

International Memorial Symposium
 "Protecting Lives from Earthquake and Tsunami Disasters"
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International cooperation to reduce the loss of lives due to natural disasters

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The more international communities express their commitment for disaster reduction, the more people are killed by disasters

10 most deadly disasters in the last 30 years

Nation	Disaster	Year	Death
Armenia	Earthquake	1988	25,000
Iran	Earthquake	1990	35,000
Bangladesh	Cycl/flood	1991	140,000
Venezuela	Flood	1999	30,000
Iran	Earthquake	2003	27,000
Indonesia, others	Eq/tsunami	2004	280,000
Pakistan	Earthquake	2005	80,000
Myanmar	Cycl/flood	2008	130,000
China	Earthquake	2008	90,000
Haiti	Earthquake	2010	230,000

UN and International activities

UN/IDNDR: 1990 -1999
 1994: Yokohama Principles

UN/ISDR: 2000 -
 2005: Hyogo Framework
 for Action 2005-2015

- Deadly disasters occur in developing countries (10/10)
- Deadly disasters occur mostly in Asia (7/10)
- Deadly disasters are mostly caused by earthquakes (7/10)
- Deadly disasters have been increasing (6 in 2000's)

Human lives lost by disasters: how cheap?

- "One death is a tragedy. A million of deaths are statistics."
 (Stalin)
 Thousands of tragedies behind thousands of deaths.
- Economic value of human lives are not included in the economic loss due to disasters
 Economic loss of 3.11 Great East Japan Earthquake: Total 17 trillion yen (Value of lost human lives: zero)
- "To protect the lives of citizens" is the highest priority of the governments.
 Are governments making every effort to protect people's lives from disasters?

International activities for disaster management

- Most international resources focus on response (rescue and recovery) activities
 - Urgent and humanitarian
 - Covered by mass media because such activities are dramatic



However:

- Relief activities cannot recover the lost lives.
 Thousands of people are instantly killed in disasters.
- If people survive, recovery and reconstruction would be much easier and less costly.
- Donor countries cannot fund for response any more after repeating super disasters recently

More focus on protecting lives before disasters hit !!

Inappropriate resource allocation for disaster risk management

- Post-disaster > Pre-disaster
- Engineered > Non-engineered
- Hardware (infrastructure and modern technologies)
> Software (human power/education)

The most important lesson of 2011 Great East Japan Earthquake Disaster

“Thousands of people would not have been killed if they would have evacuated promptly”

- People in this region knew the tsunami would strike after a strong earthquake.
Repeated Tsunamis – Meiji Sanriku Tsunami (1896), Showa Sanriku Tsunami (1933), Chile Earthquake Tsunami (1960), etc.
- Most people in this region knew “Tsunami Tendenko” (in case of tsunami, you should evacuate promptly by yourself without taking care of other family members)
- Tsunami warning was issued 3 minutes after the earthquake. People had approx. half an hour or more before the tsunami stroke.
- Municipalities instructed people to evacuate promptly.
Yet, they had many reasons not to evacuate promptly

The most important lesson of 1955 Hanshin-Awaji Earthquake Disaster

“Thousands of people would not have been killed if they would have retrofitted their vulnerable houses”

- Most of the victims were killed by collapse of their houses
- Currently, most of Japanese citizens know that vulnerable houses may collapse and kill the residents in earthquakes.
- Japan has severe building codes.
- Techniques for retrofitting are available.
- Financial assistances for retrofitting are available.
Yet, people have many reasons not to retrofit their vulnerable house.

People are risk-takers in disaster risk management

- People are risk-seekers when the choice involves loss (Prospect theory, Kahneman & Tversky).
Question : Choose between:
A. Sure loss of \$3,000
B. 80% chance of losing \$4,000 and 20% chance of losing nothing.
Result: 92% selected B
- Future uncertain loss is psychologically much discounted.
- Investment (retrofitting) for safety would be waste if a large earthquake would not occur soon.
 - Life expectancy of a house: approx. 30 years (Japan)
 - Remaining life expectancy of an investor: 20-50 years
 - Return period of a big earthquake: hundreds or more years

It is rational for people not to take actions to avoid future disaster risk.

How can we convince people to take actions before a disaster hits

- Education, training, and awareness raising
- Community-based disaster management
- Policy development and institutionalization for safer communities

Disaster education can play an important role

- **Capacity building and awareness raising**
 - Local people, particularly children, should understand better their disaster risk and take appropriate actions to reduce the impact of disasters
- **Technology and policy development**
 - Experts should develop affordable and applicable technologies, and develop policies for disaster reduction, reflecting the local conditions.
- **Risk communication**
 - Experts should be able to communicate with local people with trust in laymen's language with professional knowledge.

Education for Disaster Management Professionals by GRIPS

Master's degree programs on "Disaster Management"

English program since 2005

- Conducted jointly with BRI (Building Research Institute), PWRI (Public Works Research Institute), and JICA
- 3 courses: Seismology/Earthquake Engineering, Tsunami, Water-related disasters
- Target Groups: Technical officials, or researchers in developing countries
- Course Duration: 1 year (October–September)
- Approx. 50 students in 2012-2013

Japanese program since 2012

- Target groups: national and local government officials
- Course Duration: 1 year (April–March)

Accepting application for 2013 entrance!!



GRIPS Roppongi campus

Community Based Disaster Management (CBDM)

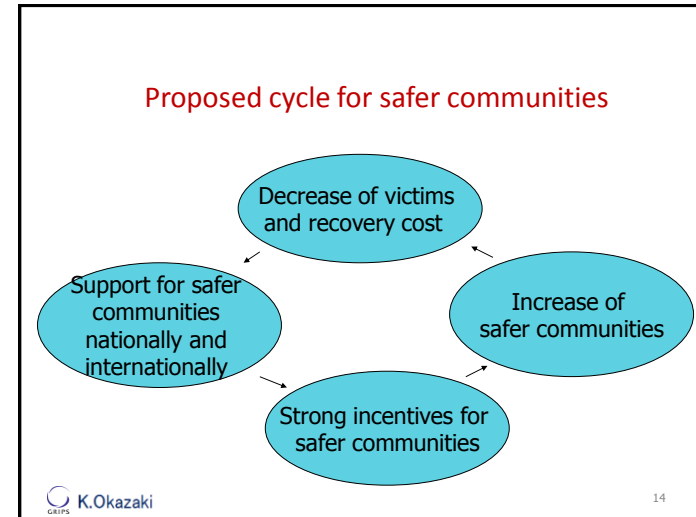
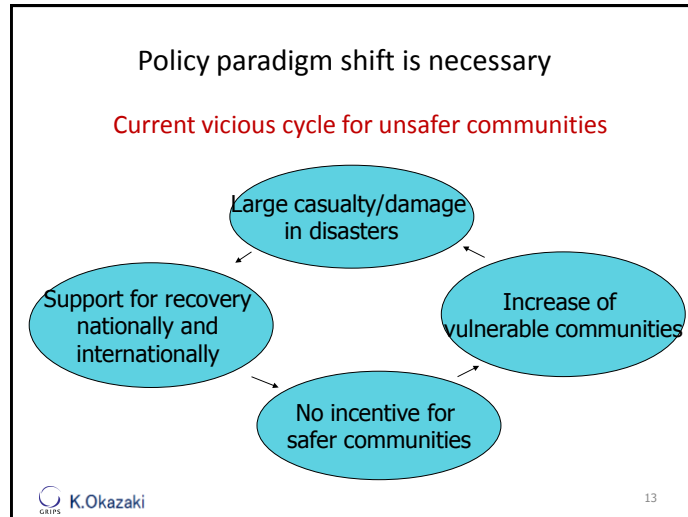
- Local people are potential victims and assume responsibility in managing the risk
- Disasters reflect local conditions, of which local people are well ware
- **Local people can better understand disaster risk and how to avoid such risks through risk communication**
- **Participatory decision making process leads to ownership of risk and actions**



RADIUS project by IDNDR



Shake table demonstration by UNCRD



Recommendation for international cooperation to reduce the loss of lives due to disasters

- International commitment to promote proactive efforts
International communities (international organizations such as UN and UNESCO and donor countries like Japan) should assist more explicitly those countries which are making proactive efforts.
- Fostering more experts who can develop appropriate policies for disaster reduction and have good skills for risk communication with local people
- Financial and technical assistance to promote community-based disaster management
- More researches to investigate how to motivate people and local governments to take actions against disaster
- Establishing multi-disciplinary academic approach for disaster risk management, incorporating economics, politics, sociology, psychology, engineering, etc.

K.Okazaki 15

Thank you !

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K.Okazaki 16