



# **ADRC's Recent Activities and Future Direction**

**Satoru NISHIKAWA**  
**Executive Director**  
**Asian Disaster Reduction Center**

**6th ADRC Meeting, 4 February 2004,**  
**Siem Reap, Cambodia**

ADRC Established July 1998

1<sup>st</sup> ADRC International Meeting Feb. 1999 in Kobe

2<sup>nd</sup> ADRC International Meeting Dec. 1999 in Kobe

3<sup>rd</sup> ADRC International Meeting Dec. 2000 in Kobe

4<sup>th</sup> ADRC International Meeting Jan. 2002 in Delhi

Co-organized by Government of INDIA

5<sup>th</sup> ADRC International Meeting Jan. 2004 in Kobe

6<sup>th</sup> ADRC International Meeting

*TODAY* in Siem Reap

Co-organized by Government of CAMBODIA

# ADRC Member Countries : 24

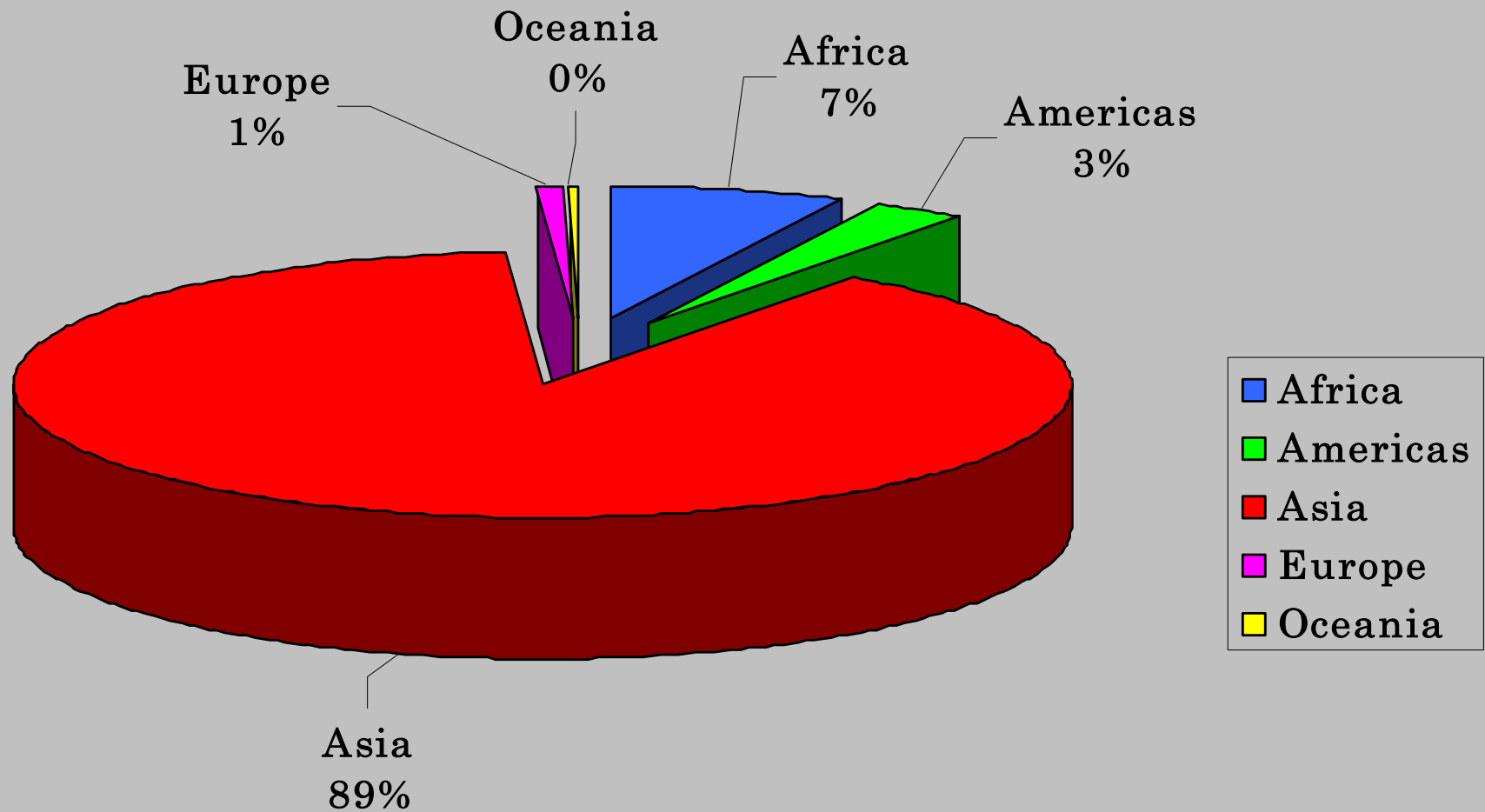


# I. The Challenge we face in Asia

## **Disaster Reduction** is a **MUST** for **Sustainable Development in Asia**

- A single disaster can wipe out annual GDP of a country.
- Natural Disasters can be the biggest obstacle to social security of a country.

# Number of Affected People by Natural Disasters (1975-2002)



# Summary of Natural Disasters (1975-2002)

	Number of Disasters	Number of Killed	Number of Totally Affected People	Amount of Damage (1,000 US\$)
World	7,104	2,063,633	4,797,950,112	982,894,232
Asia	2,676 (38%)	1,182,637 (57%)	4,269,422,754 (89%)	480,536,348 (49%)

*Source: ADRC, Japan*

*CREDEMDAT, Universite Catholique de Louvain, Brussels, Belgium, 2002*

## Numbers of Victims of Recent Natural Disasters in Asia

Year	Country	Disaster	Number of Dead and Missing
1998	Afghanistan	Earthquake	4,700
	PNG	Tsunami	2,600
1999	Turkey	Earthquake	15,500
	India	Cyclone	9,500
2001	India	Earthquake	13,805
2002	Afghanistan	Earthquake	More than 800
	Korea	Typhoon	246
2003	Sri Lanka	Landslide	236
	Iran	Earthquake	More than 40,000

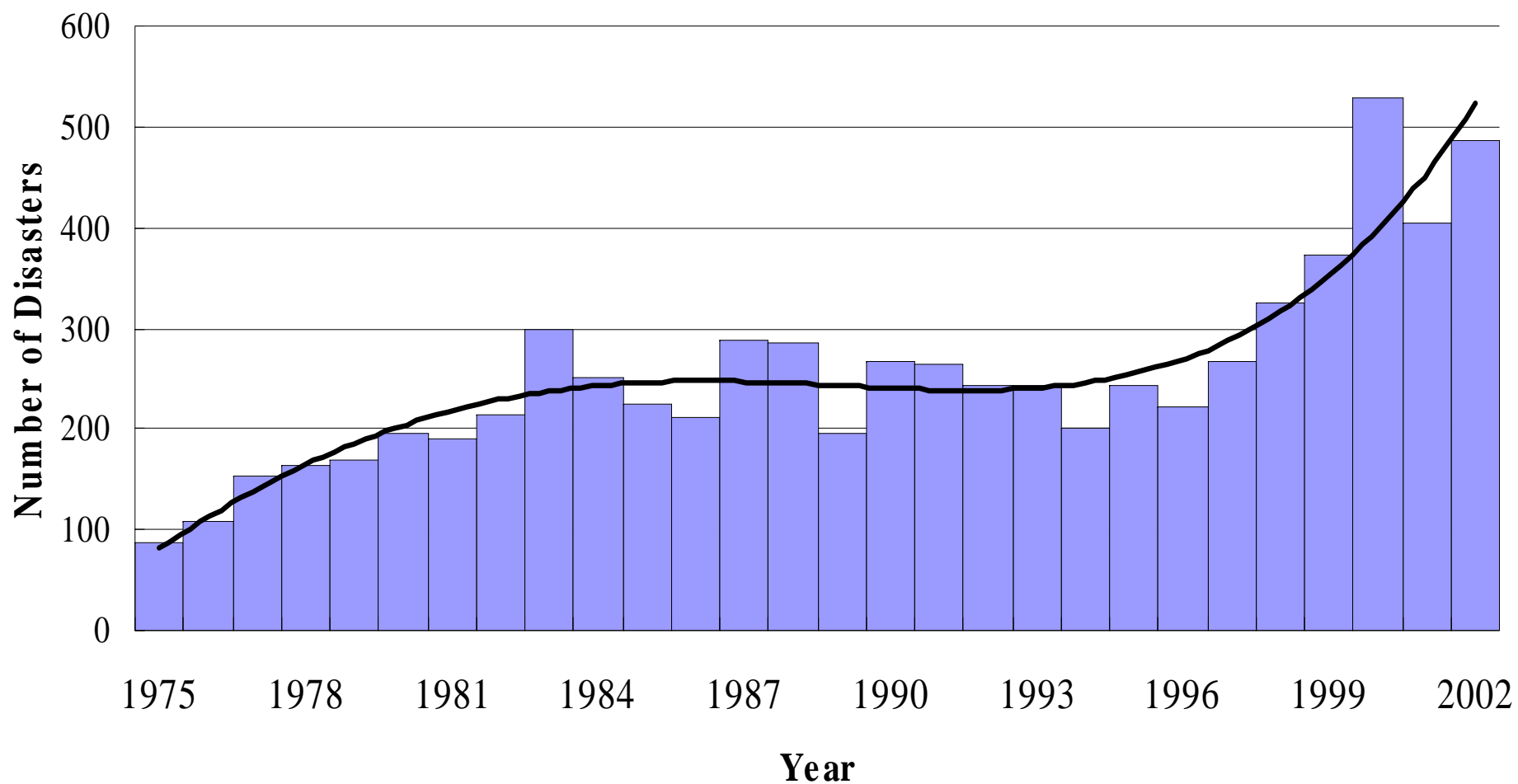
## Ratio of Amount of Damage to GDP (Asia) (1975-2002)

Country Name	Disaster Year	Disaster Type	Amount of Damage (BillionUS\$)	GDP (Disaster Year) (BillionUS\$)	Damage/ GDP
Armenia	1988	Earthquake	20.50	11.65	176%
Mongolia	1996	Wild Fire	1.71	3.68	47%
Yemen	1982	Flood	0.98	8.92	11%
Nepal	1987	Flood	0.73	12.79	6%
Lao, PDR	1993	Wind Storm	0.30	5.95	5%
Georgia	1991	Earthquake	1.70	36.80	5%

Source: ADRC, Japan, based on EM-DAT, CRED, Belgium and WDI, World Bank 2002



## Trend of Disasters Occurred in the World (1975-2002)



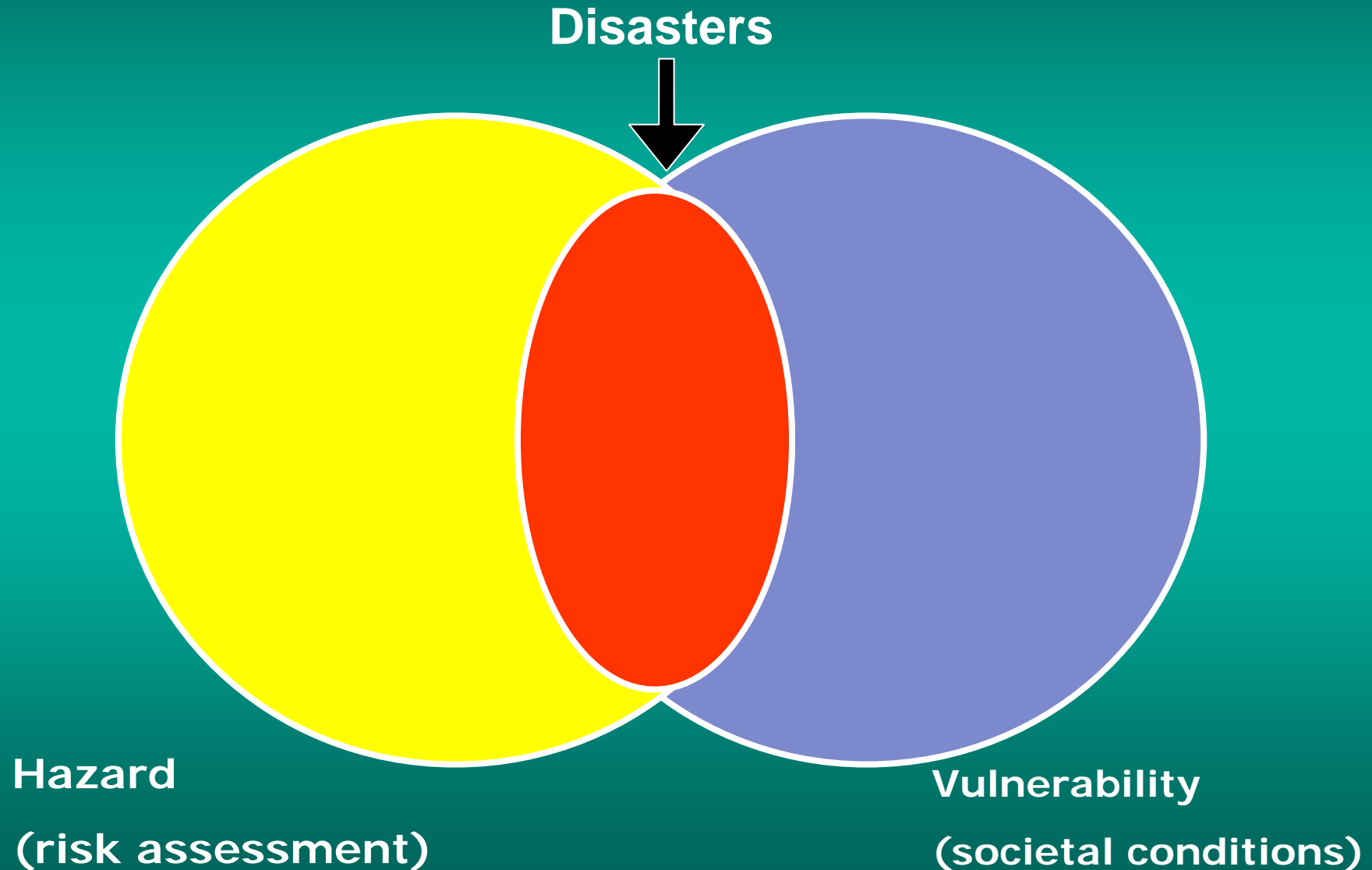
Source: ADRC, Japan and CRED-EMDAT, Universite Catholique de Louvain, Brussels, Belgium, 2002

# **II. Tasks lying ahead for ADRC**

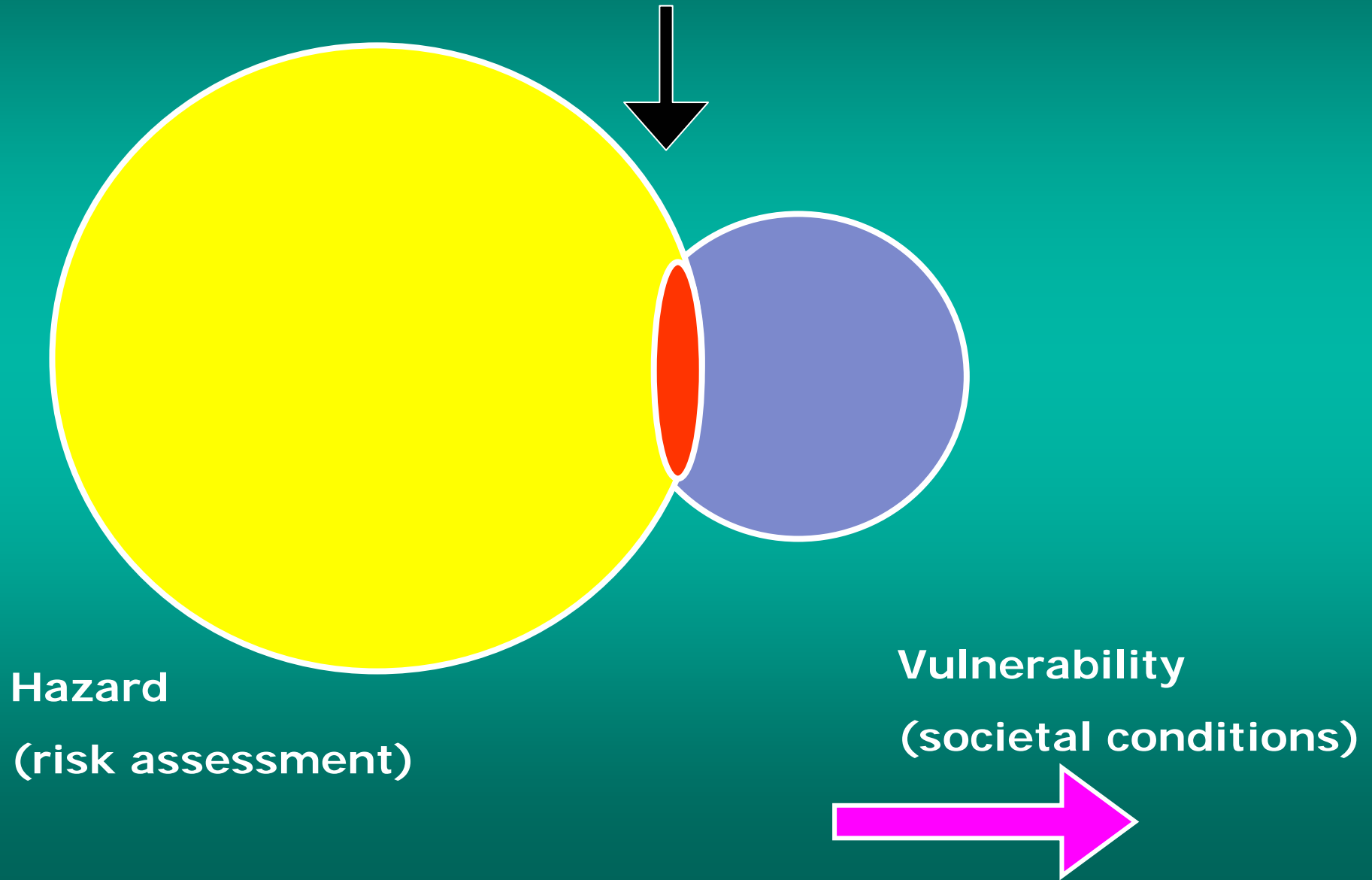
## **Holistic Approach to Disaster Reduction**

**-Towards Total Disaster Risk Management-**

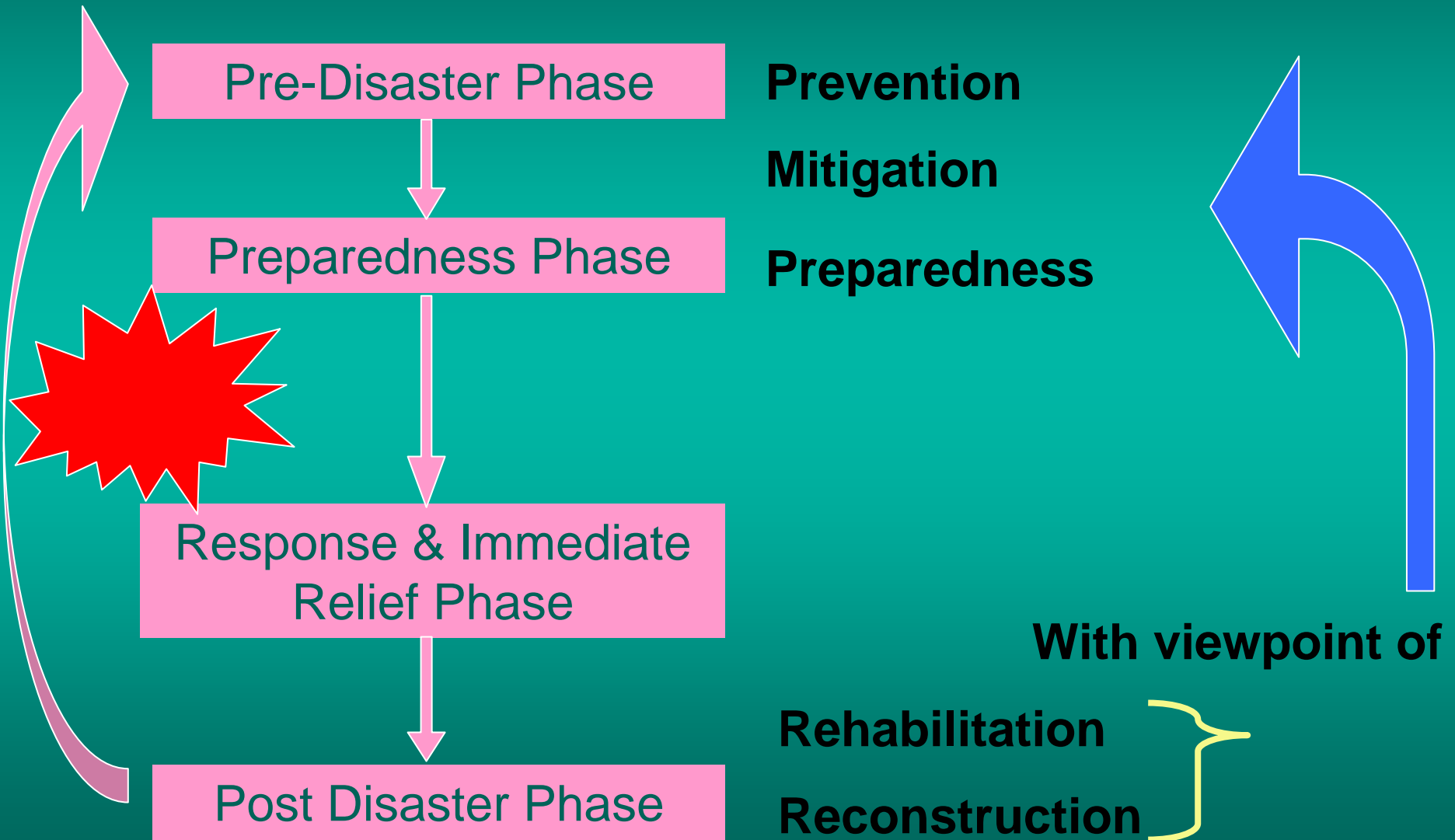
# Hazards Confronting Vulnerable Communities Cause Disasters



# Less Disasters



# The Disaster Reduction Cycle



# Case of Miyagi-ken Earthquake

1978/06/12

Reduced

Magnitude : 7.4

Focal depth : 40 km

Max. JMA seismic  
intensity : 5

Deaths : 28 (of which 18  
were caused by crashed  
concrete block wall)

Injured persons : 1,325

Collapsed houses : 1,183

Half-collapsed  
houses : 5,574

Partly damaged  
houses : 60,124

2003/05/26

Magnitude : 7.0

Focal depth : 71km

Max. JMA seismic  
intensity : 6 lower

Deaths : 0

Injured persons : 174

Collapsed houses : 2

Half-collapsed  
houses : 21

Partly damaged  
houses : 2,342

2003/07/26

Magnitude : 6.2

Focal depth : 12km

Max. JMA seismic  
intensity : 6 higher

Deaths : 0

Injured persons : 676

Collapsed houses : 1,069

Half-collapsed  
houses : 2,730

Partly damaged  
houses : 8,322

# Case of Miyagi-ken Earthquake

1978/06/12



Crashed concrete block wall



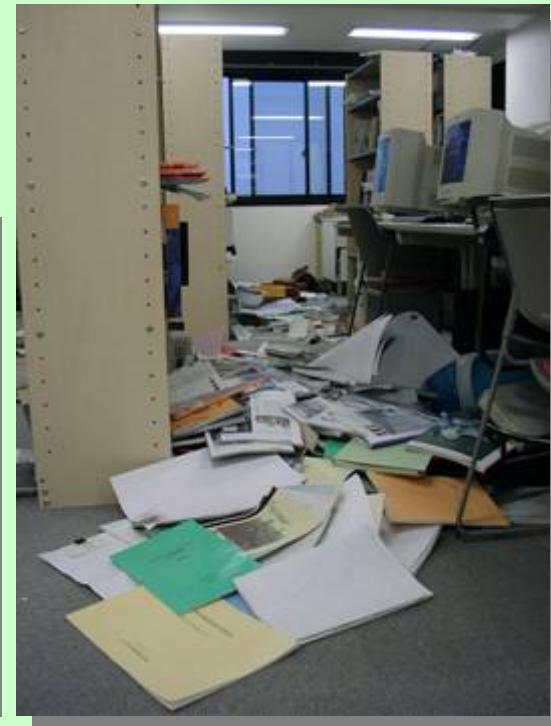
Pancake-collapsed building

# Case of Miyagi-ken Earthquake

2003/05/26



Fallen outside wall



Cluttered room



# Case of Miyagi-ken Earthquake

2003/07/26



Cracked road



Derailed train



Collapsed house

# Case of Tokachi-oki Earthquake

March 4, 1952  
Magnitude: 8.2  
Focal Depth: shallow  
Max JMA seismic intensity: 6  
Death: 28  
Disappearances: 5  
Injured persons: 287  
Collapsed houses: 815  
Half-collapsed houses: 1,324  
Partly-damaged houses: 6,395

May 16, 1968  
Magnitude: 7.9  
Focal Depth: shallow  
Max JMA seismic intensity: 5  
Death: 49  
Disappearances: 3  
Injured persons: 330  
Collapsed houses: 673  
Half-collapsed houses: 3,004  
Partly-damaged houses: 15,697

Reduced

September 26, 2003  
Magnitude: 8.0  
Focal Depth: 42km  
Max JMA seismic intensity: 6 lower  
Death: 0  
Disappearances: 2  
Injured persons: 844  
Collapsed houses: 60  
Half-collapsed houses: 81  
Partly-damaged houses: 1,292

# Case of Tokachi-oki Earthquake, 1952



Collapsed school



Train derailment

# Case of Tokachi-oki Earthquake, 1968



Collapsed buildings

# Case of Tokachi-oki Earthquake, 2003



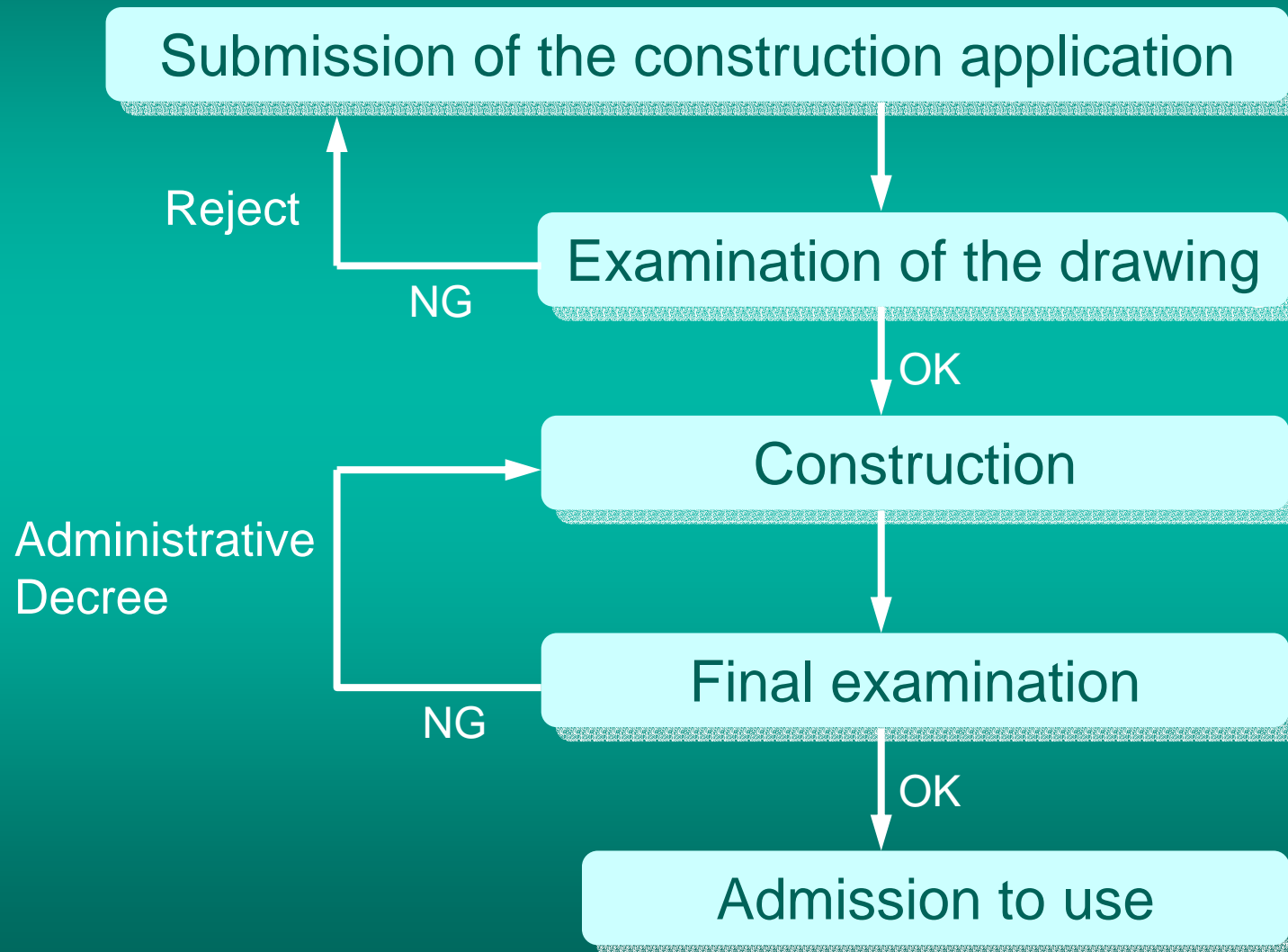
# History of Japanese Building Design Codes

Year	Event	Damage
1948	Fukui Earthquake (M7.1)	Collapsed houses : 36,000 Deaths : 3,769
1968	Tokachi-Oki Earthquake (M7.9)	Collapsed houses : 673 Deaths : 52
1978	Miyagi-ken-Oki Earthquake (M7.4)	Collapsed houses : 1,183 Deaths : 28
1993	Kushiro-Oki Earthquake (M7.8)	Collapsed houses : 0 Deaths : 2
1995	Great Hanshin - Awaji Earthquake (M7.2)	Collapsed houses : 104,906 Deaths : 6,433

Year	Act
1950	Constitution of Building Standard Law
1970	Amendment of Building Standard Law
1980	Amendment of Aseismic Provision in Building Standard Law



# Flow Chart of the Residential Construction Application



# **INCENTIVES for Safer Residential Construction**

- Special low interest rate by the Government Housing Loan Corporation applied for good quality and safe housing
- To apply for special low interest rate
  - (1) Pre-approval of the drawing
  - (2) On-site examination of construction



# Case of Nevado del Ruiz 1985 and Mayon 2000 - 2001

## Nevado del Ruiz (Colombia)

- **November 13, 1985**
- **More than 22,800 killed, 5,444 injured. 55,444 affected (total).**
- **US\$ 1 Billion damage**

## Mayon (Philippines)

- **February 24, 2000**
- **60,796 affected.**  
**US\$ 488,000 damage.**
- **May 24, 2001**
- **25,576 affected.**  
**US\$ 792,000 damage.**
- **July 25, 2001**
- **25,000 affected.**

Source: CRED

# Case of Nevado del Ruiz 1985 and Mayon 2000-2001

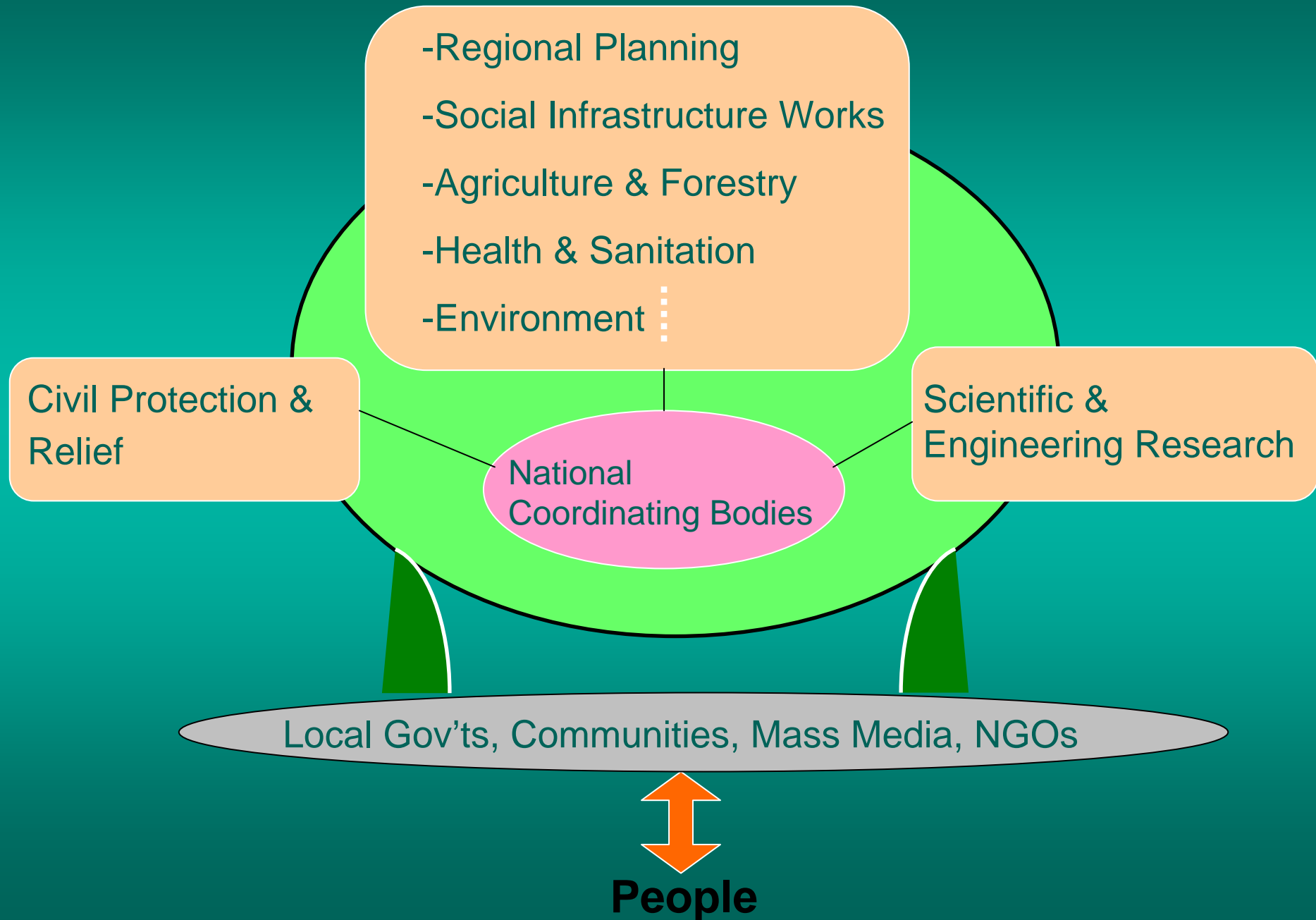


Nevado del Ruiz

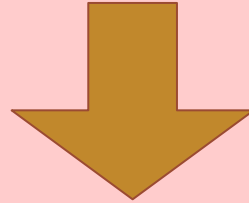


Mayon

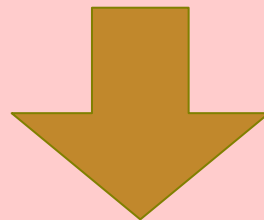
# Coordination Mechanism



**What can we draw out of these experiences ?**



**Proper Risk Management will save lives !**




**Holistic Approach to Disaster Reduction and Response**

**TDRM**

# **Toward Total Disaster Risk Management (TDRM) in Asia**

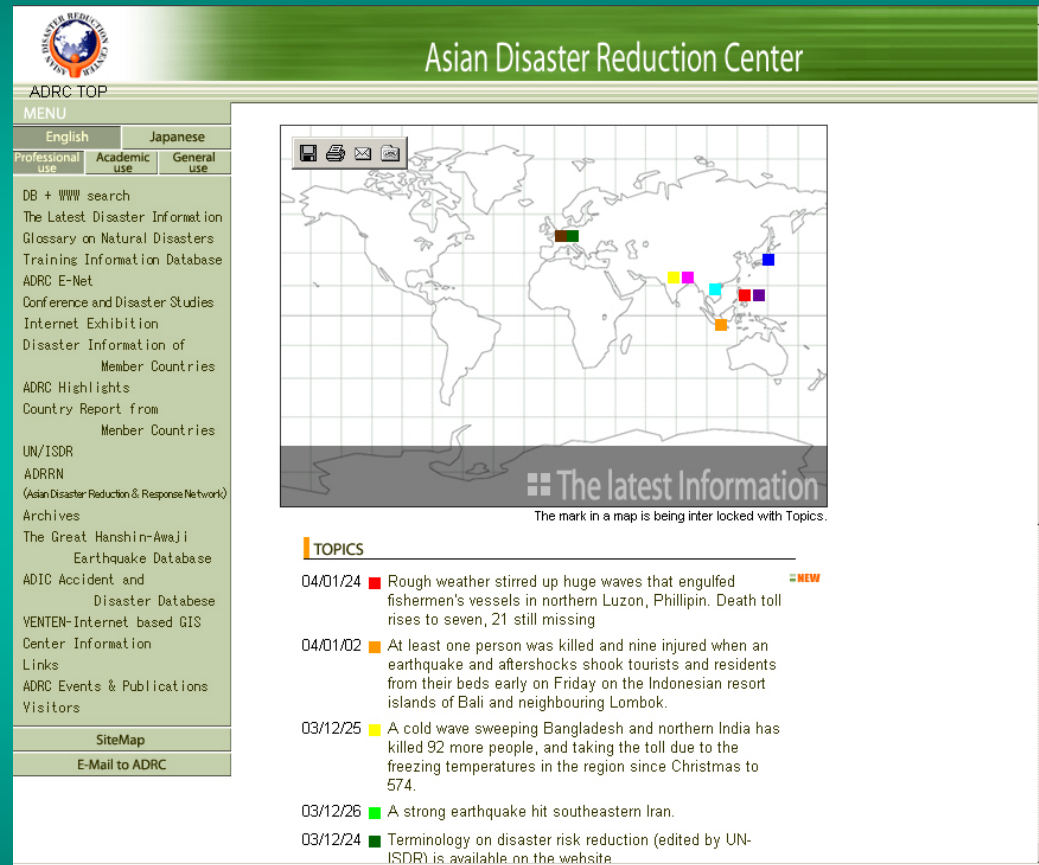
- July 2001**      **First Consultative Meeting , Kathmandu  
(UN and Regional Organizations)**
- June 2002**      **Second Consultative Meeting, Bangkok  
Co-organized with ADPC  
(UN and Regional Organizations)**
- Feb. 2004**      **Third Consultative Meeting, Manila  
Co-organized with ADPC & WHO-WPRO  
(UN, Regional Organizations and donors)**

# **III. Specific Pillars of Activities of ADRC**

- 
- 1) Information sharing**
  - 2) Capacity building**
  - 3) Cooperation**

# III-(1) Information Sharing

# ADRC Website :



Asian Disaster Reduction Center

ADRC TOP

MENU

English Japanese

Professional use Academic use General use

DB + WWW search  
The Latest Disaster Information  
Glossary on Natural Disasters  
Training Information Database  
ADRC E-Net  
Conference and Disaster Studies  
Internet Exhibition  
Disaster Information of  
Member Countries  
ADRC Highlights  
Country Report from  
Member Countries  
UN/ISDR  
ADRRN  
(Asian Disaster Reduction & Response Network)  
Archives  
The Great Hanshin-Awaji  
Earthquake Database  
ADIC Accident and  
Disaster Database  
VENTEN-Internet based GIS  
Center Information  
Links  
ADRC Events & Publications  
Visitors

SiteMap  
E-Mail to ADRC

The latest Information  
The mark in a map is being inter locked with Topics.

TOPICS

- 04/01/24 ■ Rough weather stirred up huge waves that engulfed fishermen's vessels in northern Luzon, Phillipin. Death toll rises to seven, 21 still missing **NEW**
- 04/01/02 ■ At least one person was killed and nine injured when an earthquake and aftershocks shook tourists and residents from their beds early on Friday on the Indonesian resort islands of Bali and neighbouring Lombok.
- 03/12/25 ■ A cold wave sweeping Bangladesh and northern India has killed 92 more people, and taking the toll due to the freezing temperatures in the region since Christmas to 574.
- 03/12/26 ■ A strong earthquake hit southeastern Iran.
- 03/12/24 ■ Terminology on disaster risk reduction (edited by UN-ISDR) is available on the website.

<http://www.adrc.or.jp/>



# Disaster Management Information Member & Advisory Countries

Asian Disaster Reduction Center

ADRC TOP > Disaster Information on Member Countries

MENU

English Japanese

Professional use Academic use General use

**Disaster Information of Member Countries**

- Armenia
- Bangladesh
- Cambodia
- China
- India
- Indonesia
- Japan
- Kazakhstan
- Korea, Republic Of
- Kyrgyz
- Lao People's Democratic Republic
- Malaysia
- Mongolia
- Myanmar
- Nepal
- Papua New Guinea
- Philippines
- Russian Federation
- Singapore
- Sri Lanka
- Tajikistan
- Thailand
- Uzbekistan
- Viet Nam

**Advisory Countries**

- Australia
- France
- New Zealand
- Switzerland

DB + WWW search  
The Latest Disaster Information  
Glossary on Natural Disasters  
Internet Exhibition  
VENTEN-Internet based GIS

Disaster Information of Member Countries

**Member Countries**

Russian Federation, Armenia, Uzbekistan, Tajikistan, Kazakhstan, Kyrgyz, Mongolia, Korea, Republic Of, China, Nepal, Viet Nam, Lao People's Democratic Republic, India, Bangladesh, Myanmar, Thailand, Sri Lanka, Malaysia, Singapore, Indonesia, Philippines, Cambodia, Papua New Guinea

**Advisory Countries**

Australia, Switzerland, New Zealand, France

**Members Countries**  
Armenia / Bangladesh / Cambodia / China / India / Indonesia / Japan / Kazakhstan  
Korea / Kyrgyz / Lao People's Democratic Republic / Malaysia / Mongolia / Myanmar  
Nepal / Papua New Guinea / Philippines / Russian Federation / Singapore / Sri Lanka  
Tajikistan / Thailand / Uzbekistan / Viet Nam

**Advisory Countries**  
Australia / France / New Zealand / Switzerland

# The Latest Disaster Information

**New Function**

The screenshot displays the VENTEN Internet GIS interface within a Microsoft Internet Explorer browser window. The main map area shows a map of Japan with various data layers overlaid. A search results table is visible on the right side of the interface.

Num	Country	City	Kind
1	JAPAN	KOUBE	EARTHQUAKE
2	JAPAN	MAEBASHI	EARTHQUAKE

Below the search results, there are several control panels:

- Map Data:** Digital Chart of World [Copyrighted Defense Mapping Agency], Population Data: World Cities Population Database [Presented by UNESCO (1987), GRID]
- Field name / Value:** Select Item 0 / Total 0
- Map Navigation:** Includes a grid of directional arrows and zoom controls.
- BUFFER:** Create, Clear, 1 km, select
- CALCULATION:** Area Calculation, Total Value, Buffer, Disaster
- SHORTEST ROUTE:** Measure, Clear
- Legend:** Includes checkboxes for "Clear Select Item", "Layer", "Disaster", and "Active Fault".

In the bottom left corner, a "Go to Map" button is circled in red, with the word "Click" written below it.

*A Sim*

**The functions of ADRC Internet GIS "VENTEN" are available.**

*Click*

# Multi-language Glossary on Natural Disasters, New with Korean & Chinese

アドレス(D) http://html.adrc.or.jp/dbs/trans2.asp?lang=en

## Multi-language Glossary on Natural Disasters

Database for Multi-language Natural Disasters

Enter query

Source language	Target language	Display
Chinese(CN)	Chinese(CN)	<input type="radio"/> 10 items
Chinese-pinyin(CNP)	English(EN)	<input checked="" type="radio"/> include this s
<b>English(EN)</b>	French(FR)	
French(FR)	Japanese(JP)	
Japanese(JP)	<b>Korean(KR)</b>	
Japanese-pron(JPP)	Spanish(ES)	
Korean(KR)		
Spanish(ES)		

The translation result.

**Results**

No.	English	Chinese
1	rock avalanche	岩崩

The translation result.

**Results**

No.	English	French	Glossary
1	rock avalanche	avalanche de roches	

The translation result.

**Results**

No.	English	Korean
1	rock avalanche	암석사태

Return to translation top

Source: Japan National Committee for IDNDR,  
*Multi-language Glossary on Natural Disasters*, March 1993  
 United Nations Department of Humanitarian Affairs,  
*Glossary: International Agreed Glossary of Basic Terms Related to Disaster Management*,  
 December 1992

With kind cooperation to review the Korean words and terms of:  
 Korea National Institute for Disaster Prevention  
 Ministry of Government Administration and Home Affairs  
 - correspondent: Dugkeun Park, Ph.D. (Senior Analyst)

# **Innovative Methods for Disaster Information Sharing (1)**

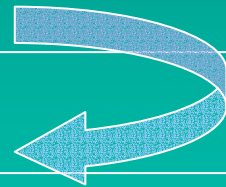
# GLIDE - For Effective Disaster Information Sharing & Management

## *Background*

- Each organization has its own databases using its own coding system
- No access between databases
- It's not easy to relate one event data to another database's data



*Difficulty to match data*



**Different names are used;**

(West) India Eq, Gujarat Eq, Bhuj Eq, -- Kobe Eq, Hanshin- Awaji Eq, Hyogo-Nanbu Eq

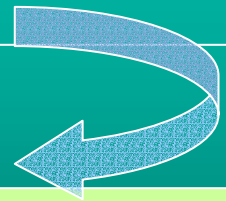
**Different dates are registered;**

Difficult to identify when a flood/drought started



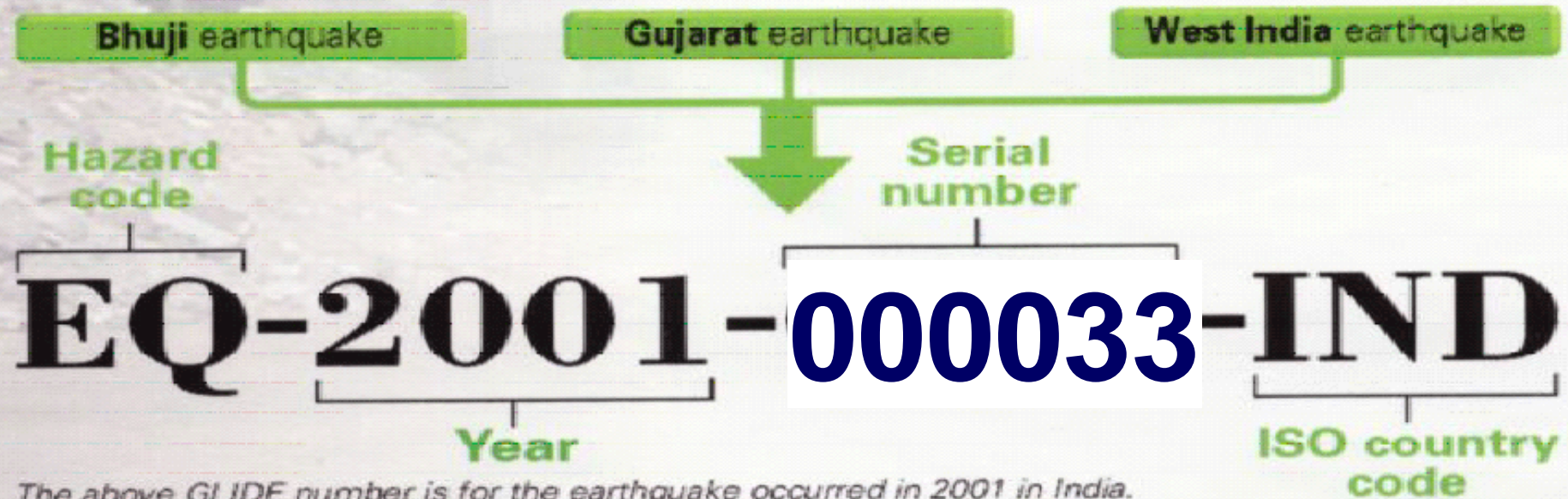
*By introducing Unique Disaster ID*

- Easy access to various data sources
- Rapid automatic linking by search engine



*Facilitate Effective Info. Sharing*

# Anatomy of the GLIDE Number



# GLIDENUMBER.NET

*to be designed*

## GLIDE<sub>number</sub>

Automated GLobal IDentifier Number Generation Site

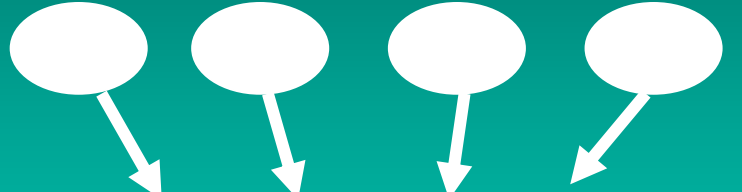
Enter



*Expecting more partners to join.*

**EVENT**

**GLIDE Partners**



**GLIDE Generator**

- Information sharing with GLIDE is needed immediately after the event.
- After the event, GLIDE partners access the **GLIDE Generator** for a new GLIDE of the event.
- GLIDE should be the **Unique ID** for each event.

**New GLIDE**

**GLIDE Report**

**USERS**

**GLIDE DB**

**GLIDE Search**

**GLIDE Manager**





## GLIDE Search

**Select Continent:**

All continents

Africa  
Americas  
Asia  
Australia  
Europe

**Select Country:**

All countries

**Select Event:**

All events

**Get results as:**

[Statistics](#)  
[Charts](#)  
[Tabular report](#)

**Latest Events:**

Disasters of week 46:  
November 8 - November 14, 2003

**Natural Disasters**[EQ-2003-0546-CHN](#)

China (P Rep), earthquake in  
Gansu province

[EQ-2003-0547-CHN](#)

China (P Rep), earthquake in  
Yunnan province

**Technological disasters**[AC-2003-0545-CHN](#)

China (P Rep), gas explosion in a  
coal mine in Jiangxi province

[AC-2003-0548-ZAF](#)

South Africa, collision between a  
minibus and a truck

Type keywords:

Looking for:

All Words

Search between these  
dates:  
(yyyy-mm-dd)

From:

1900

01

01

To:

1900

01

01

More than:   
killed

 OR  AND

affected

Results per page:

8

### Search Results:

Glide Number	Event	Country	Comment
<a href="#">FL-2003-123456-CAN</a>	Flood	Canada	Large floods in Nova Scotia and Prince Edward Island
<a href="#">ST-2003-123457-CAN</a>	Storm	Canada	Ice Storm in Ottawa, Toronto

Search Results:

# Global IDentifier (GLIDE) Number

*Automatic Link to CRED data and ReliefWeb*

[http://www.adrc.or.jp/latestinfo//view\\_CRED.asp?lang=en&KEY=EQ-2003-0630-IRN](http://www.adrc.or.jp/latestinfo//view_CRED.asp?lang=en&KEY=EQ-2003-0630-IRN)

<http://www.reliefweb.int/w/rwb.nsf/GLIDE?OpenForm&GLIDE=EQ-2003-0630-IRN>



The last Disaster information

GLIDE: EQ-2003-0630-IRN  
 Iran (Islamic Republic Of) : Earthquake :  
 2003/12/26

CRED

ReliefWeb

<b>Duration</b>	2003/12/26	On 26 December 2003, at 01:57 hrs GMT (05:27 hrs local time), an earthquake of magnitude 6.7 struck the city of Bam, Kerman Province in southeastern Iran.
<b>Country or District</b>	Iran (Islamic Republic Of)	
<b>Name</b>	Earthquake	

Headline(Source, Date)		
Personal Injury	Material Damage	Others
UN OCHA ReliefWeb Situation Report No.11		
Dead: approx. 30,000 Injured approx. 30,000 Homeless approx: 45,000	Buildings destroyed: approx. 25,000 (85%)	

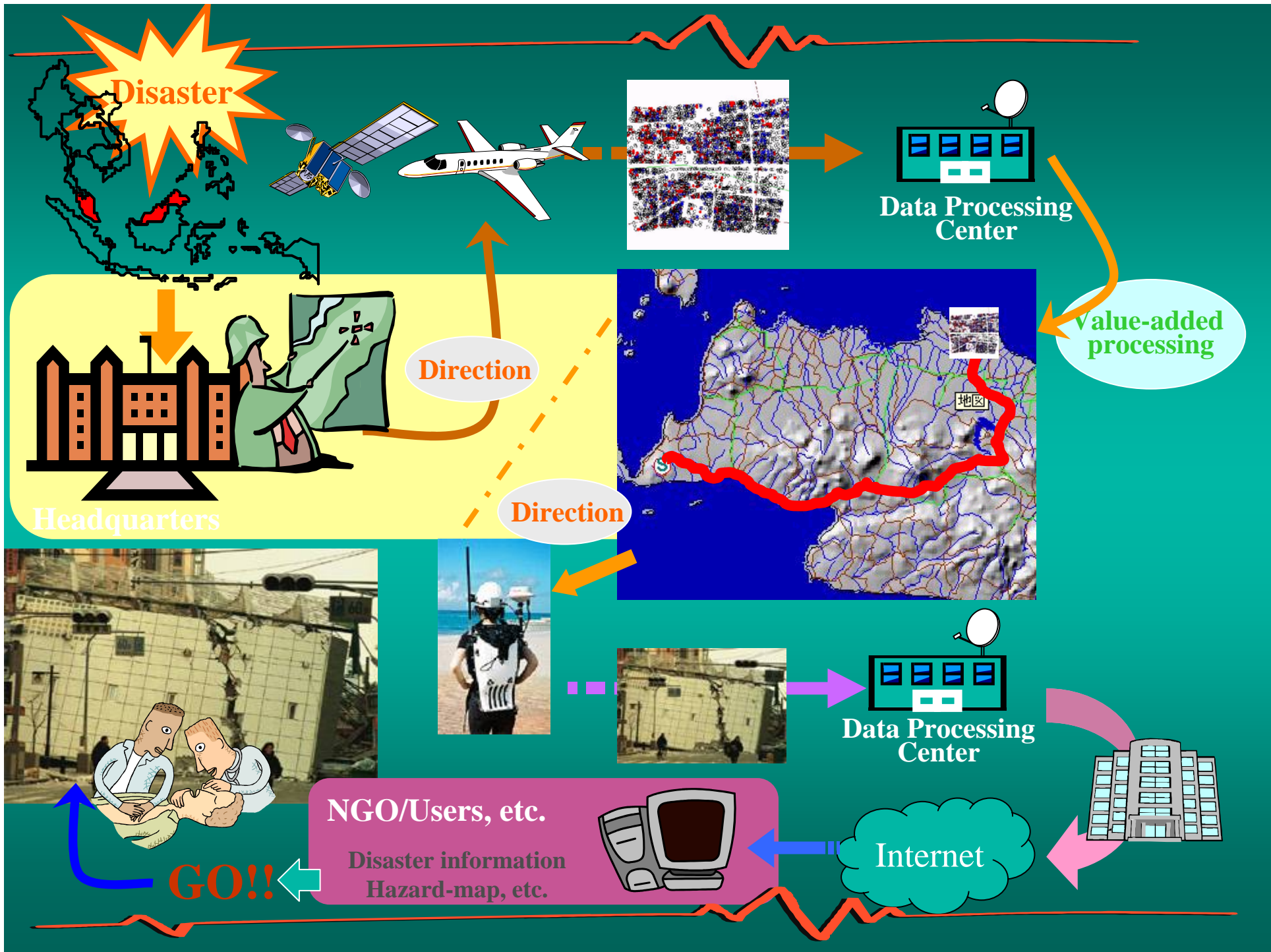
# **Innovative Methods for Disaster Information Sharing (2)**

# Space Technology Applications for Disaster Management

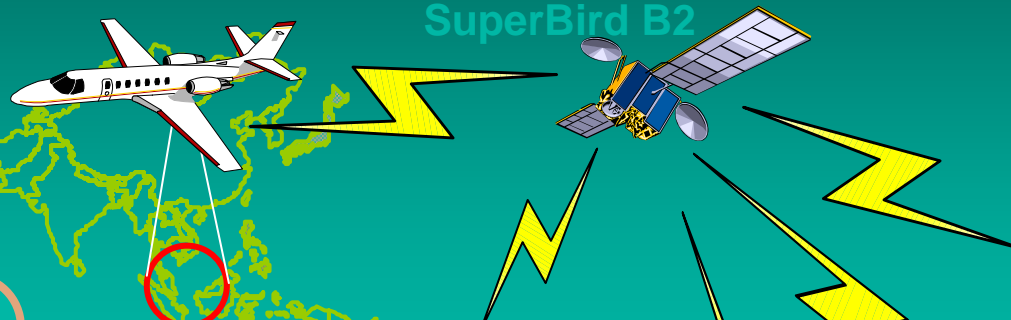
**RISCS (Realtime Image Sharing  
system with ultrahigh-speed  
Communication Satellite)**



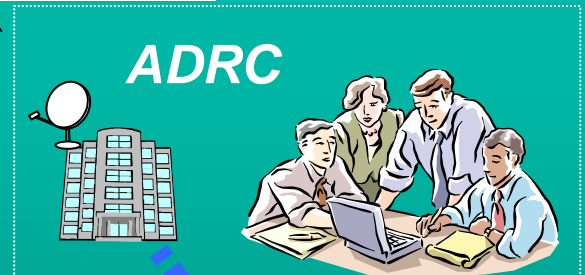
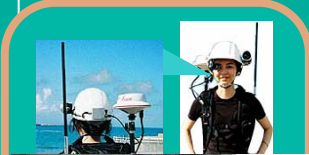
JAXA (Japan Aerospace Exploration Agency ) and  
ADRC have been collaboratively developing the  
Disaster Information Sharing System using Satellite



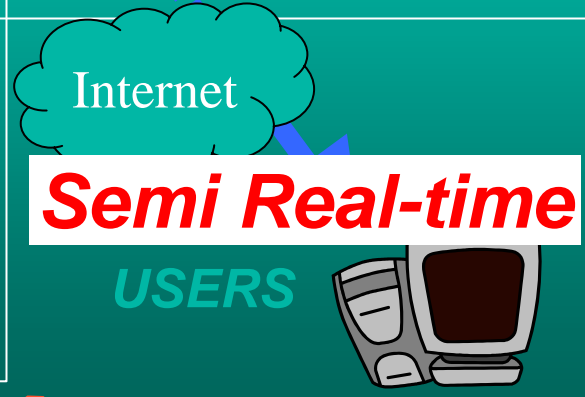
# Disaster Management Experiment



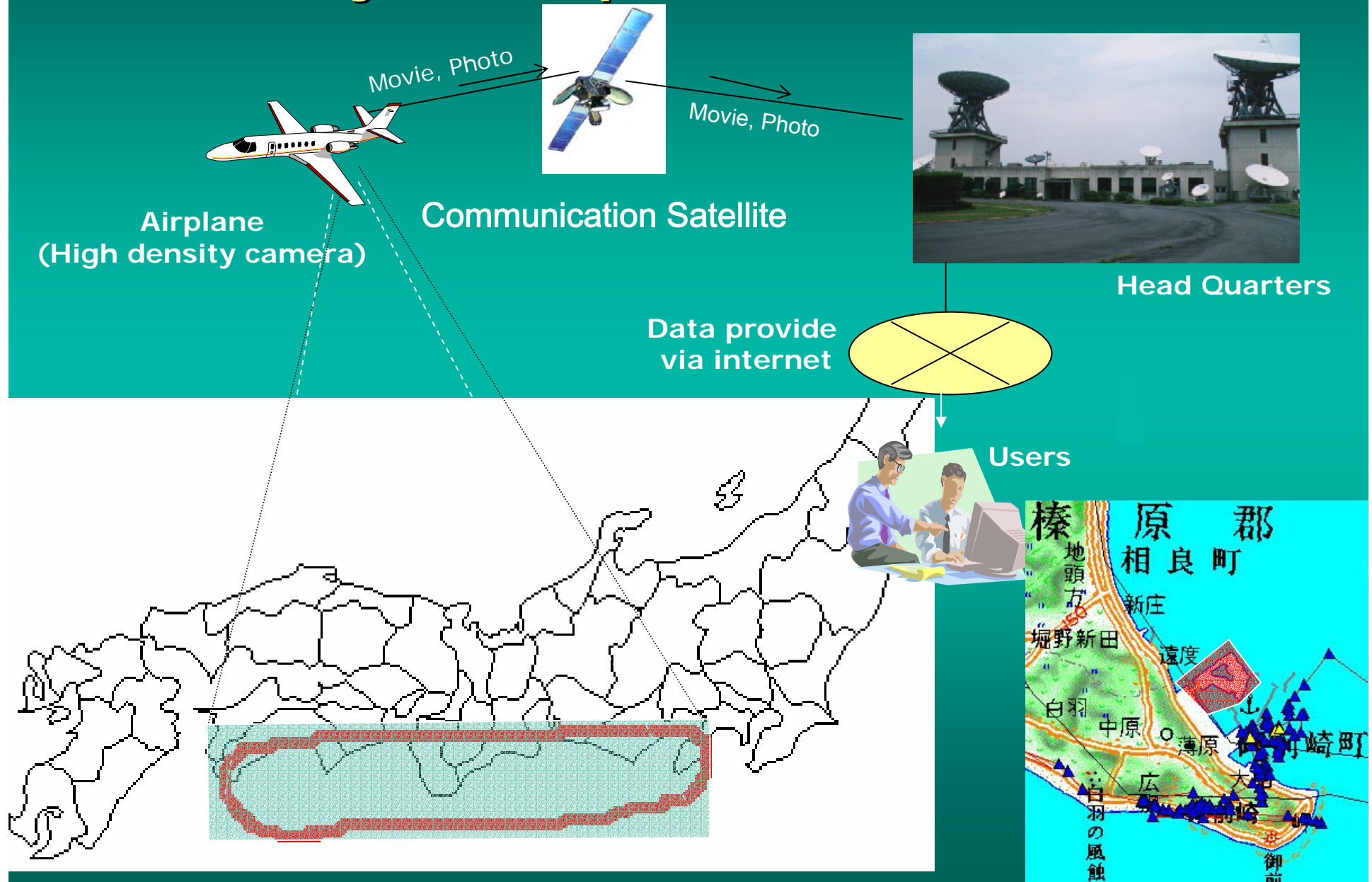
**Real-time Communication**



JAPAN



# Early damage situation grasp of the coast by the airplane and the satellite

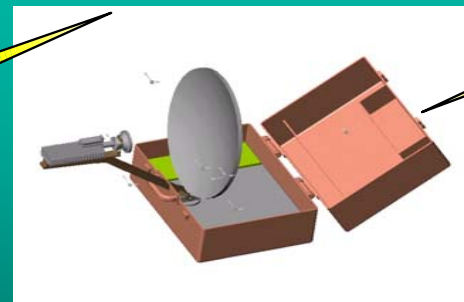


# Monitoring by Headset Camera



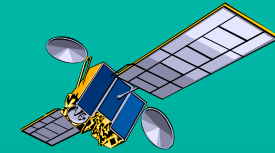
- For evaluation of the damage situation by specialists in several locations
- Conducted experiment for
  - Volcano in **Hokkaido Mt. Usu**
  - Anticipated earthquake in **Tokai** area

OFDM Radio wave



Portable IP-VSAT  
(50kg)

1.5Mbps  
Movie and Voice

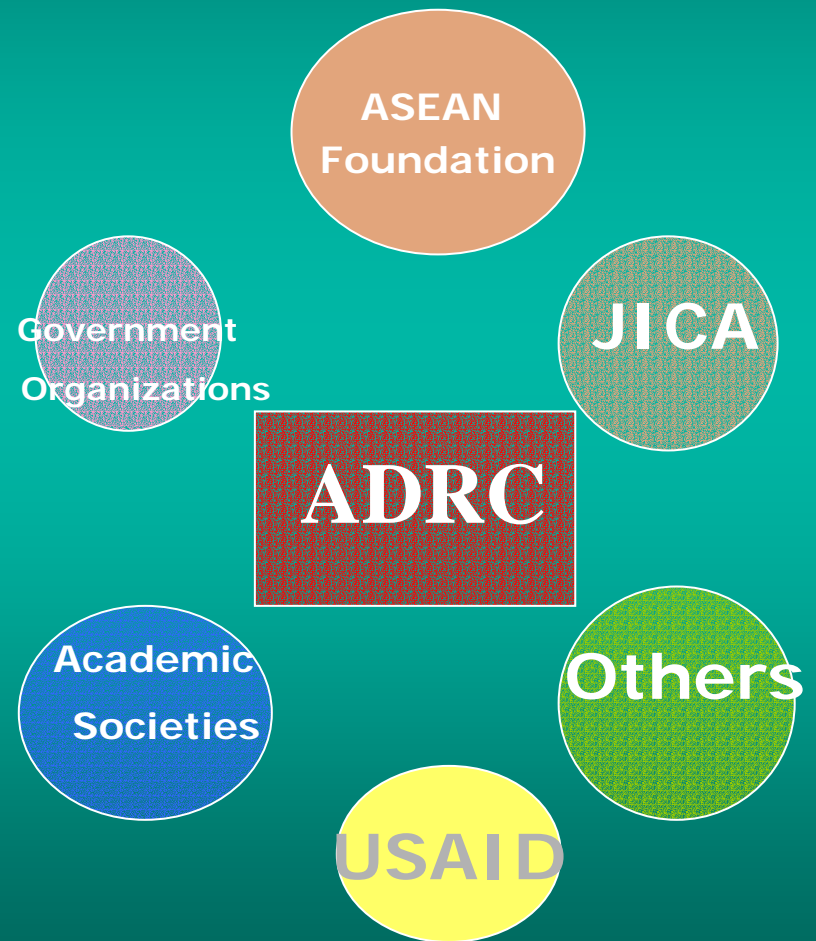




# III-(2) Capacity Building

# Capacity Building

- **Implementation of Training Courses**
  - Short-term Course(1 day)
  - Medium-Term Course (1-2 months)
- **Coordination with Other Organizations**
  - JICA
  - Member country's Government organizations
  - Universities/ Academic Institutions
- **Visiting Researchers Program**



# Visiting Researchers



Korea

Vietnam

Nepal

Sri Lanka

Bangladesh

Sri Lanka

Armenia

PNG



Cambodia

Bangladesh

Armenia

Cambodia

India

Mongolia

Nepal

Indonesia



Lao PDR

India

Tajikistan

Viet Nam

# Human Resources Development for Asia

2000	Nepal	Disaster Management Training for Local Government Officials
	Cambodia	Disaster Management Training for Government Officials
	Sri Lanka	Disaster Management Training for Local Government Officials
2001	Singapore	Urban Search and Rescue Training
	Philippines	School Educational Program
2002	Singapore	Urban Search and Rescue Training
	Bangladesh	Improvement of Early Warning System and Response
	Lao	Disaster Reduction Training for Media
	Cambodia	Disaster Management Training for Local Government Officials
2003	Singapore	Urban Search and Rescue Training
	Philippines	Emergency Material Distribution System Training
	Viet Nam	Flood Management Seminar Urban Earthquake
	Mongolia	Disaster Management Seminar

# Training Program in Nepal

February & March, 2001



30 Times in 10 Districts

# International Seminar on Flood Disaster Management in Viet Nam



Attended by the representatives from Cambodia, Thailand, and Lao PDR

# Provincial Program in Cambodia

March, April, and May 2003



# Seminar on Improvement of Early Warning System and Responses in Bangladesh 19-24 December, 2002





# School Administrators' Program for Disaster Reduction



Co-hosted by PHIVOLCS, UNESCO and UNU for Member Countries

# USAR Program in Singapore



**For Member Countries**

# **ADRC Programs for Total Disaster Risk Management (TDRM)**

- **Cooperation with OCHA Asian Disaster Response Unit (ADRU)**
- **Supported by the ASEAN Foundation, USAID, Cabinet Office of Japan**
- **TDRM builds on the gains of IDNDR and ISDR by integrating existing knowledge and techniques on disaster management, disaster reduction and risk management for more effective application at local level**

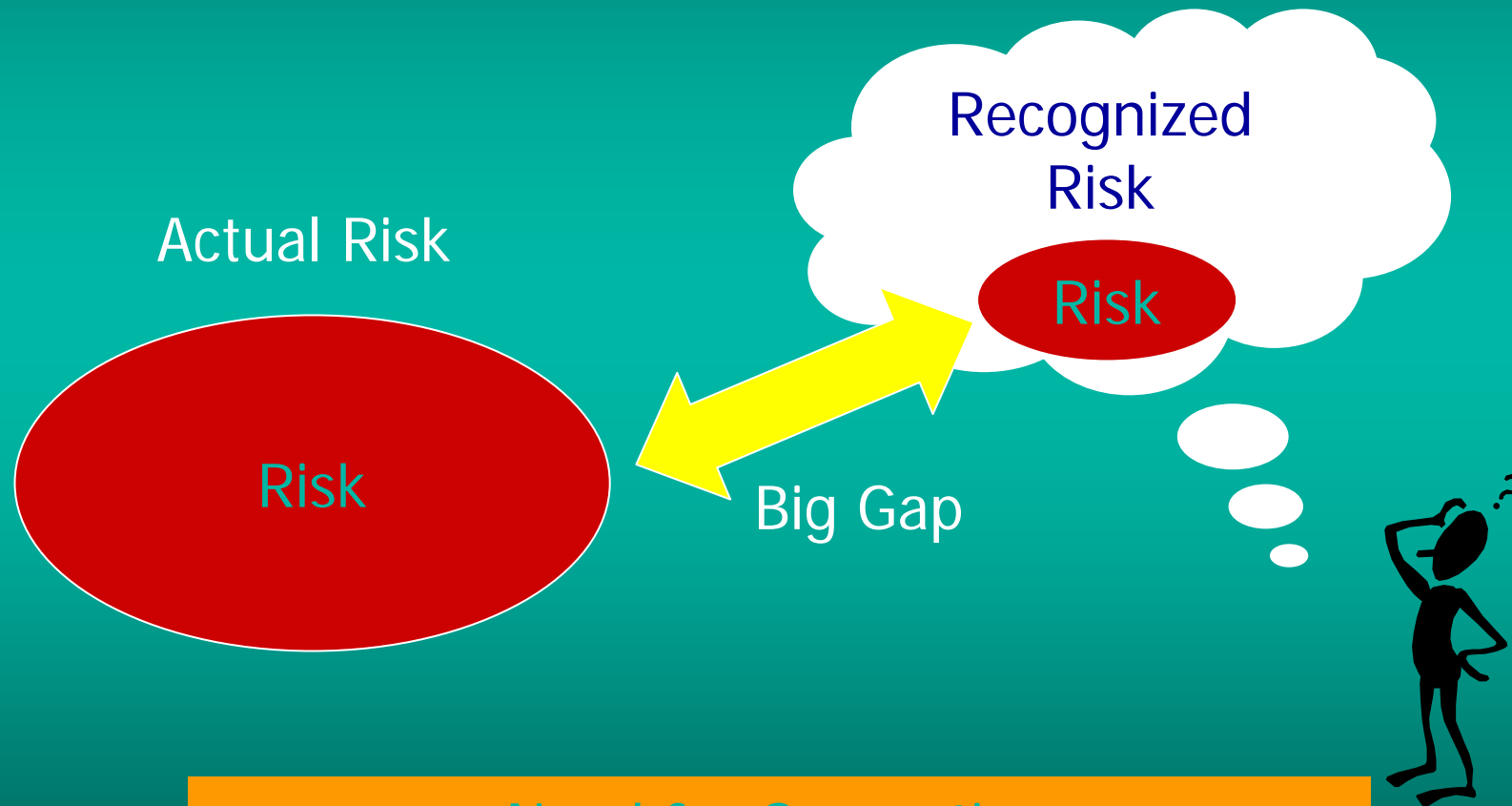
# International Training Program on Total Disaster Risk Management

Kobe, 10 – 13 June 2003

- Invited government officers
- The workshop curriculum focused on “Development & Usage of Hazard Maps” and “Disaster Assessment Methodologies”



# Risk Perception Gap

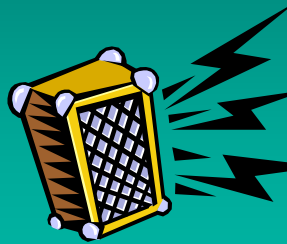


Need for Generating  
Realistic Disaster Scenario

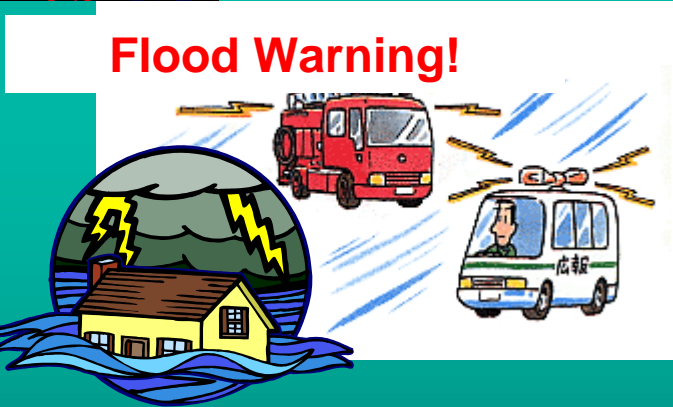
# Development of Early Warning Tech.



# Less Community Awareness



**Volcanic  
Eruption  
Warning!**



**Flood Warning!**



**Tsunami  
Warning!**



# Hazard Mapping as a Tool for Effective Early Warning



Safe Evacuation  
Route



Understanding of  
Hazardous Areas

Appropriate Risk Awareness  
of Local Communities

+



Early Warning

=

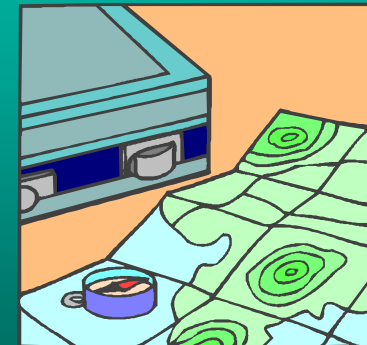
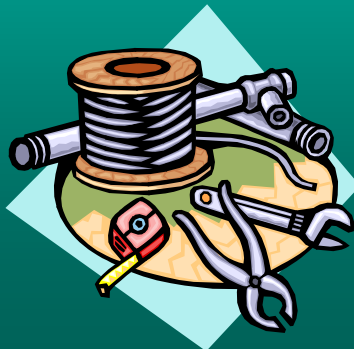


Safe Evacuation

# Community Based Flood Hazard Mapping

A Simple and Easy-to-Understand Tool for

- Public awareness
- Risk communication among policy makers and communities
- Effective early warning





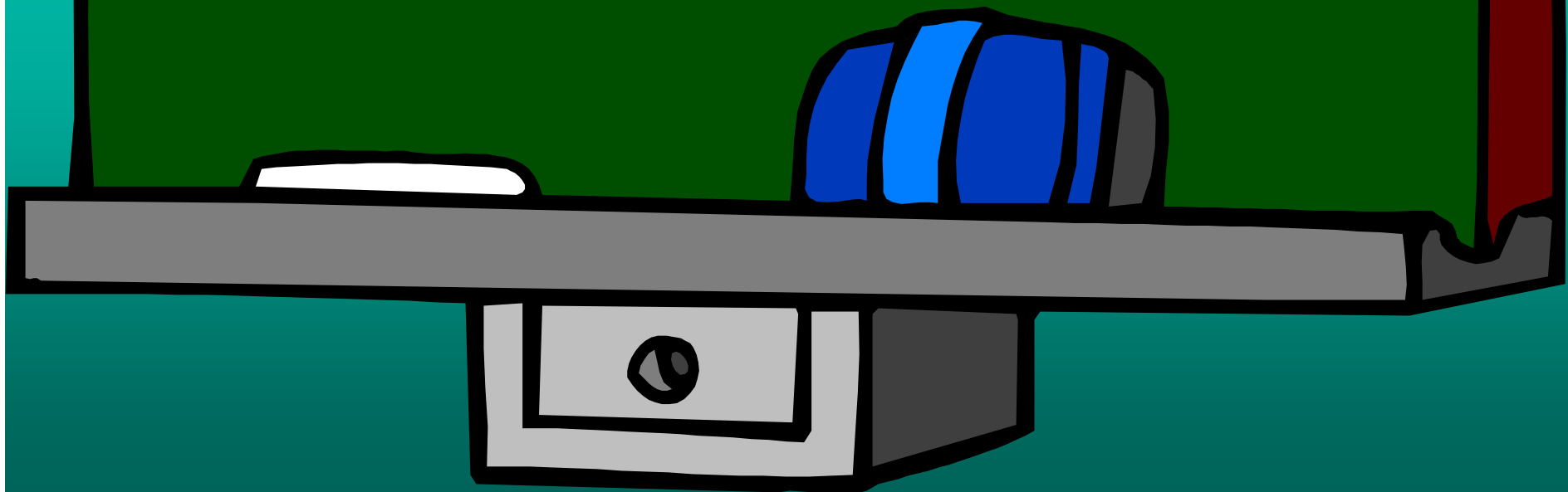
# Town Watching

Let's see our town  
and find out the  
dangerous & safe  
points in the  
community.



# Let's discuss!

- Where should we evacuate?
- Which road is good as the evacuation route?
- How can elderly people evacuate?

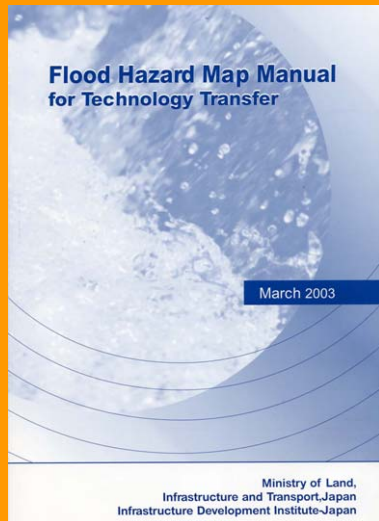


# Our Hazard Map Completed!



# Flood Hazard Map Manual

Developed by Ministry of Land, Infrastructure  
and Transport, Japan in March 2003



Flood Hazard Map Manual



On-site Training

**Effective Hazard Mapping**

# III-(3) Cooperation

# International Cooperative Project

1999

**PNG** Tsunami Disaster Reduction  
Awareness Project

2000

**INDONESIA** Community-based Flood Mitigation  
in Bandung City

2001

**INDIA** Multi-Countries Mission to India

2003

**SRI LANKA** Landslide Countermeasures  
Investigation/Proposal

# Regional Cooperation

## Pilot project

- PNG Tsunami Awareness Pamphlet/Booklet

## Possible projects

- ADRRC level
  - Disaster management seminar/training
  - Disaster database
  - Awareness raising materials
- Coordination with other donor agencies
  - Disaster information center
  - Strengthening of vulnerable communities

**TSUNAMI!**

**WHAT IS A TSUNAMI?**  
A tsunami is a series of large waves that are caused by a major disturbance of the sea floor. The disturbance can be a strong and shallow earthquake, a submarine landslide, or a submarine volcanic eruption. Tsunami is the Japanese word for harbour wave.

**SAFETY AT SEA.** In the deep ocean a tsunami travels harmlessly and at high speed. It becomes dangerous only when it approaches the coast and enters shallow water. There the waves slow down and become steeper.

**SAFETY ON LAND.** Tsunami waves travel at 10-15 metres per second, faster than most people can run. The waves can smash houses and blow and uproot trees. People caught up in the waves can swallow sea water and may be hurt by logs and roofing iron that are carried by the wave. In the Aitape tsunami some people were carried forcefully into mangrove swamps and others were buried under piles of logs.

**BACKWASH.** Another danger from tsunami waves is that they bring a large volume of sea water on to the land. When the water flows back to the sea it may carry people out to sea.

**OFFICIALS CANNOT GIVE WARNINGS OF NEAR-SOURCE TSUNAMIS.** If a tsunami originates in PNG waters, for example in the Bismarck or Solomon Sea or offshore from New Ireland, it is said to be a near-source tsunami. Most PNG tsunamis are of this type. A near-source tsunami will reach the coast within 10-20 minutes. For example, the Aitape tsunami arrived less than 20 minutes after people felt the strong earthquake. In this case, there is no time for officials to give a warning.

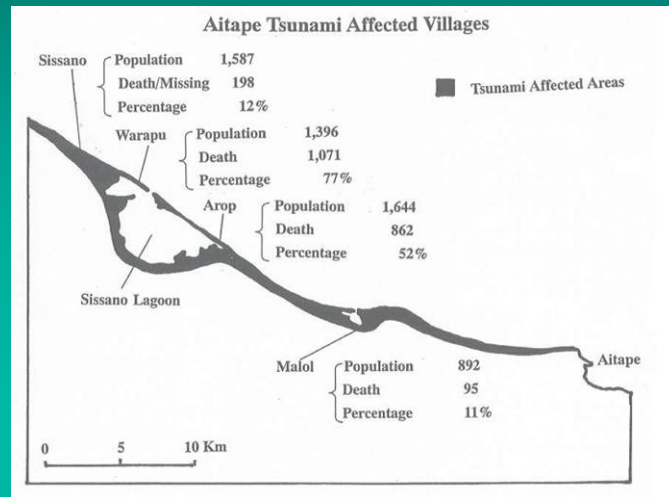
**PEOPLE MUST MAKE THEIR OWN WARNINGS.** Because there is no time to give an official warning, people must make their own decisions. That is why it is important that each person in your school, village or town knows the warning signs and knows what to do. Probably fewer people would have died in the Aitape tsunami if they had recognized the warning signs and started to move inland as soon as they felt the strong earthquake.

**PREPARE ESCAPE PATHS AND SAFE AREAS.** Communities and villages on the coast should plan and prepare for tsunamis. Prepare a safe area, and prepare escape paths so that people can reach the safe area. The safe area should be on high ground, or 1 km from the coast.

**WE CAN GIVE WARNINGS OF FAR-SOURCE TSUNAMIS.** If a tsunami originates on the other side of the Pacific, for example from a strong earthquake off South America, it will take almost a day to reach PNG and Solomon Islands. There will be time to issue a warning. An example is the tsunami that originated off Chile in 1960. This reached the New Guinea Islands and the East Sepik coast 22 hours later as a series of waves 1-2 m high. The same tsunami continued across the Pacific and caused damage and loss of life in Japan.

**Tsunami damage at Warapu village, Sandaun Province, 1998.**

# Tsunami Education Tested



In July 1998 more than 2,200 people lost their lives due to gigantic tsunamis which attacked the Aitape west coast of PNG.

In November 2000 powerful quake hit New Britain and New Ireland. But this time no one was dead due to tsunamis on PNG island coasts.





# *Multi-country Mission to India*



# Landslide Disaster in Sri Lanka

(May 2003)

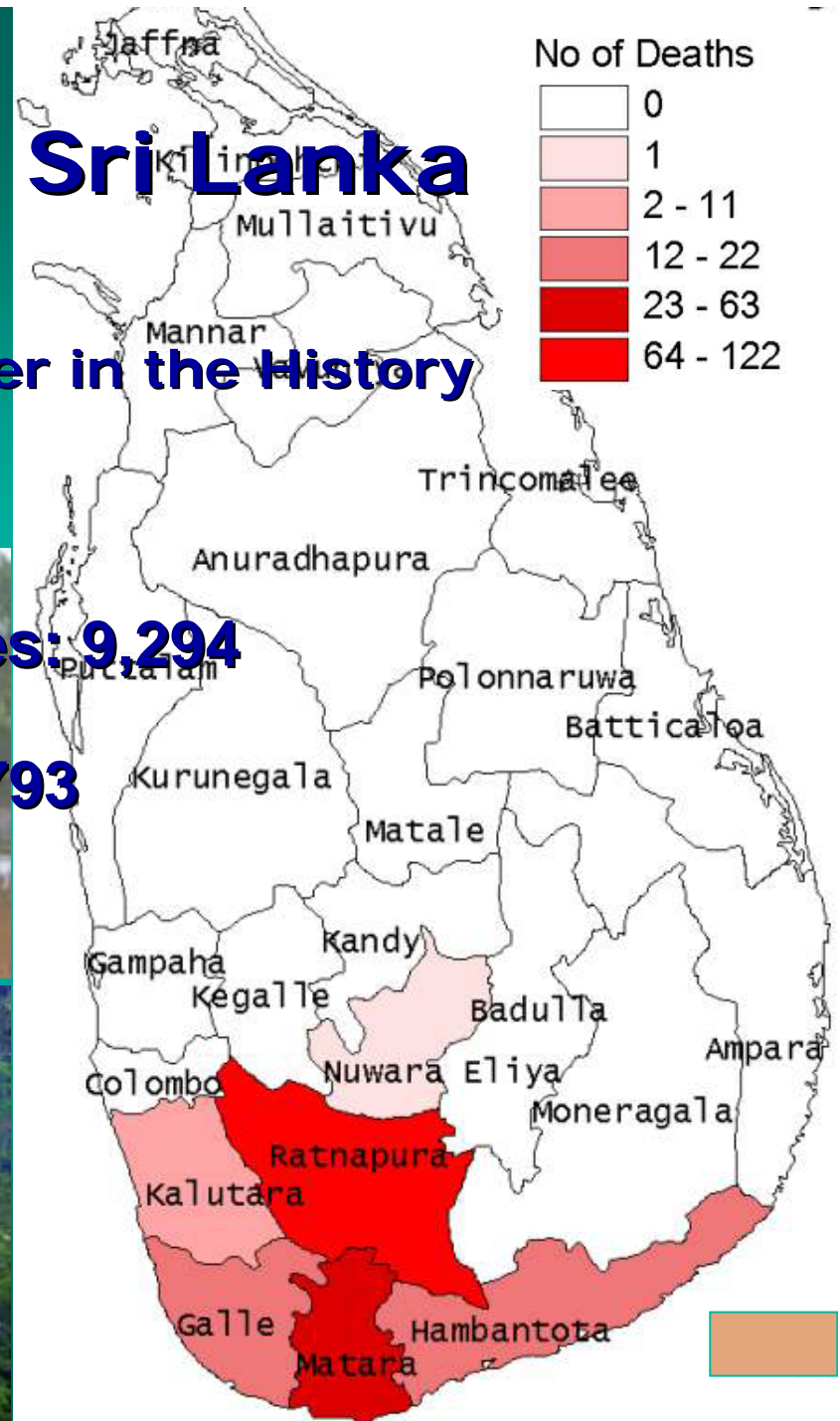
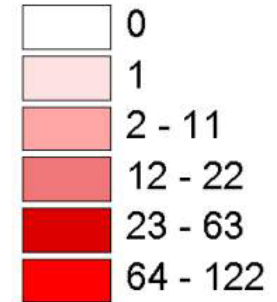
Severest Natural Disaster in the History

Death :236

Totally Damaged Houses:9,294

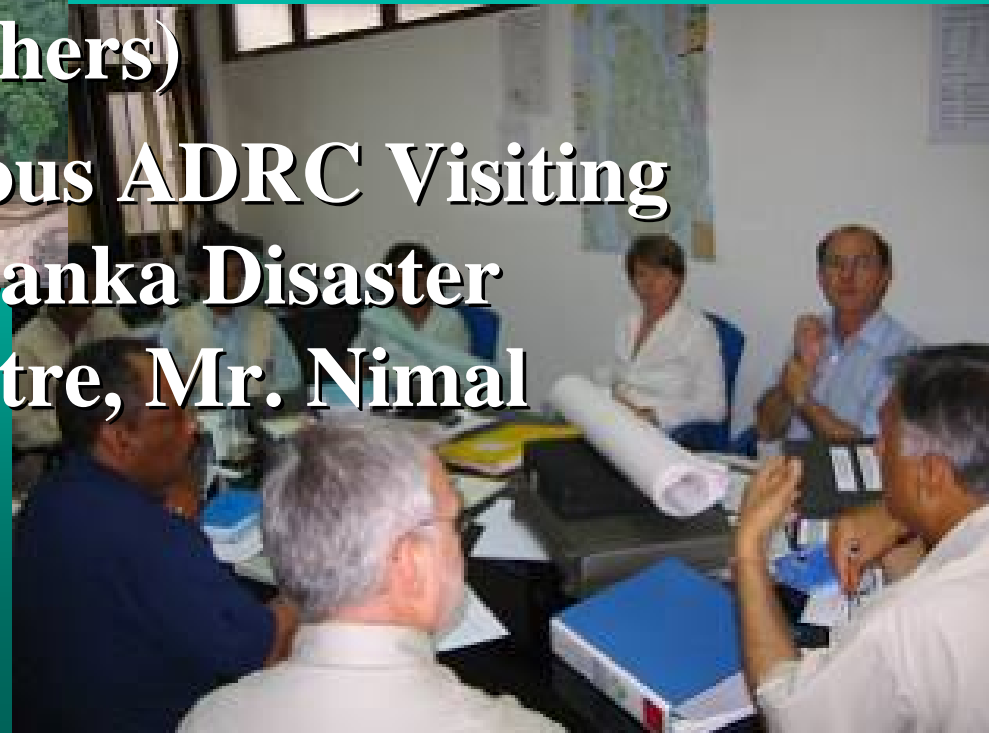
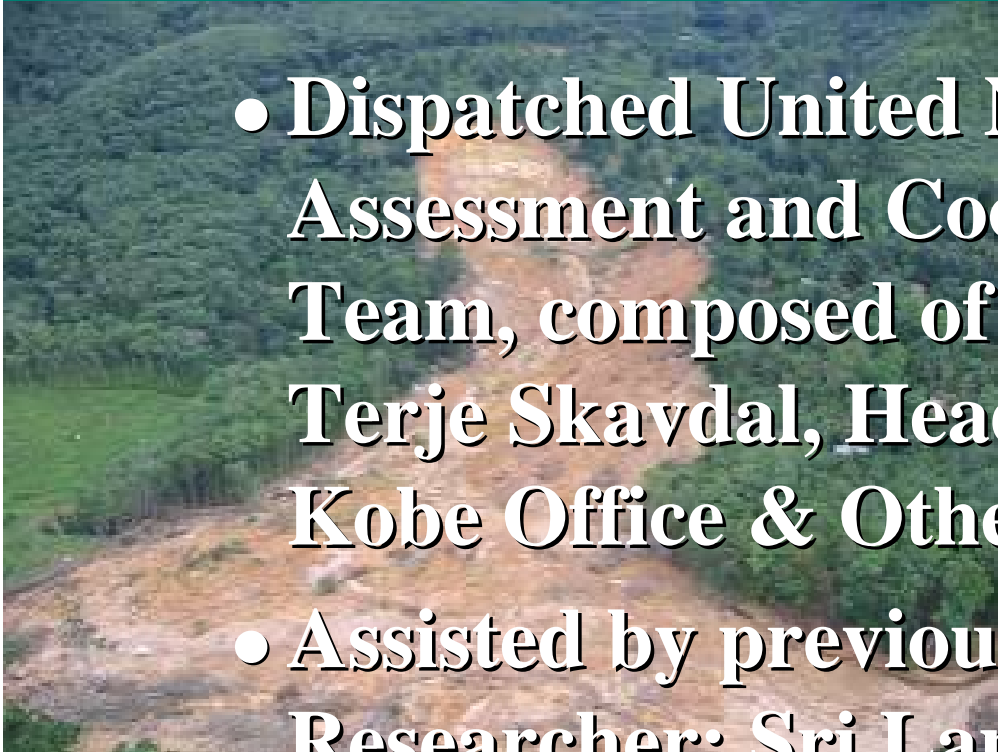
Affected Families:138,793

No of Deaths



# UNDAC Team Dispatched to Sri Lanka

- Dispatched United Nations Disaster Assessment and Coordination (UNDAC) Team, composed of 5 members (Mr. Terje Skavdal, Head of UN-OCHA Kobe Office & Others)
- Assisted by previous ADRC Visiting Researcher: Sri Lanka Disaster Management Centre, Mr. Nimal Hettiarachchi



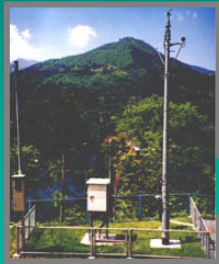
# ADRC Mission to Sri Lanka on Landslide Countermeasures



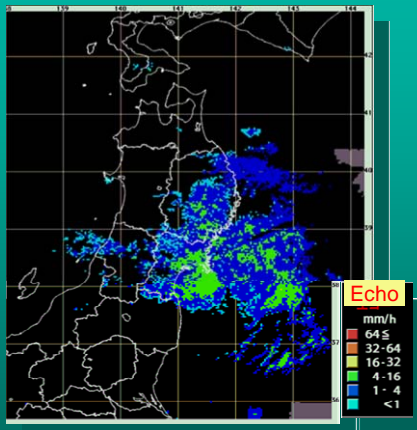
August 2003

# Proposal

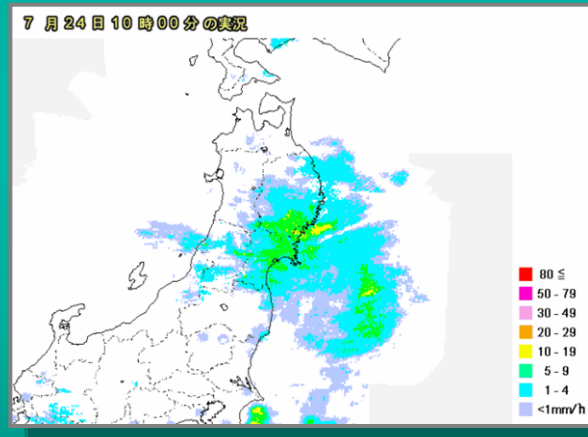
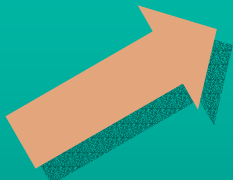
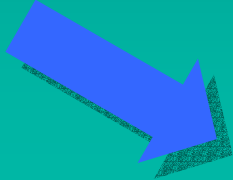
## “Radar-AMeDAS” Precipitation Analysis



(AMeDAS)



(Radar)



\* “AMeDAS” means Automated Meteorological Data Acquisition System

# **IV. Involving More Players for Disaster Reduction and Response**

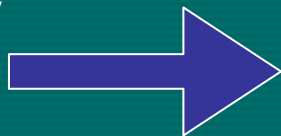
The background is a solid teal color. In the lower half, there is a faint, semi-transparent image of two hands shaking, symbolizing agreement or partnership. The text is centered in the upper half in a bold, red, sans-serif font.

# *How can we really reach the people at risk?*

Anti-Seismic  
Structural  
Engineering



Satellite Imagery  
of Typhoon by  
Meteo-Sats



Tsunami-Warning  
by PTWC

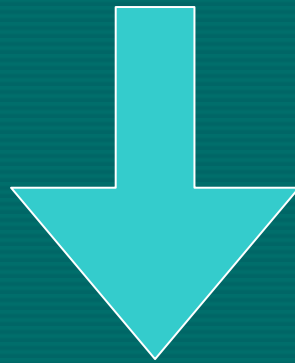


Local Housing

People in Low  
Basins

Fishing Villages

# **The Crucial Role of NGO's**



**Regional Workshop on Networking and  
Collaboration among Non-Governmental  
Organizations of Asian Countries in  
Disaster Reduction and Response**

**20-22 Feb. 2002**

**Co-organized by ADRC and UN-OCHA**





# Asian Disaster Reduction and Response Network

**ADRRN**

(Development of New Website <http://www.adrc.or.jp/ngo/>)



## Core Group Meeting on NGO Networking and Cooperation in Asia

01 Dec. 2003

Co-organized by ADRC and UN-OCHA



**Towards Better Sharing of Experiences  
and Practical Tested Knowledge  
to Save People's Lives in Asia**

# Needs for involving various actors

Media

**International Conference  
on Total Disaster Risk Management  
Dec. 2003**

Educational  
Sectors

Private  
Enterprises



# Support by the Media to highlight TDRM

Press Coverage of International Conference on Total Disaster Risk Management

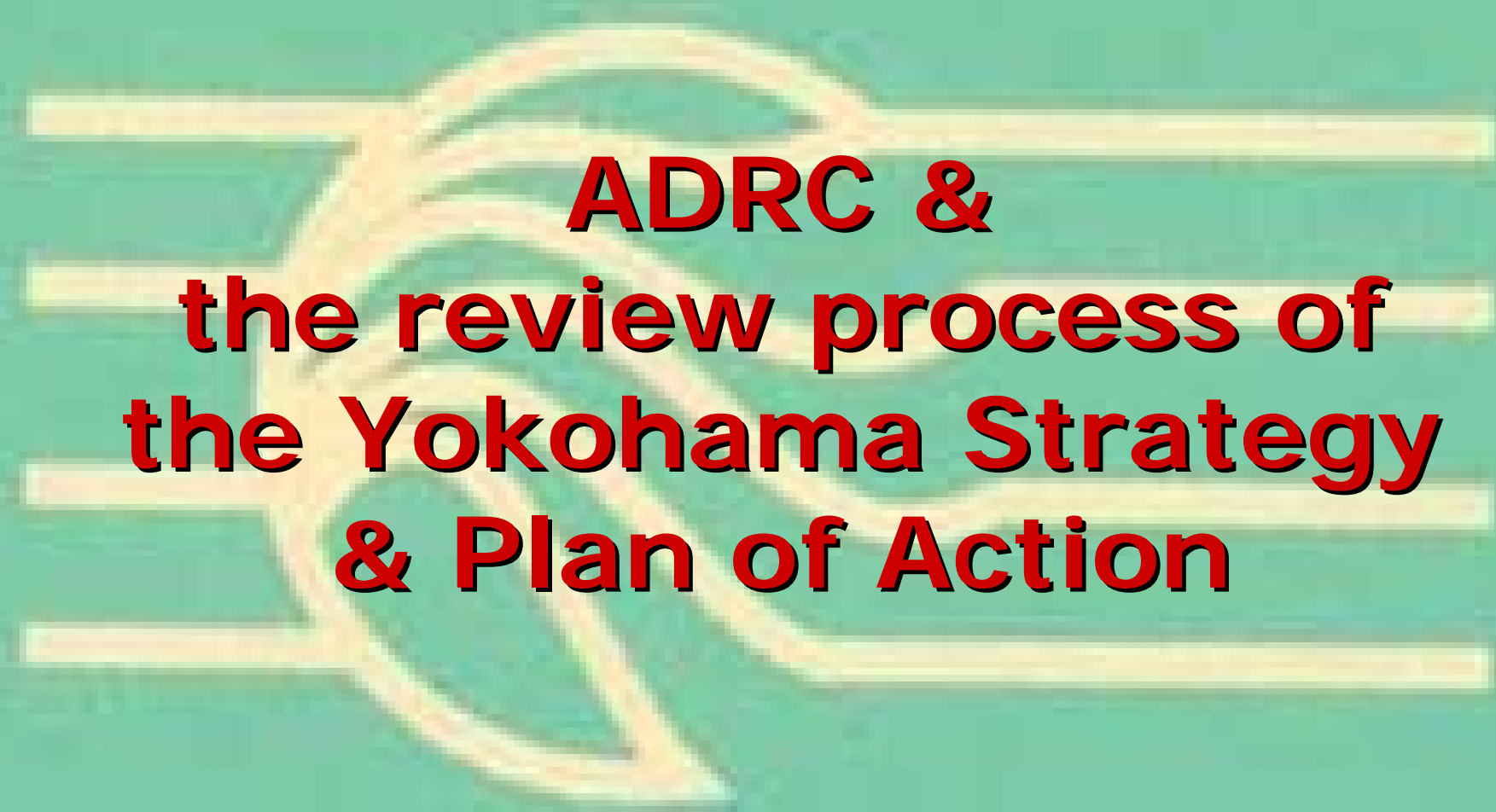


Be reported in  
the local paper

Be broadcasted  
internationally on  
17 January, 2004



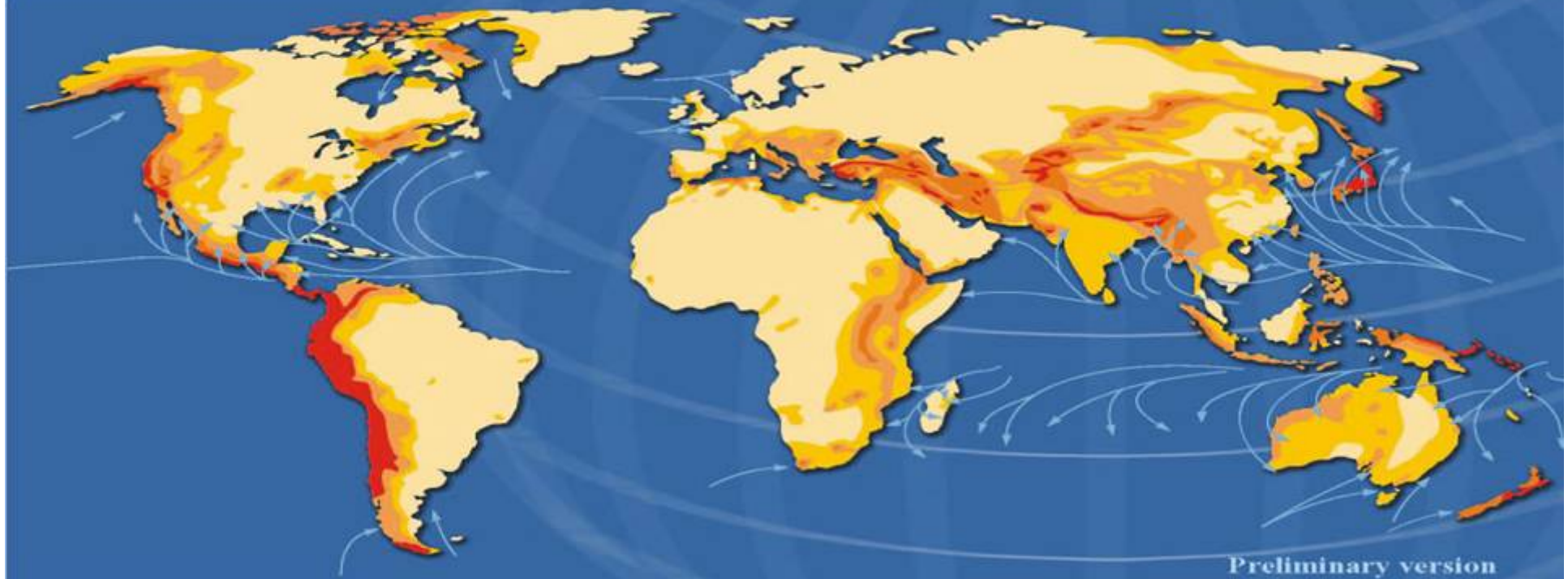
NHK's Satellite  
Broadcasting TV  
Program 1



**ADRC &  
the review process of  
the Yokohama Strategy  
& Plan of Action**

# Living with Risk

A global review of disaster  
reduction initiatives



Preliminary version

Geneva, July 2002

Prepared as an inter-agency effort coordinated by the ISDR Secretariat with special support from the Government of Japan, the World Meteorological Organization and the Asian Disaster Reduction Centre (Kobe, Japan)

International Strategy  
**ISDR**  
for disaster reduction



United Nations



WMO



# **ADRC Involvement in Review Process**

**First ISDR Asia Meeting Jan. 2002**  
co-organized by Gov't of India and Japan

**Second ISDR Asia Meeting Jan. 2003**  
organized by Gov't of Japan

**Euro-Mediterranean Regional Conference on  
Disaster Reduction in Madrid Oct. 2003**

**Second Int'l Conference on Early Warning  
(EWCII) in Bonn Oct. 2003**

ADRC organized one plenary session "Effective Early Warning – use of hazard maps as a tool for effective risk communication among policy makers and communities-"

**Third ISDR Asia Meeting Feb. 2004**  
co-organized by Gov't of Cambodia and Japan

**IDNDR 1990 – 1999**  
**called for creation of National Committee**



**Developed into Gov't coordinating body for  
Disaster Reduction**



**ISDR 2000 –**  
**Need for Empowerment of**  
**- National Focal Points**  
**- ISDR National Platforms**



**Disaster Reduction for Sustainable  
Development in Asia**

**Open-ended partnership  
with ADPC, ESCAP, UNDP**

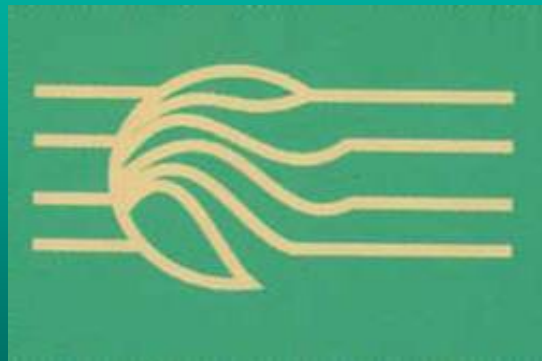




# UN World Conference on Disaster Reduction

18-22 January 2005

In **KOBE**, Hyogo





*THANK YOU*