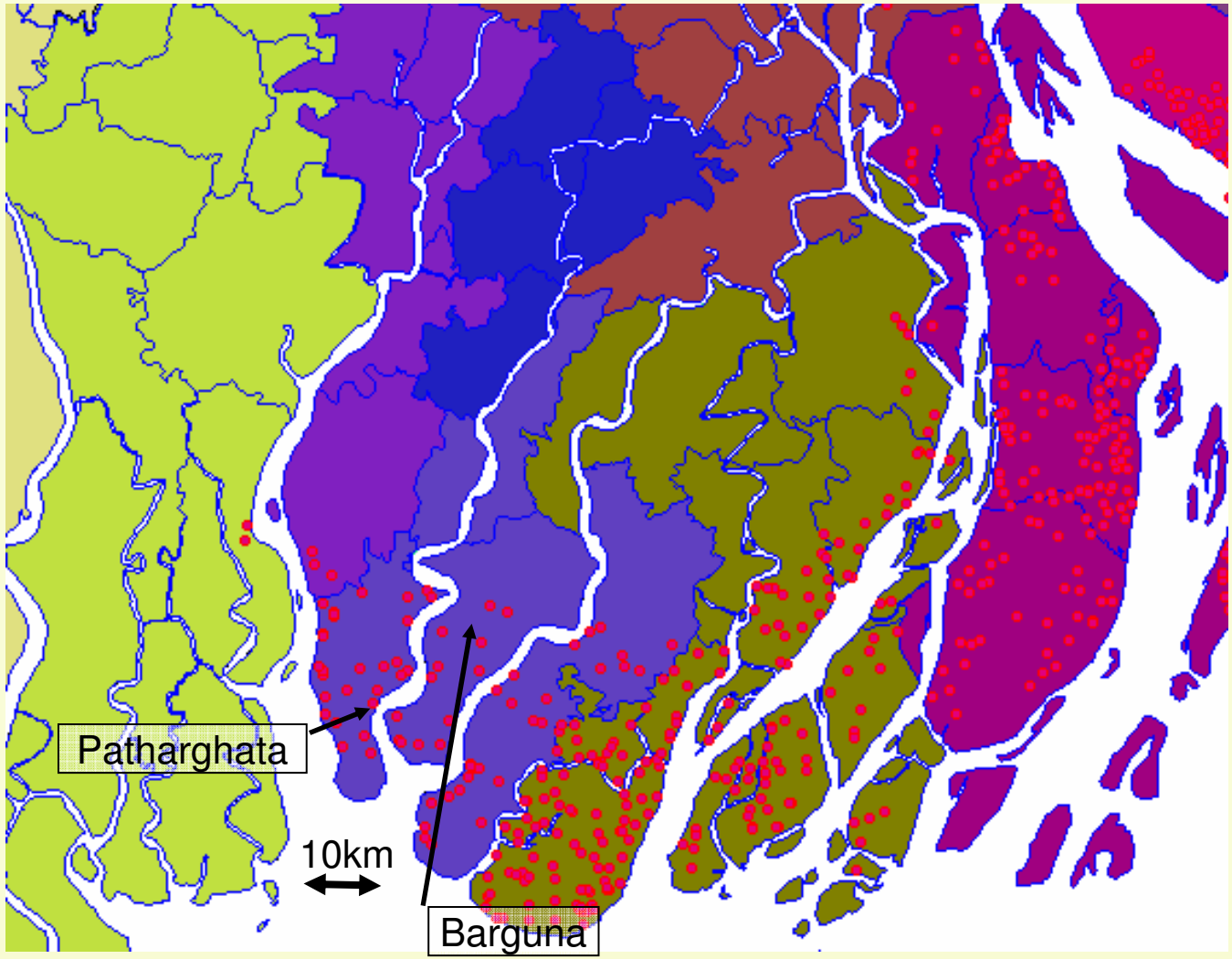
Early Warning (CPP)

BY 42,000 Volunteers



THANA	UNION	UNIT	VOLUNTEERS			WIRELESS SET		
			MALE	FEMALE	TOTAL	H.F SET	V.H.F SET	TRANSIS RADIO
BARGUNA	10	121	1210	609	1819	1	4	121
AMTALI	11	158	1580	790	2370	1	5	158
KALAPARA	9	140	1400	700	2100	1	6	140
PATHARGHATA	7	93	930	465	1395	1	2	94
MOTBARIA	5	60	600	120	720	1	3	60
SARANKHOLA	4	32	320	64	384	1	2	32
	46	605	6050	1,210	7,260	6	22	

Cyclone Shelters (over 2000)



Cyclone Shelter

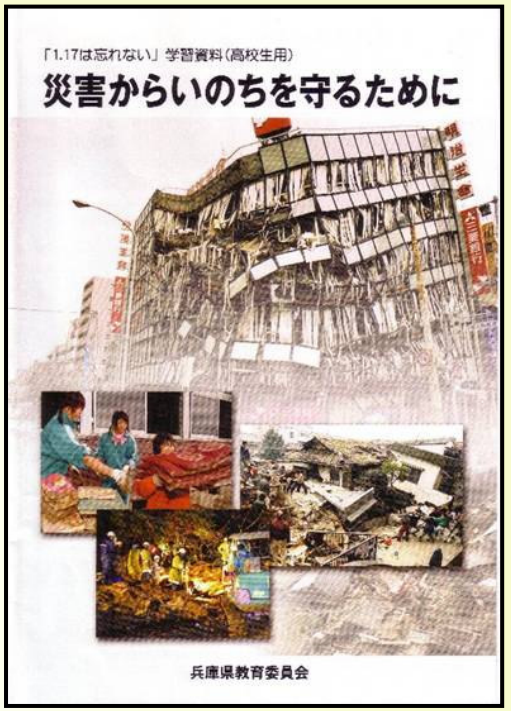
EW issued from 3 days before.
Issued again in the afternoon of the day
Previous miss warning (Sep2007) delayed their evacuation
Some villagers didn't evacuate because of their cattles
Capacity500. → 2,000 Evacuated and all survived

Good Practices on Recovery (BGD: 1991--)

- **Building Cyclone Shelters (over 2,000)**
- **Plantation along coastal area**
- **Building dikes**
- **Implementation of Cyclone Preparedness Programme (CPP) involving community**

(Early Warning, Evacuation Drill, Awareness raising using cartoon, play etc.)

Community Participation is Crucial for DRR and Better Recovery



Thank you very much

International Recovery Platform