

# 10

10th Anniversary  
of the Establishment of the UNCRD  
Disaster Management Hyogo Office

Proceedings

## International Symposium on Disaster Management for Sustainable Regional Development



27,28 November, 2009  
Kobe, Hyogo, Japan

The 10<sup>th</sup> Anniversary of the Establishment of  
the United Nations Centre for Regional Development  
(UNCRD)  
Disaster Management Planning Hyogo Office

## **Proceedings**

# **International Symposium on Disaster Management for Sustainable Regional Development**

27& 28 November, 2009

Yomiuri Kobe Hall

Kobe, Hyogo Prefecture, JAPAN

Organized by

United Nations Centre for Regional Development (UNCRD)

International Disaster Management Symposium Steering Committee

(Hyogo Prefecture; Kobe City; The Hyogo Earthquake Memorial 21<sup>st</sup> Century Research Institute;  
United Nations International Strategy for Disaster Reduction (ISDR) Hyogo Office; United Nations  
Office for the Coordination of Humanitarian Affairs (UN OCHA) Kobe; International Recovery  
Platform (IRP); Asian Disaster Reduction Center (ADRC); JICA Hyogo International Center;  
Citizens towards Overseas Disaster Emergency (CODE)

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The 1<sup>st</sup> day— 27 November, 2009

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## Opening Session

### Keynote Speech 1

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**[Opening Remarks]**

Kazunobu Onogawa, Director, United Nations Centre for Regional Development(UNCRD)

Toshizo Ido, Governor, Hyogo Prefecture

Naoto Tajiri, Director for disaster preparedness, Cabinet Office of Japan

**[Keynote Speech 1 ] "Disasters and the sustainability of rural cities"**

Shigeru Itoh, Professor, Waseda University

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## Welcome Address

Kazunobu Onogawa  
Director, UNCRD



I am Kazunobu Onogawa, director of the United Nations Centre for Regional Development (UNCRD). I appreciate that so many people including Governor Ido, Professor Shigeru Itho and Mr. Naoto Tajiri of the Cabinet office are participating in this symposium. I see present people from various institutions and foreign specialists, and I am deeply grateful for your cooperation and support as always.

The UNCRD was established in Nagoya in 1971, and its disaster management section was established in 1985. After the Great Hanshin-Awaji Earthquake in January 1995, its centre was moved to Kobe, with support from Hyogo Prefecture. It was upgraded to the UNCRD Disaster Management Planning Hyogo Office in 1999. This symposium is held to celebrate the 10<sup>th</sup> anniversary of its inauguration.

The UNCRD aims to realize well-balanced sustainable regional development, for example, by reducing economic gaps among regions. Disaster management plays a very important role in this process. We used to focus on the reduction of risk brought by earthquake, tsunami and floods, but today, we have additional problems to cope with; for example, large-scale typhoons that hit us frequently, unusual weather and the impact of climate change. In Asia, where the economy has developed quickly, and in developing countries in other parts of the world, people have noticed that disasters and climate change are having a much more serious impact on them. Consequently, we need both top-down and bottom-up methods, that is, approaches at both national and community levels; otherwise, our advances in regional development will probably be reversed. Millennium Development Goals

(MDG) adopted by the UN member countries in 2000 include disaster management as well. To meet the goals and the key components of the Hyogo Framework for Action adopted in Kobe in 2005, we have pursued our activities of research, advocacy and training. We have made government officials in target countries realize the importance of disaster management and have helped them develop their national policy. Above all, we have striven to implement a long-term community based disaster management project. This project means much to us, and even characterizes this office. Hyogo Prefecture has fully supported us in the implementation of the project, and I would like to thank them once again.

The UNCRD hopes that over the next 2 days, this symposium will increase your understanding of our past and on-going projects and will serve as a good occasion to collaborate on future disaster management and mitigation plans, with all of you from all over Japan and the world.

In the end, it would be wonderful if you came up with ideas for your institution's future plans, and we as well, especially plans that would lead to sustainable development. Thank you very much for your participation.

## Opening Remarks

Toshizo Ido

Governor, Hyogo Prefecture



Good afternoon, I am Toshizo Ido, the governor of Hyogo Prefecture. The United Nations Centre for Regional Development (UNCRD) Disaster Planning Hyogo Office celebrates its 10<sup>th</sup> anniversary this year. And 15 years will have passed on January 17<sup>th</sup>, 2010, since the Great Hanshin Awaji Earthquake. On behalf of Hyogo Prefecture, I would like to express my sincere gratitude for your contribution to the recovery process, and to say how glad I am to be here today at this international symposium on disaster management.

Although there was no evidence, we were completely convinced that earthquakes would never happen in Kobe. The earthquake 15 years ago was totally unexpected. We were totally unprepared for such a large-scale disaster, which resulted in terribly serious damages. Autonomous organizations of disaster management at community level had scarcely been formed then. Only between 20 and 30% of all communities had one and people did not cooperate enough. In talking about disaster management, there are 3 keywords: 'self-help (to help oneself)', 'mutual help (to help each other)', and 'public help (to be supported by the authorities)'. What we realized in 1995 was that it was most important to ensure one's own security, that is, 'self-help' in the case of such a major disaster. In addition, the local people immediately went into action to help others in the areas terribly affected. Before the groups of rescue workers, firemen and policemen arrived on the scene, local people acted voluntarily. The earthquake gave us a lesson in how important self- and mutual help are.

Another lesson is the importance of preparedness. After the earthquake, the

Disaster Reduction and Human Renovation Institution (DRI) was inaugurated. This is a museum to transmit the experience and lessons of the Great Hanshin Awaji Earthquake, and also a research institute that studies disasters in Japan and abroad. Besides, it gives support to the affected areas. In the HAT Kobe Area, where the DRI is based, there are several international organizations: the UNCRD, of course, and the Asian Disaster Reduction Centre—Mr. Itoh who is giving a keynote address later is its Chairman—the International Recovery Platform (IRP) that coordinates many international organizations in the recovery process, the World Health Organization (WHO) Kobe Centre, the United Nations International Strategy for Disaster Reduction (ISDR) Hyogo Office, and the United Nations Office for the Coordination of Humanitarian Affairs (OCHA) Kobe. Thanks to cooperation among these international organizations, I think that the DRI has been recognized as one of the major centers of the international network in disaster management.

Five years ago, the United Nations World Conference on Disaster Reduction was held and the Hyogo Framework for Action (HFA) was adopted. Based on the HFA's 10-year framework, the world has carried forward disaster management planning. The experience and knowledge we accumulated and the solutions to difficulties we faced in the recovery/rehabilitation process must be transmitted to other regions or countries, because we believe that our experience is useful to them for disaster management and recovery/rehabilitation planning.

Last year, the 2008 Great Sichuan Earthquake hit China. Immediately, we translated into Chinese our reports and

documents related to the recovery/rehabilitation process of the Great Hanshin Awaji Earthquake and sent them to China. It is hardly possible to predict what will happen in the future, but I believe that we can learn from our past experience and prepare for the future.

Next year will have been 15 years since the Great Hanshin Awaji Earthquake as I said earlier. Surprisingly, one-third of the population of Kobe did not experience it. Even the memories of those who did are fading. That is why we want to emphasize that we cannot forget our experience and lessons from the earthquake and must tell them to those who never experienced such a calamity. The motto of the events organized during 2009-2010 in commemoration of the earthquake is to 'tell and prepare'. Once more, we would like to share our experience and knowledge accumulated in the recovery/rehabilitation process with all and to put the accent on the importance of preparedness. This international symposium on disaster management to celebrate the 10<sup>th</sup> anniversary of the UNCRD is also supposed to be in line with our motto.

They say that there is an over 80% possibility that the Thonankai or Nankai Earthquake will hit us within 30 years. It means that, possibly, we will be the victims again of a disaster as large-scale as the Great Hanshin Awaji Earthquake. From now on, we need to work at disaster risk reduction so that we will sustain less damage and be able to move ahead with recovery/rehabilitation programmes much more easily, even if we are affected. This idea is called 'mitigation' and we must let it take root in our society.

'Tell and prepare'. Using this motto, we would like to share ideas and tackle the issues with all present. I am eager that this symposium will increase people's understanding of disaster risk reduction, the approaches by the authorities and others, and the importance of preparedness.

Finally, I strongly hope that the UNCRD Disaster Management Planning Office will play a leading role in disaster preparedness and

mitigation worldwide. Thank you.

## Guest Speech

Naoto Tajiri

Director for Disaster Preparedness, Cabinet Office of Japan



I heartily congratulate all of the UNCRD staff on the 10<sup>th</sup> anniversary of the establishment of its Disaster Management Planning Hyogo Office.

As we know, the UNCRD Disaster Management Planning Hyogo Office was inaugurated in April 1999. Implementing know how accumulated in the recovery process after the Great Hanshin-Awaji Earthquake, the Office has conducted many projects, for example, 'Gendered Community Based Disaster Management' and the 'Housing Earthquake Safety Initiative'. Their researches on community based disaster management aim to make communities disaster resilient, taking into account the geographical features and local culture of each area. I would like to honor Mr. Onogawa, the Director; Mr. Ando, the Coordinator; and the many people who contribute to these activities; also to Hyogo Prefecture and others, which have supported them.

Japan is one of the countries prone to disasters. As Governor Ido stated, 15 years will have passed in January 2010 since the Great Hanshin-Awaji Earthquake that killed over 6,400 people. After this catastrophe, there were many other disasters that caused serious damage, for instance, the Iwate-Miyagi Nairiku Earthquake in 2008 or water-related disasters in Hyogo or in Yamaguchi. These tragedies taught us many lessons. At every sphere from pre- to post-disaster, we have had to take various measures appropriate to disaster preparedness, emergency response and recovery/rehabilitation. The central government has promoted cooperation among public institutions at national and regional levels and with the private sector; it has enacted laws to enable us to take a

comprehensive approach and institutionalize disaster preparedness. Additionally, building and housing earthquake safety have also been promoted.

Particularly, one of the most important lessons we learned in the case of the Great Hanshin-Awaji Earthquake is that it is not enough to rely on public help. It is true that the authorities cannot provide everything needed for the security of each household or of every community. Self-help and mutual-help among people, companies and organizations is crucial for good disaster management. Each person, communities where they live, and private businesses need to be knowledgeable about disaster preparedness and put such knowledge into practice. The central government makes constant efforts at raising public awareness towards a safer and more secure society.

Japan has acquired knowledge and technologies related to disasters in the past, so it plays a major role in international cooperation in the domain of disaster management. Here in Kobe, the United Nations World Conference on Disaster Reduction was held in 2005 and the Hyogo Framework for Actions, the international principles of today's disaster management, was adopted. Last month, again in Kobe, there was the first meeting of the Ministers of State for disaster management of Japan, Korea, and China. They agreed to share information on disaster risk reduction and to cooperate more closely on capacity building.

The Japanese government has tried to encourage the international community to increase their understanding of the importance of self- and mutual-help in community based disaster management. For example, in cooperation with the Asian Disaster Reduction



Center, Japan has offered expertise to develop disaster management capacity and to raise public awareness at regional and community level in the member countries.

Looking back on these 10 years, especially the last 5 years, not only governments but also international and individual organizations including NPOs have been greatly involved in raising public awareness of disaster management. Thanks to their efforts, I believe that understanding the importance of preparedness for disasters is widely shared domestically and internationally.

This 2-day international symposium on disaster management for sustainable regional development is being held today and tomorrow. In the case of disasters, it is most important to save as many human lives as possible. I've heard and found it significant that risk reduction by means of self-, mutual- and public help, and community based disaster management will be in focus during the sessions and panel discussions in this symposium. These are the points that the Cabinet Office of Japan wants to work harder on to make more disaster resilient communities. We are also willing to cooperate with the UNCRD Disaster Management Planning Hyogo Office in different areas to achieve our goals.

Unfortunately, a lot of disasters hit many places in the world every year and damage a great deal of people and property. Toward making the world, regions, and communities safer and secure, I strongly hope that this symposium will suggest ways to reduce disaster risks. In conclusion, I wish the UNCRD continued success in the future. Thank you very much.

# Disasters and the Sustainability of Local Cities

Shigeru Itoh

Professor, Waseda University



## 1. Introduction

Table 1 shows the types of disasters that have hit Japan since 1989, and how many people died or disappeared as a result of the disasters.

Year	Big earthquake	Typhoon/typhoon-related disaster	Volcano
1989	Shizuoka		Shizuoka
1991			Utsunomiya(2)
1992	Tokyo		
1993	Kushiro(1), Hokkaido(21)	Kagoshima(10)	
1994			
1995	Hanshin-Awaji(9,410)		
1996		Nagasaki(1)	
1997	Kagoshima	Kagoshima(20)	
1999			
1999		West Japan(2)	
2000	Tsuno	Tsuno(10)	Yamanashi, Hokkaido
2001	Honshu/Chubu(2)		
2002			
2004	Chuetsu(6)	Niigata/Fukushima(3), 3 Typhoon(10)	
2005	Fukuoka	Heavy snow(8), Typhoon(2)	
2006		Heavy snow(10), Heavy rain(2), Snow(1)	
2007	Ishikawa(1), Niigata(1)		
2008	Iwate/Miyagi(3), Iwate/Iwate		
2009	Shizuoka	Chugoku/Kyushu(3), Hyogo(Kyushu)(4)	

Table 1 Natural disasters in Japan since 1989. Numbers in parentheses represent the number of dead in each disaster

This table tracks the various types of disasters such as earthquakes, typhoons, or volcanic eruptions occurring in Japan. Naturally, it is impossible to predict such disasters. In addition, global climate change has brought frequent and heavy rains, which are new phenomena to be examined.

All of the disasters listed in the table, except for the Great Hanshin-Awaji Earthquake, occurred in rural areas. I take the case of the 2004 Chuetsu Earthquake for example here.

## 2. The 2004 Chuetsu Earthquake

The 2004 Chuetsu Earthquake, which occurred at 17:56 on the 23<sup>rd</sup> of October, 2004, had a magnitude of 6.8 and a seismic intensity of 7.

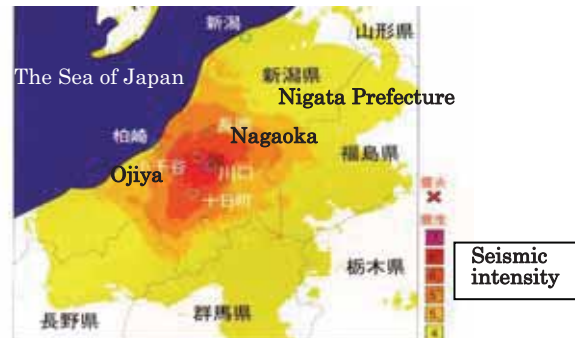


Fig.1 Map of the affected cities. Colors represent seismic intensity (data from the JMA).

Dead	68
Injured	4,795
Seriously Injured	635
Completely destroyed houses	3,185
Seriously destroyed houses	2,163
Max refugees(3 days after)	103,000
Temporary houses	3,460

Table 2 Loss and damage caused by the earthquake

Disasters accelerate the decline of rural cities. They destroy the landscape, the stability of the society, knowledge accumulated in the course of daily life, and the outcomes of implemented policies. In the case of the 2004 Chuetsu Earthquake, the unique culture and agricultural industry as well as the countryside's beautiful landscape were terribly damaged, even though they had been developed amidst heavy snow and landslides. After the earthquake, many people moved to urban areas, where they considered themselves safe. Underpopulated areas facing decreases in the number of younger people are hence in danger of losing the ability to preserve the society.

### 3. 1995—2004 : Three great changes

The Great Hanshin-Awaji Earthquake occurred in 1995, and the Chuetsu Earthquake in 2004. During these 10 years, three drastic changes took place in our society.

#### 3.1 Widespread growth of information technology

The use of cellular phones has become common, leading to better communication in the recovery process after earthquakes and other natural disasters. A greater number of people also frequently use e-mails and the internet; such sharing of information is also helpful.

#### 3.2 Quick response systems to disasters in central and local governments

During the Great Hanshin-Awaji Earthquake, central and local governments were severely criticized for their inability to respond quickly. The Self-Defense Forces in particular were not prompt in their actions.

Still, this lesson allowed for governments to reinforce their disaster management systems. During the 2004 Chuetsu Earthquake, they were able to take quick and direct actions.

#### 3.3 Intermediary support organizations

A spontaneous influx of a huge number of volunteers occurred in the affected areas in 1995. In 1997, a Russian tanker ran aground in the Sea of Japan, resulting in a large oil spill. 10 prefectures along the coast were affected, and the assistance of volunteers and NPOs from the entire country was again appreciated. This led to the establishment of a well-known law in 1998 concerning NPOs and their commitment to the disaster recovery process. Consequently, NPOs became very active, and residents recognized their presence as a great help in 2004.

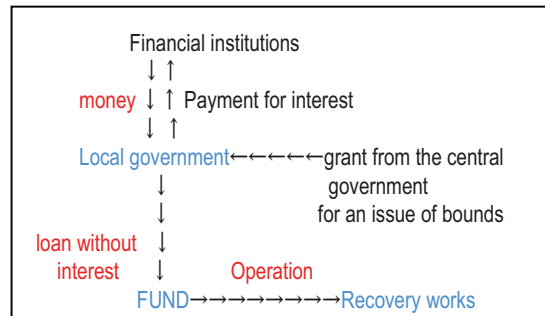
## 4. The Vision of Recovery by the Niigata Prefecture

### 4.1 The Fund for Earthquake Recovery

The response of the Niigata Prefecture's local

government to the earthquake was prompt. 2 months after the earthquake occurred, "the Vision of Recovery from the 2004 Chuetsu Earthquake" was designed, and was announced to the public later. Its keywords were "disaster prevention", "safety", and "sustainability."

In hopes of making recovery measures effective and sustainable, the Fund for the Earthquake Recovery was established.



Local governments can receive independent money for earthquake recovery

**Fig.2 Structure of the fund for recovery**

With support from the central government, the Niigata Prefecture issued bonds and prepared 300 billion Japanese yen. The money was deposited to three local banks, accruing interest at the rate of 2%. The annual interest was 6 billion yen and the total amount during 10 years was 60 billion.

The central government took responsibility from reconstructing the social infrastructure: roads, bridges, dams, facilities for agriculture, and public buildings. This fund financially supported local projects conducted by the residents of small villages. It complemented large government projects, and greatly contributed to the entire recovery process.

### 4.2 The high priority of countermeasures against heavy snow

The earthquake occurred in the end of October, just two months before the heavy snowfall season. In order to prepare the heavy snow, rapid restoration of the roads, the underground water systems, and the construction of temporary houses was necessary.



**Fig.3 Heavy snow in the affected area**

The ground was severely damaged by the earthquake; restoration was indispensable for people living in semi-mountainous areas to live again as they once used to. Originally, landslides often occurred in these areas, and natural dams emerged from the cutting off of rivers. In 2005 and 2006, very heavy snow appeared for the first time in 19 years. Despite it, many restoration projects continued. But when the social infrastructure was reconstructed, it was clear that the environment of those areas had changed considerably, for many residents had left the area.

### 5. Life in temporary houses, and then...

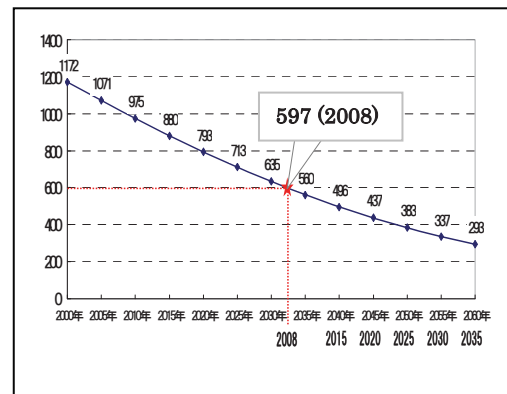
One of the biggest problems after a natural disaster is how to provide habitable temporary homes for the affected. In the case of the 2004 Chuetsu Earthquake, about 100,000 people took refuge 3 days after the earthquake. For those people, about 3,500 temporary houses were constructed in urban areas for 4 months. The process was an efficient one.

Those who were affected by the earthquake stayed in the temporary houses for almost three years, preserving the same communities they had had in their villages before the earthquake. Those who had lived in the same community stayed close to one another, which forged new and stronger ties among them. The dialogue regarding the recovery of the villages strengthened their sense of solidarity.

Three years later, only 70 % of them returned to their former villages. This was an average rate of return. Some villages lost more than half

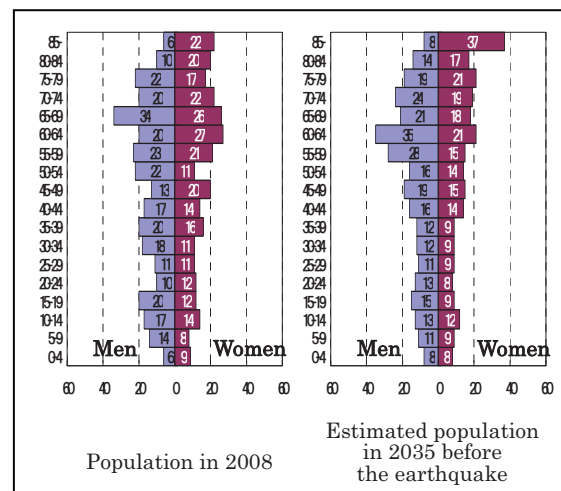
of residents and some lost all. Depopulation and the aging of villages continued.

The population of Higashiyama, Ojiya City, for example, was about 1,100 in 2004 and shrank to 597 in 2008. As shown in Figure 4, the same would have happened after 2030 if the earthquake had not taken place, but due to the natural disaster, it occurred more than 20 years earlier than estimated.



**Fig. 4 Estimated population of Higashiyama**

Figure 5 displays the ratio of each age category to the whole population, and shows that 2008's graph is similar to that of 2035, estimated before the earthquake.



**Fig.5 Population of each age category in Higashiyama**

Villages which had been considered to be closed society have, however, changed because of their new exchanges with the outside world.

In order to increase sustainability, the increase of permanent residents is required, especially those of the younger generation. “Village recovery supporters,” currently counting about 40 people, are expected to be the permanent residents. They are student volunteers or members of NPOs who are living in villages and involved in creating the vision and plans for recovery. Such workers, thanks to the Funds, can be on salary for the next 10 years. There is also the potential for them to settle permanently in the villages due to the development of personal relationships. Some retired employees may also move in to pursue agriculture as the second career.

What’s more, some are interested in farming and living in the affected regions, such as second generation volunteers with no direct experience of the earthquake. A continuous exchange of different people is important.

## 6. Conclusion

Disasters continue to affect cities all over the world. The affected areas support one another, and today, some collaborate in the sharing of information and recovery resources. For example, Kobe, Chuetsu, and Taiwan, which witnessed the Great Chi-Chi earthquake in 1999, created a recovery network. Wenchuan, Sichuan Province in China became a new partner after its big earthquake in 2008. In the academic world, the “Kobe, Chi-Chi, Chuetsu, and Wenchuan” earthquake recovery conference took place in Taiwan in 2009.

The Japanese have placed very little value on semi-mountainous areas in the latter half of the 20<sup>th</sup> century. Even in local cities, flat and seaside areas witnessed urbanization and industrialization, while semi-mountainous areas suffered depopulation and aging and were on the decline.

They have, however, played many significant

roles. They are not only beautiful, but also keeping environment in the river basin and safety of cities in lower reaches. 2004’s Chuetsu Earthquake recovery serves as one model for the revival of semi-mountainous areas in Japan.

Now, in Chuetsu, a large project named “the Earthquake Memorial Project” aims to keep the traces of the earthquake as much as possible, to hand down lessons and experience to the next generation, and to preserve the academic results on disasters. Disaster prevention, mitigation, and recovery for local cities and mountainous areas are mutual problems that confront Japan and other countries, especially Asian countries. Chuetsu aims to play a key role in building strong relationships among affected regions, and in pursuing the sustainability of local cities. It is hoped that many countries, cities, and sectors will be in cooperation with Chuetsu’s mission.



(Before the earthquake)



(After the earthquake)

**Fig.6 Chuetsu before and after the earthquake in 2004**

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# **Thematic Session 1 : Community Participation for Disaster Management**

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## **“Challenges of Disaster Risk Management in Nepal”**

Amod Dixit, Director, National Society for Earthquake Technology in Nepal (NSET)

## **“Disaster Preparedness Education for Children with Disabilities – Challenges for Sustainability”**

Sae Kani, Programme manager, ASB Indonesian Office

## **“Disaster Education for Children in Japan - Shiawase Hakobo (Let's Carry on Happiness)”**

Taisuke Matsuzaki, Senior manager, Research division, Kobe City Board of Education

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## Challenges of Disaster Risk Management in Nepal

Director, National Society for Earthquake Technology in Nepal (NSET)

Amod Dixit



### 1. Effect of Disasters in Nepal

Nepal is plagued with a variety of hazards such as earthquakes, landslides, and floods. The distribution of deaths due to disasters shows that while epidemics cause 57% of all deaths, landslides, floods, fire, and earthquakes, respectively, cause 15%, 11%, 4%, and 3% of the deaths.<sup>1</sup> Even with regard to epidemics, these deaths might not only be a public health issue but also a disaster issue.

How disasters affect population and housing was examined. Disasters were divided into two types: intensive risk disasters meaning large disasters of which the intensity on the Richter scale is above 6.5 and extensive risk disasters meaning medium or small disasters of which the intensity is under 6.5. In terms of the impact on population, extensive risk disasters have a much greater impact and are the cause of 76% of all deaths, while intensive ones are the cause of 24%. Extensive disasters cause 43% of all building damage, which is less than intensive ones, which cause 57%<sup>2</sup>.

Regarding the number of houses affected by disaster type, 44% were affected by floods, 25% by earthquakes, 18% by fire, and 7% by landslides. In many cases, policy makers think that it is impossible to predict when earthquakes happen, so it is better to prepare for floods, fire, and landslides; however, over an extended period, earthquakes account for about 25% of the damage in terms of buildings<sup>3</sup>. Therefore, disaster risk reduction (DRR) should be planned with a long-term perspective, and preparation for earthquakes should be included.



Figure 1 Flood in Nepal

### 2. History of Understanding Hazard and Risk Reduction

There were geologic and seismologic studies about hazard and risk for over a century in the Himalayas. Landslide studies started in the 1970s, the glacial lake outburst flood (GLOF) studies and the seismograph network began around the 1980s. The International Decade for Natural Disaster Reduction (IDNDR) was well known in Nepal in the 1990s and the World Conference on Natural Disaster Reduction was held in Yokohama in 1994. In the late 1990s, the need for risk assessment was realized and sample studies were conducted. The Kathmandu Valley Earthquake Risk Management Project (KVERMP), use of the Risk Assessment Tools for Diagnosis of Urban Areas against Seismic Disasters (RADIUS), and Disaster Risk Management (DRM) Action Planning were done. Later, the need for raising awareness was realized so that a campaign was launched. In the meantime, several small or medium-sized projects were implemented very successfully with some tremendous results in a localized area. Several initiatives have brought some changes to social thinking, building construction, and planning, mostly at the community level and the project management level. Making people understand risks is not just about transferring

<sup>1</sup> DesInventar Disaster Database 1971-2007

<sup>2</sup> Same as above

<sup>3</sup> Same as above

knowledge. It means helping people learn about methodologies, successes, and failures.

There are numerous success stories of projects completed by the joint efforts of communities, local governments, NGOs and international development partners. Examples include a school disaster reduction programme, Community-Based Disaster Risk Management (CBDRM), mason training, and awareness raising using shake tables, Earthquake Safety Days, International Strategy for Disaster Reduction (ISDR) Days, etc. In terms of the changes in mindset, the government is improving the policy and legal environments, and donors are revising development aid strategies to include DRR and consider NGOs as partners.

There are very good success stories. However, these success stories cannot be said to have influenced the entire process nationally. It was mentioned that there was a paradigm shift from post-disaster response to DRR, response planning, and capacity enhancement, but one cannot categorically state that the paradigm shift occurred in the central government, academia, NGOs or communities. The finding is that the shift in mindset is from the bottom up. Some people even illiterate, understand, and shift their mindset much faster and much more deeply, perhaps, than the central government. The benefits of all the investment such as the number of lives that have been saved is also not clear. In addition, a vast majority of the stakeholders still do not know what the Hyogo Framework for Action (HFA) is.

### **3. Disaster and Poverty Analysis by Global Assessment Report (GAR)**

The reality is that on the one hand, there is a huge success, impact, progression and satisfaction, but on the other hand, on the national scale, there is a tremendous amount of work that needs to be done. In order to get to a closer and more detailed understanding, an analysis of the interrelationship between disasters and poverty was performed. The

findings were that the epidemics and the landslides increased monetary poverty and decreased the nutritional status of people. Another finding was that the tools for reducing poverty are very similar to the tools that have been propagated for DRR. The strange thing was that specialists in poverty reduction and specialists in disaster reduction never had any dialogue. Now it has been realized that there are common tools available such as micro credit and micro insurance, thus such specialists should work together. Micro credit and micro insurance should be expanded to the poor. Also, authority should be devolved to local levels. In addition, DRM should be included in development strategy itself and there should be a push for acceptance of the National Strategy for Disaster Risk Management (NSDRM).

The second conclusion of this analysis was that in terms of poverty, the extensive risks, which are the day-to-day risks, have a much greater impact than the intensive risks. It is not necessary to wait for a large disaster to occur and then to respond. It is the day-to-day disasters that need to be tackled. It is more than shifting the paradigm to pre-disaster. The day-to-day preparedness should be built into the culture of one's life.

NSDRM was prepared two years ago, but so far there has been little progress. Although the government supported suggestions about radical changes to be introduced and set priorities two or three months ago, these are still awaiting regulations and acts to bring them into effect.

The management of extensive risk disasters is significant but ignored. The entire concept and efforts at DRM should address extensive risk disasters as well. It should go beyond the rhetoric of the paradigm shift from post-disaster to pre-disaster. The locus and focus of DRM efforts and policies should shift to the local and district level where development efforts should be programmed.



#### 4. Progress in HFA Implementation: Views from the Front line

NSET and the Asian Disaster Reduction and Response Network (ADRRN) looked into the progress made in the implementation of HFA. What was found is that after more than five years of implementation, HFA had accomplished below the midpoint despite the efforts that were made in terms of governance.

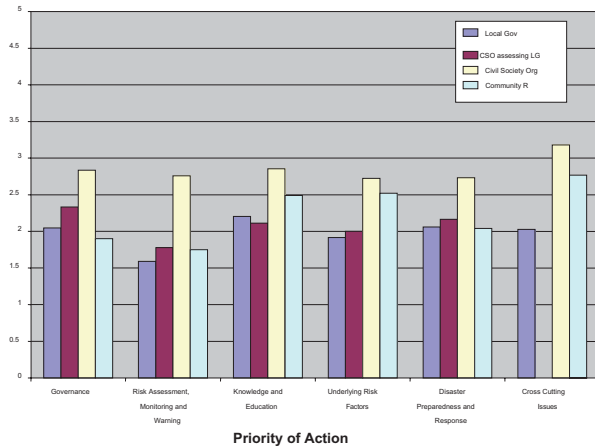


Figure 2 Progress in HFA Implementation<sup>4</sup>

##### 4.1 Local Government

As regards local government it was found that there has been tremendous enhancement of disaster awareness but the comprehensive policy and legal instruments for planning, implementation of DRR, and development of capacities for emergency response are still lacking. Besides, DRR is looked upon as a stand-alone effort in contrast to what has been generally agreed it should be, that is, part of the development planning process. Hence, the establishment of proper policy or regulations for the institutionalization of DRR and mainstreaming such policies, backed up by proper research, are not at the desired levels. In addition, the reactive approach still prevails to a certain extent despite new and better understanding. Very successful initiatives at the local government level have provided some external support in terms of financial resources

and technical assistance. Therefore, sustainability is a main problem. Limited resources and capacities hinder DRR implementation and institutionalization. Capacity enhancement of local governments should first be addressed. These are the challenges: taking the process to the local government level and empowering the latter or assisting them in terms of technical aspects, resources and mechanisms.

##### 4.2 Civil Society Organization (CSO)

CSOs are doing better since they understand both communities' local realities and the donors, so that their penetration at the community level is better, and their initiatives are inclusive of all vulnerable groups. However, CSOs need to widen their vision as evident in their implementation of DRR activities as stand-alone projects. They lack close relationships with other development initiatives and awareness initiatives going on in the target area. The success stories and the methodologies need to be scaled up. So far, it is difficult even to go to the adjacent areas, which is another problem because the project area coverage is small.

Although CSOs have carried out various capacity-building activities, their work did not adequately address the DRR issues of the entire country since most of the CSOs have a project-based approach that is time-bound and limited in funding. Limitation of technical knowledge and of financial resources was found to be the main barrier for achieving sustainable impacts by these organizations. The influence of these organizations was also found to be restricted to the limits of the project areas. Lack of trained personnel and other resources were identified as other constraints. The policies at the local government level and the central level lack sustainability and hence are not very strong. CSOs also need support in terms of their technical knowledge and know-how to ensure their continuity.

<sup>4</sup> VFL Country Report -Nepal

### **4.3 Community**

Communities have the potential to become the most proactive. While it will take only a week to convince an entire community about the full meaning of HFA, it may take about three years to convince everyone in academia or the central government. However, only a few communities have been exposed to HFA, and a vast majority of the communities in the country are left unsupported and unaware. Their participation in DRM is very low, and they are reluctant to spend time on training. They rely heavily on the central government and have not realized their own potentials and resources to address the disaster issues.

### **4.4 Overall Findings**

The overall finding is that the average score on HFA implementation is low; it stands at about half mark. However, CSOs have much better results because somehow they have established their own methods, though some sort of mechanism and institutional structure is very vital for the continuity and sustainability of their works. Awareness has been enhanced and skills to implement pilot projects have been very successfully developed. The problem is that many of their external donors think about exit strategies, but disaster reduction is a long-term undertaking. The exit in every successful development project should be at least several years after the implementation.

There is a growing awareness and consensus in terms of policy and legal funding for DRR. Institutionalization and institutional capacity development is the key. CSOs will contribute in assisting local governments and communities regarding DRM.

## **5. DRM in Nepal**

### **5.1 Strengths**

DRR is recognized as an important issue. A comprehensive NSDRM has been developed in consultation with a wide range of stakeholders. Stakeholder and community awareness of hazards has increased. There are some success

stories and constructive acts such as civil services (CS), the Local Self-Governance Act (LSGA), and three-year plans, etc. Risk reduction issues are progressively included in development policies and plans. Climate change issues and disaster issues are being understood in combination, and development of a National Adaptation Programme of Action (NAPA) is supporting disaster risk reduction efforts. Certainly, awareness of disaster preparedness and development of contingency plans are demonstrated at all levels.

### **5.2 Weaknesses**

Nepalis' fatalism and government centralization hinder DRM in Nepal. The government has low capacity and puts low priority on DRR since basic needs have to be fulfilled first. DRR plans are short-term and lack a national budget and resources. There is planning but no activity. Human resources and communication in remote areas are also lacking. Community and local government lack real power. The current institutional framework is not ready to address the whole range of long-term risk reduction issues and to integrate risk reduction into the core development sectors effectively. It does not provide an environment for effective coordination. The knowledge exists within the nation but is not being recognized and utilized. For example, the national building code is still not taught even at the government-supported engineering institutes. Adequate human and financial capacity for risk reduction, networking and knowledge sharing among the key stakeholders and disciplines, safety of lifeline infrastructures, financial risk-sharing mechanisms and land-use planning, effective preparedness, contingency planning and response capacity for large-scale disasters are all needed.

### **5.3 Opportunities**

There are opportunities for collaboration, which include the ever-increasing dialogue amongst stakeholders, the increasing number of

donors and interests, the enhanced desire and concern of the communities, better access to scientific tools and methodologies, and better access to UNCRD, ADRC, several Japanese institutions, and donors from Europe and the United States that offer scientific collaboration. Several other international partners including JICA have shifted their focus to include disaster reduction in the overall development strategy.

#### **5.4 Threats**

The threats facing DRM are the short-term vision of government, donors, and projects, the method of withdrawing funding, the fact that short-term DRM has become a glamour business. Also, sometimes the conflict situation in politics determines the policy pursued, which means rescue and relief are focused on more than preparedness and mitigation because it is easier to implement those works. Besides, plans are overly ambitious at all levels. Pending the implementation of NSDRM, it would be wonderful to re-think DRM efforts in order to make them practical and doable.

### **6. Flagship Programmes of The Nepal Risk Reduction Consortium**

The donors or the international partners including the Asian Development Bank, the International Federation of Red Cross and Red Crescent Societies (IFRC), UNDP, UNISDR, UNOCHA, and the World Bank developed the Nepal Risk Reduction Consortium. Their main thrust is towards the implementation of NSDRM. They have come up with five flagship programmes: school and hospital safety, emergency preparedness and response capacity enhancement, flood hazard management in the Kosi river basin, integrated CBDRM, and policy/institutional support for DRM, largely with the idea of institutionalizing DRM starting from the central level to the district level. The total estimated cost is 131.32 million US dollars. For the first time, a comprehensive plan for tackling DRM has come up using a consortium approach.

The expected results by the five flagship programmes are institutional capacity building, policy formulation and legislative enactments, orientation of financial mechanisms towards risk reduction and risk management, training and capacity building, support for mainstreaming of DRM, and climate change adaptation into development planning processes at all levels. The five initiatives cover only part of the 29 priority areas of the national strategy. However, perhaps this joint effort will trigger more support from local as well as international development partners. At least it can address some of those weaknesses, threats, possibilities, and opportunities, and utilize the level of confidence that has been developed in Nepal.

## Disaster Preparedness Education for Children with Disabilities Challenges for Sustainability

Sae Kani  
Programme Manager, ASB Indonesia office



### 1. Introduction—the Disabled and Disaster Prevention

There are 650 million disabled people in the world and two-thirds of them are in Asia and the Pacific. It means that more than 10% of the population in Asia and the Pacific is estimated as living with disabilities.<sup>1</sup> But until a few years ago, it had been rare to make international proposals regarding policies of disaster prevention for the disabled.

The 'Biwako Millennium Framework (BMF)', the outcome of 'the High-level Intergovernmental Meeting to conclude the Asian and Pacific Decade of Disabled Persons, 1993-2002', held by the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) in Otsu City, Shiga, Japan in 2002, did not refer to disaster prevention. However, in Bangkok in 2007, strategies in five areas were discussed for 'BMF Plus Five', the mid-point review, which became the first proposal in Asia and the Pacific on this issue.

#### **Biwako Millennium Framework for Action towards an Inclusive, Barrier-free and Rights-based environment for persons with Disabilities in Asia and the Pacific**

“Disability-inclusive disaster management should be initiated. Disability perspectives should be duly included in the implementation of policies and initiatives in this area, including the Hyogo Framework for Action 2005-2015, an international framework for promoting the commitment of Governments to disaster management. Universal design concept should be integrated into infrastructure development in disaster-preparedness and post-disaster reconstruction activities.”

(Strategy 23: Biwako Millennium Framework Plus Five, 2007)

### 2. Bangkok Action Agenda

In 2007, 'the Asia Pacific Regional Workshop on School Education and Disaster Risk' jointly organized by the United Nations International Strategy for Disaster Reduction (UNISDR) and other agencies was held and the 'Bangkok Action Agenda' was adopted. This was the first detailed strategy not only in the Asia-Pacific region but also in the world and a major step. Contents are as follows:

- Design formal and informal educational strategies and materials specially for children with various disabilities, with their participation, and in accordance with their needs
- Reach out to children who are not in schools, including children with disabilities
- Update the minimum standards for the construction and operation of school buildings to incorporate disaster mitigation, allow for flexibility to suit local conditions and ensure that new school construction and disaster management planning include the application of 'accessibility standards' for students and staff with disabilities
- Make special outreach efforts to reach children with disabilities, their teachers and parents, both in mainstreamed school settings and special schools

<sup>1</sup> UNESCAP Population data Sheet 2007

### 3. ASB's disaster risk reduction education for children with disabilities programme in Indonesia

'Arbeiter-Samariter-Bund Deutschland e.V. (ASB) <sup>2)</sup> is a German NGO that went into action in Indonesia following the May 2006 Java Earthquake. In 2007, ASB started a disaster risk reduction (DRR) education programme and the initial target was children without disabilities. However, in the class, there were children with disabilities, so we designed materials again.

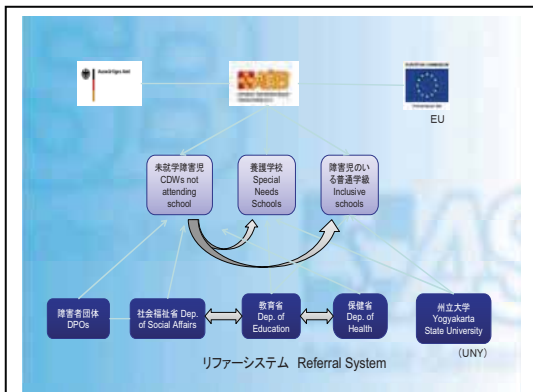


Fig.1 ASB's DRR education for children with disabilities programme

As Figure 1 shows, there are three different formats of the programme. The contents are as follows.

#### 3.1 At Special Needs Schools

Target	Contents
Teachers	<ul style="list-style-type: none"> <li>• Special DRR teaching materials for deaf and blind students produced (Multi-hazard DVD and Audio CD)</li> <li>• Training of teachers on how to teach DRR to children with disabilities</li> <li>• Training on “Total Communication” technique for teaching deaf students</li> <li>• Teachers to students DRR training</li> <li>• School hazard mapping</li> <li>• School Action Plan</li> <li>• Evacuation drill</li> </ul>
Students	

The target here is teachers and students. Different educational materials are provided to children in accordance with their disabilities. They also learn about disaster prevention through ‘Total Communication’ consisting of easy sign language and pantomime.



Fig.2 Teacher explaining DRR content using ASB's educational materials for deaf students



Fig.3 Deaf children acting out a pantomime to explain evacuation drill procedure. This ASB trainer is also deaf. ASB has three disabled trainers and encourages the disabled to both learn and teach.

In Indonesia, sign language is not sufficiently well established. Many teachers wonder how to communicate with and teach disabled children. ASB trains them, using special educational materials, and gives them full support by observing classes and assisting in evacuation drills if needed.



### 3.2 At Inclusive Schools

Target	Contents
Teachers	<ul style="list-style-type: none"> <li>Disability sensitization booklet produced</li> </ul>
Students with & without Disabilities	<ul style="list-style-type: none"> <li>Training of teachers on how to teach DRR to children with disabilities</li> </ul>
School committee	<ul style="list-style-type: none"> <li>Teachers to students DRR training</li> </ul>
Local builders	<ul style="list-style-type: none"> <li>School hazard mapping</li> </ul>
Lecturers & students of Yogyakarta State University (UNY)	<ul style="list-style-type: none"> <li>School Action Plan</li> <li>Evacuation drill</li> <li>Selecting DRR Focal Point teachers</li> </ul>
	<ul style="list-style-type: none"> <li>Disability sensitization workshop for school committee</li> <li>Training local builders to build safe accessible ramps for evacuation</li> <li>Improving accessibility in-out of schools</li> <li>Department of Special Needs Education, UNY to produce a degree module on DRR education for disabled</li> </ul>

Students in the class who do not have disabilities need to be involved in order that the whole class can support disabled students in an emergency.

If there are children in wheelchairs, ASB gives training to school committees and local builders on making school buildings safe and accessible. Laws and standards regarding accessibility for the disabled are enacted in Yogyakarta State, but in reality, are not sufficiently observed. ASB teaches in an intelligible way how to build safe schools at low cost and they are expected to apply what they learn to other buildings in the area.

Some governments of developing countries think that it is highly costly to provide buildings equipped for accessibility. ASB tries to diffuse information on low-cost methods to make governments realize how cost effective such building is.

### 3.3 For Children with disabilities not attending schools

Target	Contents
Children with disabilities	<ul style="list-style-type: none"> <li>CBDM with parents and neighbours</li> </ul>
Families	<ul style="list-style-type: none"> <li>Community hazard map</li> <li>Safe room setting for children with disabilities</li> </ul>
Neighbours	<ul style="list-style-type: none"> <li>Action Plan for families</li> <li>Creating emergency community assistant system</li> </ul>
Community Members	<ul style="list-style-type: none"> <li>Referral system to enroll schools (Fig. 1)</li> </ul>

In Indonesia, 90% of children with disabilities do not attend schools. With the help of disabled people's organizations, community based DRR education and training are given. Unless children are mentally retarded, ASB teaches them on a one-to-one basis, using the same educational material as used at schools. There are some disabled trainers. Their presence helps parents recognize the possibility of their own children making a social contribution in the future and the significance of putting them in school.

Many children stay at home with their grandparents during daytime because parents go out to work. Aged grandparents may be unable to help them evacuate safely if children were overweight. ASB urges neighbours to be involved and to create an emergency community assistant system.



**Fig.4 Families of children with disabilities and neighbours participating in a flood evacuation drill**

Community based activities are important. Since parents did not learn about disaster

management, they believe that in the event of an earthquake, it is best to leave their houses instead of hiding themselves under tables. It is not sufficient to teach only children at schools. The entire family should be given accurate knowledge. ASB tries to raise their awareness with regard to safe placement of furniture at home using a paper model and with regard to checking hazards inside their house. Besides giving them a pamphlet, trainers work with families to move furniture and pound in nails to fix furniture in place. They realize that they should do all that they can even if they are poor.



**Fig. 5, 6** Contemplating hazards inside their homes

### 3.4 Cooperation with different agencies

To implement this education programme, it is indispensable to collaborate with the ministries of education, welfare and health, disabled people's organizations and a university. In Indonesia, the education for children with disabilities itself is not very advanced. Therefore, by going beyond DRR education, ASB helps the teachers to teach disabled children generally and to build up their capacity through the training.

As Figure 1 illustrates, ASB cooperates with Yogyakarta State University. That university's

Department of Special Needs Education, the only one of its kind in the State, is producing educational materials for students. The materials present ideas on how to teach DRR as well as how to integrate the school and crisis management into it.

## 4. Conclusion – Prospects for Future

At the mention of disaster management for the disabled, the discussion tends to turn to how to protect them. But I think that what is needed in disaster risk education for the disabled is instruction in self-help. If they only have good information, they can take precautions against disasters and evacuate by themselves. Teaching materials appropriate for each disability such as visual ones for the deaf and Braille-based ones for the blind must be designed. From 2010, discussion on the disabled in Asia and the Pacific post-BMF will be started and disaster prevention with respect to self-help of the disabled themselves should be one of the topics.

At schools, teachers have low awareness and skills for teaching disabled children in general. Continuous capacity building and guides on how to teach disaster prevention to children with more complex disabilities are needed for teachers. Moreover, giving acknowledgment and a better social status to teachers will be of encouragement to them.

At community level, low awareness and understanding about disability issues still exist. Together with disabled trainers who get involved in community activities, ASB aims to improve disabled persons' status in each community. Hopefully, the entire community will understand and help one another.

In addition, ASB encourages central and local governments to initiate action on disability issues. Better information flow between them must be realized. They must establish good communication with each other in order that the disabled receive the greatest assistance from each division.

In the end, as a member of an international NGO, I want to mention the important role of

communities in recovering from disasters. After one big disaster hit, various international organizations and NGOs came to help and got into action without coordination. It is regrettable that it brought conflicts amongst different communities and ruptured their relationship. Furthermore, excessive aid made people dependent on it and deprived them of the capacity for decision-making. That is why some think that support for disaster risk reduction should be given differently: let community members themselves take the initiative and strengthen the cooperation within a community or amongst communities. Thus, let us consider what is necessary for better support with respect to regional development and sustainable disaster management.



## Disaster Mitigation Education from Kobe “Shiawase Hakobo (Let’s carry on happiness)”

Taisuke Matsuzaki  
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### 1. Introduction – DME in Kobe

The Great Hanshin-Awaji Earthquake of 1995 propelled Kobe’s City Board of Education and schools to reconsider disaster management education (DME) from the ground up. New curriculums were drawn up whose principles “utilized the experience and lessons from the earthquake in 1995.”

DME covers three areas, the first of which is “knowledge.” Students must be familiar with the mechanism and history of natural disasters. The second is “technique”: learning skills for self- and mutual help. First-aid and resuscitation training are included in this area. The third is “heart and mind,” in which students understand how important it is to help and respect each other. Based on these concepts, DME has been implemented at Kobe schools in the following ways.

- Practice in classes and commitment to local activities
  - Educational materials and curriculum
  - Disaster preparedness activities
- School crisis management manuals
  - School Action Plan/Earthquake Safety
- Training and capacity building
  - Teaching in schools by DME advisors
- Cooperation with other agencies
  - Programs for promoting DME

After 10 years of the program, a new keyword, “mitigation,” was introduced, addressing the necessity to stem the spread of damage in case of a disaster.

### 2. Importance of DME for local community governance

Activities in community based disaster

management and DME in schools existed before the earthquake, but the central purpose of DME after 1995 became the development of children’s “power to live.” Children must learn to think and act independently. Through DME, children learn the importance of human life, and are expected to protect others and to help each other.

One lesson from the 1995 earthquake is the importance of cooperation between school and community, which is crucial for the community’s disaster management capacity. Students are now involved in a greater number of joint community activities such as volunteering, evacuation training, and street cleaning. Local community members take part in school activities such as sport events that integrate elements of evacuation drills (“stretcher-relays,” for example).

In terms of cooperation with other agencies, Kobe City is currently promoting support programs for DME with the Hyogo Prefecture and the Disaster Reduction and Human Renovation Institution.

It is important that every municipality, board of education, and school takes a role in disaster prevention. A collaborative relationship between groups is the ideal; the sharing of information, knowledge and skills will undoubtedly lead to improved DME.

### 3. Is DME fading ?

When large-scale disasters hit, people become more interested in DME. Figure 1 illustrates the history of DME in Japan and in Kobe. After 1995 and 2004, the year of the Sumatra Earthquake, DME was regarded as essential all over Japan, even worldwide.

With the passage of time and generational change, however, many begin to forget the

disaster and the lessons learnt as a result. Training and the repetition of evacuation drills alone cannot motivate the population. Some might even think that it is unnecessary to participate.

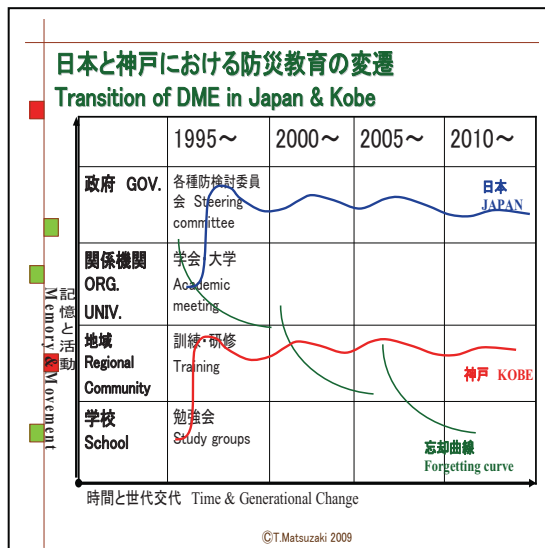


Fig.1 Transition of DME in Japan and in Kobe

15 years have passed since 1995. Today, one-third of the entire population of Kobe City and approximately one-third of 7,000 teachers in Kobe schools lack earthquake experience. Some lack an understanding of the importance of disaster prevention activities. They ignore that their own community may not be prepared for disasters to come. As a result, a societal gap has been created; some are well informed and possess knowledge and skills, while others programs for DME with the Hyogo Prefecture do not. Some teachers might hesitate to discuss disasters they have not experienced, believing themselves to be unqualified to teach DME.

To address these problems, “Shiawase Hakobo” was published, and new effective educational materials were produced in order for those who had no experience of the earthquake in 1995 could both learn about and teach DME.

#### 4. The visual version of “Shiawase Hakobo”

In 1995, Kobe City produced “Shiawase Hakobo” as a supplementary reader for DME, which was distributed at elementary and junior

high schools and revised as necessary. As the number of children and teachers without earthquake experience increased, it became necessary to make the contents more detailed and easy to understand

The Production Committee for “Shiawase Hakobo,” whose members were Kobe City, Kobe University, Yomiuri Shinbun Osaka and Yomiuri TV, produced a visual version of “Shiawase Hakobo” consisting of a side reader, a DVD, and a CD-ROM. Its contents include guidance plans, texts, statistics, and press materials from 1995 (televised images, newspaper articles and photos.)

The text was written by teachers, journalists, professors, and other specialists, all of whom experienced and studied that earthquake. The guidance plan explains the aim and plan of each theme in detail. Visual images and photos allow children to feel as if they were in Kobe in 1995. This material is also available for environmental and safety education classes.



Figs.2, 3 Aim and contents of “Shiawase Hakobo”

“Shiawase Hakobo” was distributed nationwide, and created a great sensation. Today, it is utilized extensively as part of the DME curriculum in schools, universities and local communities, as well as educational materials prior to school trips to Kobe. It is also used as training material for those working or studying at police, fire stations, or nursing schools: anyone who is engaged in disaster rescue activities. It is also used as a training textbook for crisis management in municipalities and companies.

#### 4. The future of DME worldwide

“Shiawase Hakobo” emphasizes the necessity of preparation and the importance of knowledge as it relates the experiences of and lessons from the Great Hanshin-Awaji Earthquake in 1995. DME leads to the revitalization and improvement of city planning. The idea of “mitigation” must be emphasized in this context.

In recent years, large-scale natural disasters have hit both Japan and foreign countries. Kobe, which is still grateful for the support it received 15 years ago, now gives support to these affected areas. We believe that it is very important to learn from other countries and regions, to teach and share our mutual understanding. “Shiawase Hakobo” is an excellent example of DME material on which other countries may base their own curricula. Currently, it is being translated into various languages. We hope that it will help develop DME in many other countries.



Fig.4 From Kobe to the world (in Algeria)

What teachers and training instructors felt after utilizing “Shiawase Hakobo”:

- “I could enable children to think about disaster management, our lives, and relations with other people”(teacher in Hokkaido)
- “This is very helpful in explaining disaster management to deaf students because it contains so many visual images”(teacher at a school for the deaf in Osaka)
- “I have used this material in teaching foreign students who have never experienced earthquakes before ”(professor in Nagoya)
- “Through this material, volunteers in local communities could better understand disaster” (Ukiha City, Fukuoka)
- “Very useful for workshops on community based disaster management and activities for mitigation” (NPO in Okinawa)

What students have felt

- “I was moved to see children playing on the playground of their temporary classrooms”(schoolchild in Shizuoka)
- “My life is the most important thing to me”(junior high school student in Kanagawa)
- “I learned how important mutual help is”(junior high school student in Algeria)
- “We have to save our lives by ourselves”(high school student in Armenia)

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# **Thematic Session 2 :**

## **Roles of Public Administration for Building a Resilient Community**

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**“Supporting Public Administration for Building Disaster Preparedness Capacity”**

Yoshiteru Murosaki, Professor, Gwansei Gakuin University

**“The Role of the Government of Fiji toward Disaster Resilient Country”**

Saimoni Waibuta, Principal Education Officer, Asset and Monitoring Unit, Ministry of Education

**“Supporting Local Government Agencies for  
Disaster Resilient Communities through UNCRD Activities”**

Yoko Saito, Researcher, UNCRD Disaster Management Planning Hyogo Office

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## Supporting Public Administration for Building Disaster Preparedness Capacity

Yoshiteru Murosaki  
Professor, Kwansai Gakuin University



### 1. Disaster Mitigation

The terminology of “disaster mitigation” has been used for many years among people overseas, but in Japan, the use of the word began after the Great Hanshin-Awaji Earthquake 15 years ago. Hence, the international use of the word and its Japanese usage may differ. My interpretation of “disaster mitigation” is what a small human being can do in a large disaster. What a small human being can do is limited, but the accumulation of the acts of many can result in saving lives. Therefore, disaster mitigation is an attempt at the “subtraction” of damages by the “addition” of measures. By effectively combining various measures, people can fight against large disasters and heavy damage.

Addition is a key word, and four kinds of additions exist. The first is addition of space, the second is addition of time, third is addition of people, and the fourth is addition of means. The addition of space and time is related to the necessity of community building. The addition of people and means is related to the creation and direction of a community.

#### 2.1 Addition of Space

On the national level, city level, community level, and neighborhood level, there need to be measures with respect to the addition of space. In the case of Japan and developing Asian countries, it is common that while measures exist on the national level, on the community level, measures are not terribly advanced. In the case of Japan, large roads and scale parks have been developed, but communities have been left behind, and are not a target of measures.

Resident-led activities for intensive regional change are indispensable at the community level. Building structures, fences, small narrow roads,

and so on need to be made safe. If not, a strong society and community cannot be built. In principle, people in the community should be engaged in this matter. The shape of fences, the color of a front door, the type of roof, and the location of furniture are the first basic principles that should be decided by the owner of a home. The positioning of furniture is especially important. In Japan, preventing furniture from falling at the time of an earthquake is a common issue, but actual prevention is not often promoted. If the mayor of a community gives a bottle of wine when all of the community members arrange their furniture intelligently, then, everybody would be encouraged to do so. Such an effort could be effective.

#### 2.2 Addition of Time

The addition of time requires not only immediate measures but a focus on preliminary and post-facto measures. Therefore, disaster mitigation should not be done directly after or at the time of a disaster, but should be performed before a disaster and during the rehabilitation process. For example, economic poverty, insufficient knowledge, and lack of education can become significant problems during a disaster. These handicaps must be addressed in order to make communities safe. During preliminary and post-facto measures, activities for intensive and continuous regional change in the long-term are indispensable.

#### 2.3 Addition of People

The addition of people concerns the direction that the community should follow. In regional planning, it is necessary and inevitable for governments and habitants to cooperate and collaborate with various organizations including NPOs, enterprises, schools, plants, and shops.

Activities for social cooperation that are rooted in the area are required. This is the accumulation of individuals. The role of a school is especially important, because if schools change, the children will change, if children change, the adults will change, and if adults change, the community can change.

#### **2.4 Addition of Means**

The addition of means regards the addition of hardware, software, and human resources. These three must be combined, and the way in which to effectively combine them must be considered. Activities for comprehensive town planning rooted in the region are required. In the case of the Great Hanshin-Awaji earthquake, residents of Matsumoto district in Kobe created a small stream during the restoration period since they were not able to extinguish the fire at the time of the earthquake due to a lack of water. The stream provides water at all times. In addition, they are growing goldfish in the stream for the residents to enjoy. The stream and the goldfish are the hardware portion. The residents clean the stream and provide food for the goldfish each morning, and they are cooperating and helping each other keep the stream clean. This is the software portion. In the process of raising goldfish, children learn the importance of life, which is the humanware portion. The combination of hardware, software, and humanware can be done only in a small community. One element relates to various other aspects and this relationship helps the community grow.

### **3. The Role of Government**

Governments should perform the work that only they can and should do. Local communities should help themselves, but in many cases, the national government or the local government in Japan has tried to proactively help much in the way that parents raise children. There are issues that should be covered by the local communities, but they sometimes lack the capacity, knowledge, information, financial

resources, tools, and instruments to do so. Therefore, the government ought to enhance the capacity of the community in the way that teachers educate their students. For example, while their teachers support them, students need to do their homework by themselves.

Governments have three official responsibilities for disaster mitigation. First of all, in order to mitigate disasters, a government should consolidate its institutions and foundations. Institutions, technologies, and disaster prevention education programs are hence necessary. Second is the response to large-scale needs such as infrastructure development, first-aid, temporary housing, and medications. These needs must be met by the local government, and smaller-scale needs should be covered by the local communities. Third is the most important point: local governments should supplement what regional societies cannot provide, such as protection from disasters, resource cover-ups, and activity support. For example, some disaster victims have no money to rebuild their houses; they cannot be covered by community level, and need to be supported and protected by the government.

In regional planning, it is imperative to recognize that the citizen is the key actor, and the government plays a complementary role. The government needs to work together with the citizen on regional disaster mitigation as a director, and to enable regional planning as a supporter.

#### **3.1 Information Support**

In supporting the flow of information, knowledge about disaster risks and mitigation are provided to the citizen and the community. It is necessary to educate the public about disaster mitigation, as well as risk communication. In areas where risk is widespread, the efficient dissemination of information is important. The local government needs to support risk communication by creating hazard maps, and so on. The government also needs to provide some



communication, information, tools, education, knowledge, and information related to disaster mitigation so that the public can enhance their ability to face the disaster. Arguably, the most important issue here is education.

### **3.2 Human Resource Support**

To implement regional disaster mitigation, it is necessary to provide various sources of manpower such as consultants, supporters, and coordinators. It is imperative to request and dispatch the specialists of town development “machi-zukuri”, livelihood support, and regional reconstruction.

When the Mid Niigata Prefecture Earthquake occurred in 2004, the prefecture had regional recovery experts and staff, in many cases, young students graduating from the universities. They went to villages and stayed there for 1 or 2 years to harvest rice, prepare a festival together with the village residents, and sometimes made some proposals regarding village-building. Dispatching such supporters can revitalize villages due to the students’ motivation. UNDRC and JICA also have some systems to dispatch sets of specialists to various regions.

### **3.3 Financial Support**

Financial support is important for region planning and disaster rehabilitation. It is indispensable for Financial Support to meet the specific needs of the communities and respect the local initiatives. It is also necessary to enhance systems such as block grants, rehabilitation funds, and mutual insurance for rebuilding homes.

### **3.4 Intermediary Support**

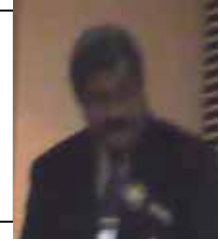
An intermediary support institution or a platform effectively accelerates the cooperation of regional planning. At the time of the Hanshin-Awaji earthquake, a support system was established that worked as an intermediary between the government and the regions to hear the voices of the regions and then to communicate with the government. Involvement

with NGOs and NPOs is necessary to identify and address the needs of the local community. It is therefore imperative to set up an organization or sphere that may effectively promote such support.

# The Role of the Government of Fiji towards Disaster Resilient Country

Saimoni Waibuta

Principal Education Officer, Asset and Monitoring Unit, Ministry of Education



## 1 . Fiji: Island County in the South Pacific

Fiji is a very small island country situated almost midway between the equator and the South Pole in the South Pacific. It has 330 islands and the total land area is 18,330 square metres. Suva, the capital, is on the largest island named Viti Levu. According to the 2007 census, the total population is 827,900. Fiji has two main seasons. From November to April, it rains a lot and sometimes, a hurricane strikes the country. From May to October, it is cool and dry. Drought often occurs in Viti Levu and the northwest part of Vanua Levu, the second largest island. However, Fiji is now experiencing a change in its weather pattern as a result of the global climate change.

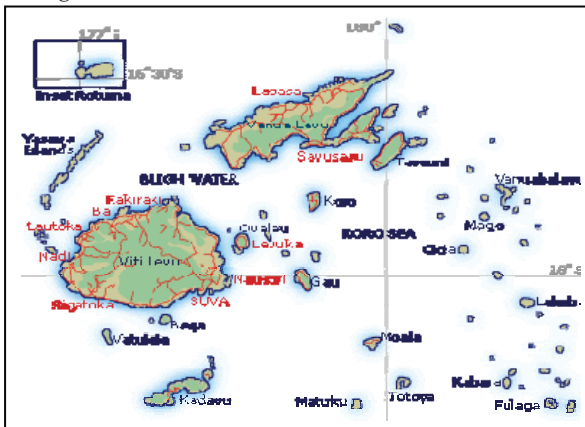


Fig.1 Map of Fiji. It is situated to the northeast of Australia.

## 2. Why is disaster management important ?

Fiji is in the Cyclone belt region of the Southwest Pacific and also in the Pacific Ring of Fire. Because of its geography, the country is prone to earthquakes, tsunamis, high waves, floods, landslides, drought, eruption of volcanoes and fire. In addition, Fiji is the transit point of air and sea routes between the mainland of America and Australia or New Zealand. Disaster management is important to protect this bridge.

### 2.1 'National Framework for Action'

A National Framework for Action was developed

following the second World Conference on Disaster Reduction in 2005. Its 6 themes are as follows:

- Governance- Institutionalization; Policy and decision-making frameworks.
- Knowledge, public awareness and education
- Analysis and evaluation of hazards and risks
- Planning for preparedness, response and recovery
- Effective, integrated and people-focused early warning systems
- Reduction of underlying risk factors

This applies equally to the central government as to a community on a remote island. The whole-of-country approach is promoted.

Fiji also takes part in the Pacific Disaster Risk Management Partnership Network, which was formed in 2006 and currently has 32 members such as international and regional organizations, government agencies of countries in this region and universities. The purpose is to develop and share the information database<sup>1</sup> of knowledge, policies and regulations with regard to disaster prevention in each country.

### 2.2 Transition of Fijian national policies with regard to Disaster Management

The history of challenges to disaster management in Fiji started in 1979 when a special unit called the National Emergency Services Committee (EMSEC) was set up at the Ministry of Home Affairs. The 'EMSEC Precautionary Manual for Emergency' was developed later into the 'National Disaster Management Plan' in 1995. In 2006, it was replaced by the 'National Disaster Risk Management Arrangement' to deal with both natural and human induced hazards. As a result, coordination and support systems between and within government

<sup>1</sup> [www.pacificdisaster.net](http://www.pacificdisaster.net)



agencies and their response systems improved. At community level, understanding of hazards and of disaster risks increased, as emphasis was placed on community involvement. Relief and rehabilitation systems were also improved.

What Figure 2 illustrates is the 'National Disaster Management Structure'. The National Disaster Management Office (NDMO) plays a key role and provides overall coordination when the Prime Minister declares an emergency.<sup>2</sup> Depending on each disaster, there is one lead agency that has primary responsibility and others support it. For instance, in the case of cyclones, the lead agency is NDMO. When it is an influenza epidemic, the Ministry of Health is the lead agency and others such as NDMO and the police support it. As Figure 2 illustrates, the whole country, from a district disaster management committee to a local village is involved in this structure. Furthermore, there is the early warning system of disasters using mass media.

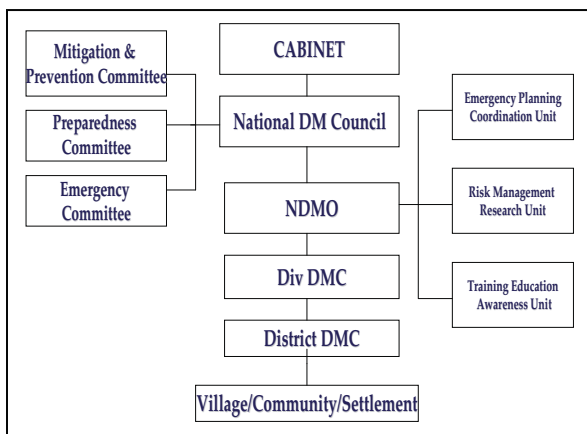


Fig.2 National Disaster Management Structure (Decision Making Process)

### 3. CBDM in Fiji

NDMO conducts training at different levels as well as programmes to raise public awareness. One of these programmes is the 'Annual National Disaster Awareness Week Programme', which has led to the installation of flood and tsunami early warning systems.

It has close relationships with different agencies and NGOs, for example, the 'School Retrofit Project' with the United Nations Centre for Regional Development(UNCRD).

<sup>2</sup> There is an emergency provision in case the Prime Minister or another cabinet member who can replace him/her is absent.



Fig.3 The Prime Minister at the launching of Disaster Awareness Week.



Fig.4 Students on the parade of Disaster Awareness Week.

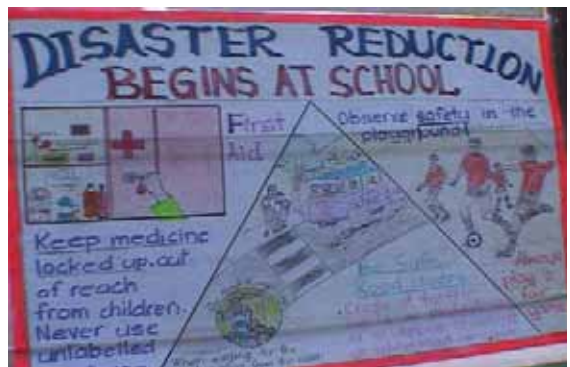


Fig.5 Under the theme of 'Disaster Reduction Begins at School', students draw risks inside and outside their school.

### 4. Closing

Fiji is often struck by different kinds of disasters, so the government plays a very important role and takes the initiative in developing disaster management infrastructure. This covers the whole country, from the central government to the regional and community levels. Great efforts to raise public awareness have also been made.

## Supporting Local Government Agencies for Disaster Resilient Communities through UNCRD activities

Yoko Saito

Researcher, UNCRD Disaster Management Planning Hyogo Office



### 1. The UNCRD and its disaster management projects

The United Nations Centre for Regional Development (UNCRD) under the direction of the Division for Sustainable Development, the Department of Economic and Social Affairs in New York, was founded in 1971 and its headquarters is situated in Nagoya, Japan. It has two regional offices in Latin America and in Africa besides the Disaster Management Planning Hyogo Office in Kobe, Japan.



Fig.1 The diagram of the structure of the UNCRD.

The following three are on-going projects of the UNCRD Disaster Management Planning Hyogo Office:

- Gendered Community Based Disaster Management (CBDM) in the Context of Regional Development
- Housing Earthquake Safety Initiative
- School Earthquake Safety Initiative

The focuses of the Hyogo Office are as follows:

- Research projects
- Training and capacity building
- International workshops
- Advisory services

The UNCRD has constantly published project reports and proceedings, which can be downloaded from the website of Hyogo Office.<sup>1</sup>

### 2. The UNCRD's past activities on CBDM

#### 2.1 The case in Nepal

In cooperation with the National Society for Earthquake Technology in Nepal (NSET), the UNCRD tried hazard mapping with the help of people in a community.

At first, we helped them understand what an earthquake is and the risk they will face. Secondly, they went into the town and assessed vulnerabilities and capacities by themselves, asking community people for their experiences of earthquakes, after which they held a discussion on the results, and finally drafted a hazard map by themselves.

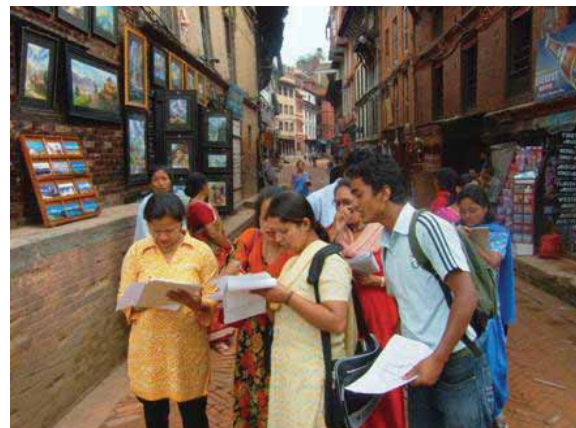


Fig2. Community participants investigating the town.

In many cases, a hazard map is not utilized after being drafted. We regarded this as a problem and hoped that they would make good use of their hazard map. For this reason, NSET supported its digitization, following which it was transformed into a signboard and put up in front of the municipal office and bus stop. The result was that even

<sup>1</sup> <http://www.hyogo.uncrd.or.jp>

non-participants became aware of what the map signified.



**Fig.3** The hazard map digitized and put up.

## 2.2 The case in Sri Lanka

In Sri Lanka, we organized a workshop for people who experienced the Tsunami in 2004 and they talked about the lessons learnt from the catastrophe. Many of them pointed out that cooperation among members of the community was spoiled because of excessive aid from abroad. Based on the discussion, they developed a street drama including children and performed it. Female participants found this workshop very interesting because it was creative and different from an ordinary workshop of instruction on evacuation or from support offering only relief supplies.



**Fig.4** Community participants developing a street drama based on their experience of and lessons learnt from the 2004 Tsunami.

## 2.3 Findings

One of our past inquiries as to where community residents would likely go for disaster mitigation information and training revealed that they trusted local administration most.

Furthermore, there would be no problem if only community people participated, though only in the case of a short-term programme. However, from a sustainable point of view, it is better to involve the local and even national governments in terms of funding and policy-making. The authorities need to increase their understanding of the importance of community-based disaster management.

## 3. Institutionalization of Gendered CBDM in the Context of Regional Development

Since 2008, we have conducted the project named ‘the institutionalization of Gendered CBDM in the Context of Regional Development’ in 4 countries<sup>2</sup>. The case in Bangladesh is introduced here. Bangladesh was hit by Cyclone Sidr<sup>3</sup> in 2007 and Cyclone Aila<sup>4</sup> in 2009.

We visited 3 unions (an administrative unit in Bangladesh) for the investigations. All of them are situated in the coastal areas and each population is about 30,000. There were few shelters before the cyclones and many people evacuated to schools. However, the number of shelters dramatically increased after the cyclones. We assessed cyclone shelter management and a different actor held the initiative in each case.

<sup>2</sup> Bangladesh, Sri Lanka, Nepal and China

<sup>3</sup> Dead: 3,406, injured: 55,282, affected: 8,923,259 people (Source : Ministries of Food and Disaster Management)

<sup>4</sup> Dead: 190, injured: 7,103, affected: 4,826,630 people (Source : Ministries of Food and Disaster Management)





Fig.5 Target unions for the project.

### 3.1 Padmapukur Union (Government-led shelter)

Padmapukur Union, consisting of 31,895 people, had 4 shelters before the cyclones and 6 shelters after.

In this union, the local government completely took the initiative in constructing shelters. Neither the disaster management committee (31 men and 4 women) of the union nor NGOs took part in it.

### 3.2 Gabura Union (NGO-led shelter)

Gabura Union, whose population is 36,565, recorded the highest death toll among these three unions (53 people, of whom 42 were female). The number of shelters increased from 4 to 14 after the cyclones.

This union also has a disaster management committee of 12 males and 7 females, but an NGO played a major role in the construction of shelters. The local government was not informed of it at all and had no intention of getting involved in the management though shelters are often utilized as schools in normal times. We found that the local government, the disaster management committee and the NGO had little contact with one another.

### 3.3 Nishanbaria Union (Community-led shelter)

In Nishanbaria Union where 35,500 people live, only 2 people (a man and a woman) died though it had a single shelter before the cyclones. However, the number rose to 10.

A characteristic of this union is that there is the

shelter management committee under the direction of the disaster management committee (29 men and 7 women) and it is composed of 18 men and 13 women, which is well-balanced from the point of view of gender equality.

In this union, the local government, NGOs and disaster management and shelter management committees were very active and discussed with each other management methods.

### 3.4 From the viewpoint of gender

As Figure 6 shows, the number of dead from the 1991 Cyclone in Bangladesh varies according to age categories but also according to sex.

Death toll

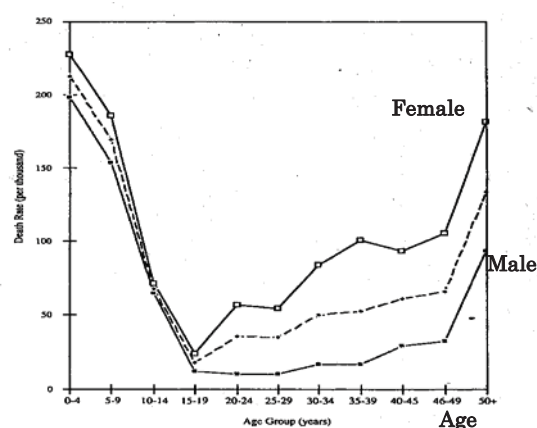


Fig.6 Death toll of the 1991 Cyclone in Bangladesh by age and gender (source : A.Mushtaque R. Chowdhury et al., 1993)

In accordance with age categories, the group of children under 10 years old registered the greatest number of deaths; however, among people aged between 15 and 50 years, females greatly exceeded males in the death toll, because most of these women waited for the head of their household to return home and died at home, without evacuating. This experience spurred the government of Bangladesh to train volunteers and to increase the number of shelters.

In a discussion with women living in Nishanbaria Union, we realized that they knew the evacuation routes to shelters and that their spouses understood their involvement in disaster management activities. Furthermore, they suggested that special attention should be given to those who were pregnant and

guidelines for making the stay at shelters comfortable should be provided.



**Fig.7 Focus group discussion with women.**

Based on these opinions, we are now planning training in safe shelter management. The role of the administration is very important in helping community members to feel secure at shelters when they evacuate there. That is why the target of this training is the members of disaster management and shelter management committees in Nishanbaria; the contents are the assessment of evacuation routes and discussion on good shelter management overall between the community and the administration. Then we plan to draw up guidelines for safe shelter management together with the government. In this process, the administration and the inhabitants are expected to identify other problems this region faces and discuss not only shelter management but also possible solutions together.

**4. Closing**

The keys to achieving a sustainable community are community participation, ownership in the decision-making process. The government should clearly understand the importance of community participation and think of ways to support. The local government itself needs to be involved as a member of the community, and to build capacity.

Gender perspectives in CBDM are also indispensable for creating safer and more secure communities. It is natural that all the community members, including women, children and persons

with disabilities should be respected.

Moreover, it is absolutely necessary to integrate climate change adaptation into disaster risk reduction.

## Closing Remarks at the end of the first day's programme

Masami Kobayashi

Professor, Kyoto University



I am Masami Kobayashi, the first coordinator of the UNCRD Disaster Management Planning Hyogo Office. Today, when I met Mr. Ando, the incumbent coordinator, and other staff, I realized that nothing had changed; as always, there were too few staff and too little money. In my opinion, this office is probably the smallest and most vulnerable among the UN agencies, but it still exists. I don't think that we have to tackle huge problems. It is enough if we do what we can. For example, if I had worked on the subject of global security in this office, no staff would have followed my directions. It was enough to meet members of a single community and discuss what they really needed. Of course, we didn't have a lot of money, but we had plenty of time. Within our limitations, we did our best. That was our way. I suppose that Mr. Okazaki; the second coordinator, Mr. Ando; and their colleagues have followed our pattern and also have a limited sphere of activity, but I am very surprised and happy that many people came here today, and I realized that they share our desire to serve the communities in need of help.

When I visited a community, I could not do everything on my own. I did not know those who faced the most difficulties; the leader of the community introduced them, and I enquired what they wanted. They did not make unreasonable demands of me at all. They only hoped, for example, to have education at school or to live in a safer place. When I needed assistance, people would suggest someone who could help me. With the support of community members, the local governments and NGOs, everything worked fine. It is true that I was wondering if there was more the UN could do, in receiving reports from there every 2 months or 6 months later.

However, I don't think that it is necessary for us to make all the arrangements. If only we lead the way by taking the first step towards the goal, I am sure that the communities will confidently advance by themselves. Even if we cannot utilize our knowledge, which is sometimes too difficult for the local people, we have the network of people to work with and to help us. This is our precious tool and strength. Our mission is to help vulnerable people in the community, such as women and children, to find solutions to their problems. This may sound strange, but I have come to believe this after years of experience.

Looking back on our past activities, the keywords that stand out in my mind are "independence", "self-help", and "cooperation". Education is also important. First, it is fundamental to learn from others, and then you have to study on your own in order to change your way of thinking or acting. Otherwise, nothing changes. I often encountered people who were more familiar with the situations I was in or the problems I was dealing with, and I learned from them. This knowledge was put into practice and transmitted to others in my further activities. I believe this simple process is called education. Mr. Matsuzaki from Kobe City Board of Education talked about how to learn 'the power to live' in his presentation. Apart from disaster management for instance, I don't think that it simply means 'the will to live'. It is 'the power to make you live'. In this context, the word has social connotations. When you purely want to survive, you may even kill somebody. However, when you struggle to save someone's life, you save your life at the same time, because you live then. In my thoughts, what 'self-help' probably means is to do your best for the person ahead of you, not to help yourself first.

Ms. Kani made the presentation on disaster management for people with disabilities. I understand why it has hardly been discussed—because not many people can connect disaster management with the issues of people with disabilities, and even the professionals in these two areas have had little cooperation from each other. I had a similar experience. In a meeting organized by the World Bank, when I mentioned insurance for the poor, those present said that it was ridiculous, for they thought that insurance was something for the rich who wanted to secure their fortune and could afford to pay for it. However, Grameen Bank forced people to think differently. Sometimes, things change drastically. It is not necessary to abandon what is thought to be correct.

The UNCRD Hyogo Office is a very small agency, but that is why we are able to hold points of view that differ from those of bigger organizations or to cover little problems those organizations may overlook. Possibly we can do nothing except share our ideas or knowledge with only one person. But if he or she tells it to two other people, and then those people tell it to others, it will gradually spread. We don't need to make our results sustainable by all means. What we should do is to do what we can today to make progress step by step. I believe that the reason why this office has been active for 10 years is that those who are present here have worked very hard. Thank you very much.

The 2<sup>nd</sup> day— 28 November, 2009

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## **Keynote Speech 2**

### **Thematic Session 3 : Roles of NGO for Building a Resilient Communities**

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**[Keynote Speech 2] “New steps for the Promotion of Regional Development”**

Yoshiaki Kawata, Executive Director, Disaster Reduction and Human Renovation Institution

**“Regional Disaster Management in Afghanistan”**

Masakiyo Murai, Director/Secretary-general,  
Citizens towards Overseas Disaster Emergency (CODE)

**“Retrofitting School for the Disabled in India”**

Manu Gupta, Director, SEEDS India

**“Water and Food Security for the Tsunami Affected Areas through Rain Water Harvesting”**

Tanujya Ariyananda, Executive Director, Lanka Rain Water Harvesting Forum

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# New Steps for the Promotion of Regional Development

Yoshiaki Kawata

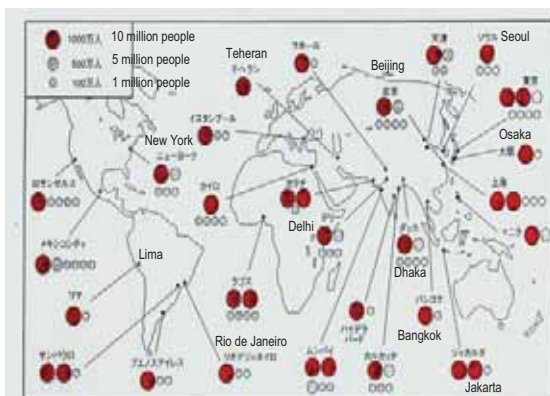
Executive Director, Disaster Reduction and Human Renovation Institution



## 1. Introduction- Natural Disasters concentrated in Asia

In the past several years, a growing number of disasters with unprecedented human damages have hit developing countries in Asia. In this region, around 40-50% of natural disasters in the world occurred, comprising more than 90% of the overall death toll.

In these countries, many cities are densely populated, and the number of people living in slums is on the increase. With rapid urbanization, shoddy and unsafe houses and buildings are constructed one after another, and infrastructure development is delayed. As a result, compared to the size of the death toll, the economic damage of the disasters is small, because it is mostly the poor who are affected. Furthermore, owing to the disruption of the natural circulation of water, floods happen more frequently. As cities become more vulnerable to disaster, we can predict a huge number of victims in the future.



**Fig.1 Metropolitan cities in the world in 2015**  
In Asia, there will be 250 cities with a population over 1 million.

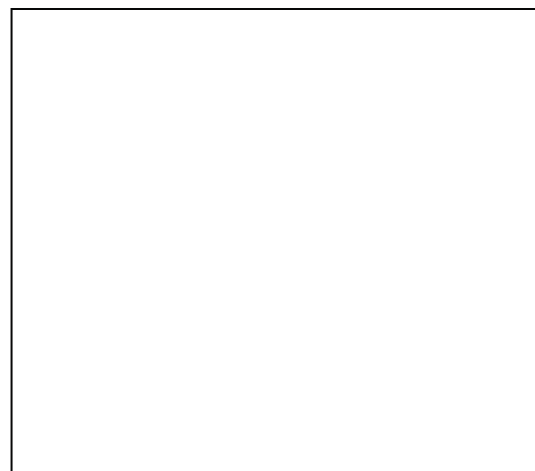
## 2. The vicious circle of population increase, poverty and disaster

Figure 2 illustrates the vicious cycle of increasing population, poverty, and disaster. In

developing countries, the decrease of the infant mortality rate has brought about an immense population increase, and new residential and agricultural lands are expanding. But in these vulnerable locations, and even with the same amount of rainfalls, geohazards and debris flow tend to happen more frequently. The new residents are hence thrown into a state of poverty.

If a disaster occurs in a local area, farmers may move to urban areas to find work, thereby causing a reduction of labor wages in cities. As a consequence, more and more people suffer from urban poverty. We have two vicious cycles in both rural and urban areas.

The number of victims of natural disasters has increased by 6% per year since 1960. Among them, 80 % are affected in cities and the poor there most severely suffered. Under the present conditions, citizens have a low degree of awareness of disaster risks, and the authorities lack the ability to deal with problems appropriately.



**Fig.2 The vicious circle of disaster and poverty**

### 3. Principles for Regional Development

To realize sustainable regional development, the following conditions need to be met.

- a. Break off the vicious cycle of poverty, population increase, and environmental degradation
- b. Increase job opportunities. Advance gender equality and the social status of women
- c. Create job opportunities that address the following areas:
  - Greenery projects
  - Decrease in the infant mortality rate
  - Decent jobs for women
  - Competitive precuts and markets
  - Far-reaching effects to other jobs
- d. Development of social infrastructure
  - Primary education (capacity building)
  - Health and hygiene facilities
  - Effective transportation and communication systems

The following systems also require further development:

- Growth of markets for local products
- Job opportunities for those who have studied abroad and then returned to their home countries
- Rise of social status of engineers
- Establishment of academic societies and promotion of development projects by research organization

### 4. Obstacles to disaster management in developing countries

One reason why disaster management projects face difficulties in developing countries is that their societies face many problems. Their leaders lack the capacity for good governance and a proper vision of the economy. They do not consider that they should be responsible for securing their citizens' livelihood. They are also often dependent on official development assistance (ODA) from abroad. Disaster management officers rely excessively on technical knowledge and have a tendency only to

plan the construction of facilities such as roads, bridges and dams. Disaster management strategy is often lacking, and many projects have wrong targets.

In addition, along with urbanization, the development of the economy is regarded as most important, and disaster management is often not taken into consideration. Moreover, if a war breaks out, it destroys the social infrastructure, which increases vulnerability to disasters.

### 5. Improvement of disaster reduction

How can we make a society resilient to disaster? First, it is very important to select the appropriate area in which a community-based disaster management project can be carried out. The most vulnerable group in the society should be given top priority. Disaster management technology and systems must be used to realize a safer society. As Table 1 shows, disasters vary according to the ages. Disasters occurring in different places are not comparable to each other in terms of damage. In the process of formulating a support project, it is necessary to grasp what kind of disaster recipient countries are hit, and with what frequency.

	Density of population	Population of disaster hit areas	Infrastructure development	Type of damages	Disaster process
Rural disasters	Average population density	No relation to number of population	Not yet developed	Classical	unique / known
Urbanization disasters	Increasing by year	20,000-30,000 to 200,000-300,000	Under development	Classical	unique / known
Urban type disasters	Several times to 10 times larger than the national average	More than 200,000-300,000	Developed once	Physical damages to facilities (entitled Life-lines' disaster)	plural / known
Urban disasters	More than 20 times larger than average	More than one million population	Imbalanced development	Catastrophic Disasters (human, physical)	plural / unknown

**Table 1 Classification of natural disasters (1995, Kawata)**

The reduction of scale and integration of projects is necessary. Projects should be compounded by many sub-projects of various sizes and from different points of view. Even grass roots movements must be supported.

From an economic viewpoint, it is ideal to recover the initial investment and to generate profit. Investments lead to the maintenance of

disaster management. It is necessary to evaluate costs and benefits, which is helpful for selecting target areas and ascertaining the possibility of a long-lasting economic surplus.

Low-cost methods should be developed. Practically, it is impossible to completely eradicate the damages resulting from a disaster. That is why it is necessary to think about reducing risks as much as possible: "mitigation." The financial resources of developing countries are not abundant, so the use of low-cost technologies is desirable in order to make disaster management projects effective.

## **6. How to better assist disaster management projects?**

The four principles of development assistance are as follows:

- Projects composed of complex elements from different points of view. Possibility of generating an economic surplus
- A social system for long-lasting effects of disaster management projects
- The correct system to take root in society
- Time span required for the plan to take root

Based on these points, assistance plans for disaster management in the past offer us several lessons. Japan and other developed countries have focused on emergency measures directly after the outbreak of disasters, and the construction of buildings or the provision of facilities for disaster reduction. Projects that encouraged local inhabitants or organizations to learn more about self- and mutual help were exceptional, and in fact, an excess of assistance sometimes spoiled them.

Facilities and equipment using advanced technologies and resources were revealed to be of no use after a short time, for developing countries lack the sufficient knowledge or financial resources for maintaining technology at that level. Seeing a lot of construction gone ahead, people may think that urbanization and economic development will be realized, and it

will lead to the reinforcement of disaster management capacity, but this is in fact not the case. Knowledge and time are always required for facilities to be well utilized, and construction per se is not in itself the goal.

Long-term maintenance will be realized by clarifying who takes responsibility, the establishment of rules within the group, and monitoring. Efforts to raise public awareness must be made. Measures are also needed to collect and communicate climate information, to identify dangerous zones, to prevent damages such as evacuation advice, and to reduce damages during relief actions.

Moreover, the alleviation of poverty, social development, and environmental protection must be addressed in order to improve disaster risk reduction. Projects must have targets, and require accurate analysis of the vulnerability to natural disasters.

It is also important to decide when and how to intervene. Four options exist: if the country is often hit by natural disasters but suffers relatively little damage, assistance to disaster prevention plans is effective. If confusion or conflicts exist within the society, it is better to intervene immediately after a disaster occurs. In case of disaster, despite massive damage, if the occurrence is rare and unpredictable, intervention at the recovery/rehabilitation phase is desirable. Finally, if disasters occur frequently and cause tremendous damage, it should be prohibited to live in the affected areas, and migration planning ought to be promoted.

There can be no positive results without the efforts of the developing countries themselves. Essentially, both self- and mutual-help are required, and public assistance will cover the rest. Foreign aid is the ultimate supplement. Disaster management is implemented by these 4 elements, but in past disaster management policies or projects, these elements have not been well-balanced. Developing countries need to consider what kind of support they require and by whom and what they are able to realize on their own, if such types of support are to take

root in their countries. In the process of mutual understanding between donors and recipients, the recipients must have ownership. ODA is expected to be invested selectively by evaluating efforts made by developing countries.

## **7. Conclusion- Disaster management is indispensable for every single development project**

The integration of social and scientific viewpoints is vital for disaster management assistance. Development that focuses on local culture and social capital will lead to disaster risk reduction in a direct, sustainable and supplementary way.

The opinions of researchers of sociology, anthropology, and area studies should be incorporated from the beginning of a project. Donors must support recipients with a comprehensive approach that will develop their existing crisis management mechanisms. Institutionalization and capacity building should be promoted in the process.

We mustn't forget that the "end-users" of development and disaster management aids are residents. It is crucial for them to get involved in community development and community based disaster management projects. They most likely already have the experience and existing bonds to help each other in case of a disaster. With financial assistance, donors should help them to develop their capacity, not spoil them through providing only advanced technologies and facilities.

Infrastructure cannot function if the risk assessment is not implemented sufficiently. Disaster management should be also taken into account in coping with the rapid increase of population and the accelerated urbanization. Disaster management has 4 phases: mitigation, preparedness, emergency response, and recovery/rehabilitation. The resources available at each phase are limited, and it is crucial to create projects from both engineering and social science perspectives. The resources and perspectives of the social sciences can also often

be of good use, and current development assistance programs require reconsideration.



## Regional Disaster Management in Afghanistan

Masakiyo Murai

Secretary-general, Citizens towards Overseas Disaster Emergency (CODE)



### 1. Introduction

Barack Obama, the President of the United States of America, announced the withdrawal of most American troops in Iraq and the deployment of extra troops in Afghanistan. Afghanistan, where lack of security due to acts of terrorism and political disorder over its 2009 presidential election continue to endanger life, is attracting worldwide attention again for the first time since 2001.

Since May 2003, an NGO, Citizens towards Overseas Disaster Emergency (CODE), has conducted 'the Grapes Growing Project' in Afghanistan. Many people may think that agriculture has nothing to do with disaster management. This project aims, however, at economic sustainability through reconstruction of agriculture in this country and then at establishment of regional disaster management. These two are complementary.

### 2. The Grapes Growing Project

History proves that the soil of Afghanistan is fit for growing grapes. One of the original strains of grapes was found in Afghanistan. People here began to raise grapes 4,000 years ago, and at one time, 70% of the world's raisins were produced in this country.

'Shura', a new cooperative of grape producers, was organized and CODE has financed it with money collected in Japan. CODE raised funds through the 'Grape Fund', and many people living all over the country have paid 3,000 yen for a year's share or 9,000 yen for three years' share ownership. The money is lent to Afghan people for the reconstruction of their grape fields. This is a kind of micro-finance system. CODE has also created agricultural arrangements or systems necessary for cultivation. In the beginning, 228 households were financed, but today the number has risen to 446. Some of them have already paid back their loans.



Fig.1 'Grape Family' project participants.



Fig.2 Some of them paid back borrowed money.

### 3. Training in Japan for Afghan farmers

From 2007 to 2009, in cooperation with Sayo town, in Hyogo, Japan, a group of Afghan grape producers participated in training. This was conducted as one of the JICA partnership programmes (Support type).

In Sayo town, they learned about rice terraces, which have a history going back more than 100 years and are made by piling up stones manually into stone walls. The rice terrace technique is considered practical in Afghanistan to ensure scarce rainwater is used efficiently, since droughts have had a serious impact on agriculture. The introduction of rice terraces will solve this problem and lead to the development of sustainable agriculture.



Another purpose of the rice terrace was to make the land disaster resilient, since this technique can be diverted to disaster prevention or to enhancing the mechanism of wells unique to this country, called 'Karez'. In fact, when Hyogo prefecture was seriously damaged by a large-scale typhoon in 2009, the rice terrace remained.

After training participants came back to their homes, they made stone walls, which protected houses and fields from floods. People there understood and appreciated the technique's manifold functions immediately.



Fig.3 Stonework for a rice terrace in Sayo town.

In the next training session, the Afghans learned 'no-till farming' in Yamanashi prefecture, the area of largest grape production in Japan. Mr. Kaoru Sawanobori, the instructor, has been practising this method of farming for 40 years. He never uses fertilizers or weed killers to cultivate his land, but his grape whose brand name is 'Olympia' is well-known internationally.



Fig.4 Training in 'no-till farming' in Yamanashi.

To Cultivate grapes does not require a lot of water. Due to this fact, grape production is suitable for Afghanistan. However, during the era when Afghanistan had strong ties with the former Soviet Union, people were encouraged to use a great deal of chemical fertilizers and agricultural chemicals, which spoiled the soil. Consequently, 'no-till farming' has been regarded as a useful technique in Afghanistan.

Mr. Kaoru Sawanobori insists that no special technique for farming is necessary except producing a new variety. The participants became aware of the necessity of producing their own new variety of grapes whose growth would make agriculture in Afghanistan successful.

In the workshops during this three-year training course, they reviewed what they had learned that would allow them to stabilize grape production over a 10-year period and make it sustainable.

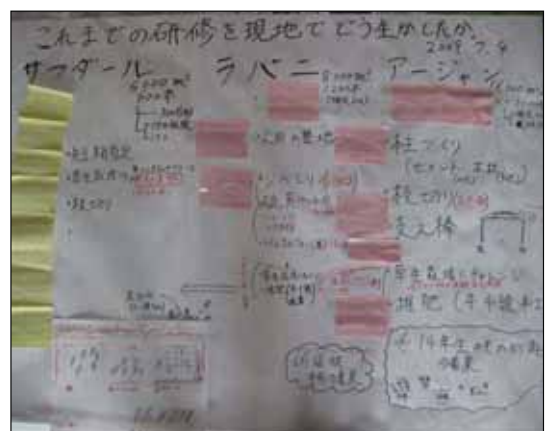


Fig.5.6 From workshops. On the blackboard, they wrote, 'At home, how did we utilize what we had learned thus far in Japan?'



#### 4. Poppies

A big problem with Afghan agriculture is the production of heroin poppies. They say that three-fourths of poppies in the world are grown here.

The Afghan government and people started to cultivate alternatives and CODE has tried to grow soybeans. 'Mochi (rice cake) soybeans' is a brand unique to Sayo town and various processed foods are also made from this bean. If the Afghans like eating them, it may be possible to develop this soybean's production, processing and marketing.

In fact, the American and South Korean governments are partners in a huge farm of soybeans. Our concern with this arrangement is that they grow genetically modified products that we fear will adversely affect all soybean production in the future. As an alternative crop, we now try to make use of sugar beet, which came from Afghanistan originally.

#### 5. Closing: All we need is Peace

Afghanistan has always been in conflict because of the political tactics of major powers and civil strife. In their discussion, the participants immediately realized that peace was essential for sustainable grape farming.

This three-year training course gave them the know-how to develop grape farming. It will ensure the stability of people's livelihood and the economic growth of the country, which will make the society and the community progressively more sustainable. However, first, absolute peace is vital.

Many countries have supported the reconstruction of Afghanistan. For instance, the Japanese government has sank about 5 billion US\$ into it, but has gradually shifted to focusing on assistance to public welfare, development of agriculture and capacity building, while stopping its assistance to US troops in the Indian Ocean. CODE expects the government's support, for we believe that this project towards sustainable agriculture will contribute to the realization of peace in Afghanistan. It will also bring about effective regional disaster management.



**Fig.7** Mr. Kaoru Sawanobori presented his own pruning scissors to the representative of the participants. This scissors was designed by him and used for a long time. It manifests confidence between him and the participants.



**Fig.8** We hope for the development of sustainable agriculture in Afghanistan.

## Retrofitting School for the Disabled in India

Director, SEEDS India

Manu Gupta



### 1. Current situation of the disabled

People with disabilities are often the worst sufferers in any disaster. Yet, there is so little that people have done to protect them. The issues that make them more vulnerable in disaster situations are as follows: people with disabilities often get separated from their families and caretakers in disaster situations, they are not able to see or hear warning signs in a search and rescue operation, they face problems in evacuation and often have the least chance of survival, and they fail to communicate in relief and rescue operations while stuck under debris. Disasters do not discriminate between minorities and majorities, the able-bodied and persons with disabilities, the young and old, and men and women, but vulnerable people are more affected by crises. This is where the greatest problem lies.

Approximately 10% of the world's population or 650 million people live with disabilities. They are, in fact, the world's largest minority. In India, 7.7 million people in the age group of 0–19, which includes children and young adults, have disabilities, out of which almost half are visually impaired and 2.2 million have movement-related disability. The total number of people with disabilities in India is 21 million. Other statistics show that 20% of the world's poorest people are disabled and tend to be regarded as the most disadvantaged in their own communities. There are between 120 and 150 million disabled children and young people in the world. People with disabilities are often relegated to the background in their own societies. Some 80% of these people live in developing countries.<sup>1</sup>

<sup>1</sup> UNESCAP Population Data Sheet 2007

Regarding global action for people with disability in disaster situations, the UN Convention on the Rights of Persons with Disabilities has two very important articles on the right to life and on the situations of risk and humanitarian emergencies. Article 10 specifies that 'State Parties reaffirm that every human being has the inherent right to life and shall take all necessary measures to ensure its effective enjoyment by Persons with Disabilities on an equal basis with others.' Further, Article 11 specifies that 'State Parties shall take, in accordance with their obligations under the international law, including international humanitarian law and international human rights law, all necessary measures to ensure the protection and safety of Persons with Disabilities in situations of risk, including situations of armed conflict, humanitarian emergencies and the occurrence of natural disasters.'<sup>2</sup>

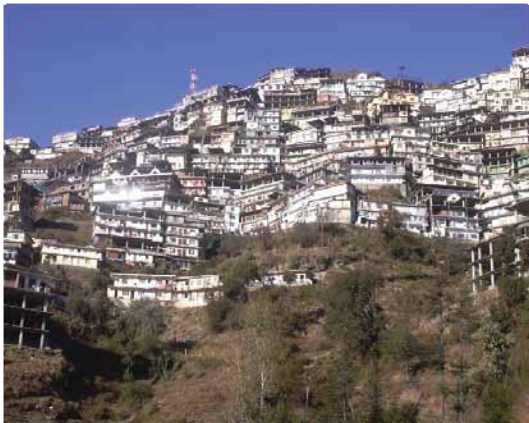
### 2. School Earthquake Safety Initiative in India

While there have been initiatives at the international level that recognized the need for action, there was a small experiment with the School Earthquake Safety Initiative in India, supported by the United Nations Centre for Regional Development (UNCRD). The School Earthquake Safety Initiative to deal with the disaster risk of people with disability was implemented by SEEDS and supported by UNCRD and other partners including the Empowerment of Children and Human Rights Organization (ECHO), Christian Aid, and the

<sup>2</sup><http://www.dinf.ne.jp/doc/japanese/rights/adhoc8/convntion.html>

state government of Himachal Pradesh in the city of Shimla.

This initiative was launched in an area that has not been affected by an earthquake for almost 100 years, although it lies in seismic zone number 5 which can attract earthquakes of an intensity greater than 8. This initiative started with the most vulnerable school in Dhalli. It is located at an elevation of 2000 metres in the Lower Himalayas. It is easy to imagine the problems associated with such heights in terms of accessibility and the slope stability. Further, it is in the Himalayan belt that earthquakes of very high intensity are expected.



**Fig. 1 Shimla, Himachal Pradesh**

This school is for the hearing and visually impaired. It has children from the first to the tenth grades. It has approximately 133 children, of which 21 are visually impaired and the rest are hearing impaired. Twelve teachers are specially trained to take care of the students. The students stay in a dormitory. The school has been located away from society and the main city because of society's prejudice against such children.

### **3. Interventions in Himachal Pradesh**

Efforts were made to promote a culture of disaster safety in schools and to build local capacity at the grassroots level. This was an opportunity to make a point about how vulnerable people with disability are in disaster situations and how the approach to disaster risk reduction needs to be all-inclusive. Our

approach was to look at three major aspects: basic disaster awareness; nonstructural mitigation, which deals with falling hazards; and structural mitigation, which deals with retrofitting of buildings. This knowledge had to be transferred through hands-on training, and the training had to involve not only the students and teachers but also the local government officials, engineers, contractors, masons, carpenters, and more importantly, parents from the local communities. Without their support, any intervention on disaster risk reduction would not have been sustainable or firmly established in the school.

#### **3.1 School Disaster Management Planning**

A whole series of interventions were planned in the Dhalli School, which resulted in the formation of the school disaster management plan. The first thing that was done was protecting the children by retrofitting the main students' dormitory because obviously their response mechanisms were slower. Now it has been completely transformed thanks to the intervention. A custom-made methodology was developed for special schools. The evacuation map was prepared in Braille Language. The communication and training material was also developed both in sign language and in Braille. The school disaster management plan included an evacuation exercise, taskforce training, vulnerabilities in and around school, and resources such as the phone numbers and other contact details of the local emergency departments.



**Fig. 2 Students' dormitory before the retrofit**



**Fig. 3 Students' dormitory after the retrofit**



**Fig. 4 The material in Braille**

### 3.2 Evacuation Training

What was observed in the whole earthquake safety exercise was the critical role of teachers even though they had disabilities. In fact, the head teacher is visually impaired, and it really depended on the initiative of teachers to introduce school disaster management planning. It must be ensured that the right message reached the children without creating any fear or panic. Further, it must be ensured that teachers were at the lead of all response efforts or evacuation efforts at the time of a disaster. At the same time, teachers have to build up the confidence of young students in such a situation.

Every child in the school was given an orientation about the school evacuation plan and was made to understand it. Then, 'the buddy system' was introduced. In this system, children with a particular disability would complement others with another disability. The hearing impaired children actually helped the visually

impaired by using their strength to support the others.



**Fig. 5 Evacuation training by the 'buddy system'**

### 3.3 Student Task Force Training

Student task force training was developed. Task force members were formed and trained in fire safety, first aid, warning and awareness, search and rescue, and psychosocial support. The concept of a support system has been introduced. Task force members include both visually and hearing impaired children. Despite their disabilities, the young children displayed strength and confidence in taking up training on each of these issues, even though they were major challenges.

For example, in the case of first aid training, the visually impaired student was able to feel the wounds and the areas of pain of the other child and was able to administer first aid. It was truly remarkable. Search and rescue training was carried out by the hearing and speech impaired students in the most perfect manner. Although there were a few limitations, it was a big surprise. Regarding the 'buddy system', the hearing and speech impaired helped the visually impaired during evacuation. They actually complemented and supported each other. The phrases of self-help, mutual help, and public help were repeatedly heard. In this particular school, amazing levels of self-help and mutual help were found, and they would probably require very little public support in the event of a disaster, which was a major lesson for us.





**Fig. 6 First aid training by the visually impaired.**

#### **4. Closing**

On behalf of the children and teachers at the Dhalli School and my colleagues at SEEDS, we would like to thank the UNCRD for their support and congratulate them on the 10<sup>th</sup> anniversary of the establishment of the Hyogo Office. Through the intervention of UNCRD, many messages have been delivered to the state and national government. They are actually thinking of developing an inclusive component in the national guidelines for school safety in the country. The 21 million people with disabilities in India will hopefully benefit from this small intervention in the Dhalli School.

## Water and Food Security for Tsunami Affected Areas through Rainwater Harvesting

Tanuja Ariyananda

Executive Director, Lanka Rain Water Harvesting Forum



### 1. The 2004 Indian Ocean Earthquake and Tsunami

Sri Lanka had never experienced a large-scale disaster until the Indian Ocean Earthquake and its ensuing tsunami hit in 2004. The disaster affected two-thirds of the country's eastern coastal areas. 35,000 people were killed or disappeared and 85,000 houses were destroyed. It also seriously damaged infrastructure and resulted in a staggering degree of loss.

### 2. Effects of Tsunami on the Water Supply

The 2004 tsunami destroyed many water supply lines along the coast. About 40,000 wells which 40-60 % of people living in seaside areas relied on were damaged. Groundwater was also contaminated by saline.

After the tsunami, people resettled in new areas where there was no infrastructure. They sometimes had to walk 2 kilometers to find water. Even today, groundwater sources and some wells still have high salinity levels. As time passed, bowsers started to disappear, and 2 years after the tsunami, owing to financial problems, we could not find a single one. The water supply was far from reliable.



Fig.1 Although they moved to safe areas, people affected by the tsunami had to walk a long distance, up and down hills to collect water.

### 3. The "Rainwater Harvesting" Project

To solve these water supply problems, the Lanka Rain Water Harvesting Forum launched a project in four of the affected districts: Galle, Matara and Hambantota in the southern province, and the Ampara district in the east. Over 3,500 domestic rain water harvesting systems were constructed and over 600 home gardens were established and improved.

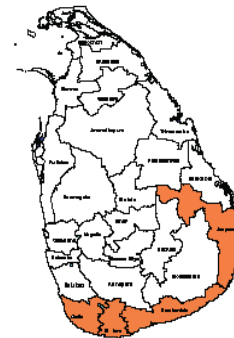


Fig2. Targeted areas (colored in orange)

#### 3.1 Initial assessment for feasibility

First, an initial assessment survey for feasibility was conducted. In the targeted areas, we looked into rainfall patterns and the number of beneficiary households (1,188 in Galle, 588 in Matara, 1,560 in Hambantota and 500 in Ampara, respectively.) Then, in consultation with the local authorities in administration, water and health, we identified prospective locations.

#### 3.2 Construction of Ferro cement tanks

After the initial survey, we began to design a system in accordance with the annual precipitation levels of each district. The amount of rainfall was 2,200 mm in Galle, where it rained the most, and 650 mm in Hambantota, where it was driest. On the assumption that five people live in a single house whose roof size is 50 square meters and use about 100 liters of water per day, the size of the tank for







**Fig.8** Government officers looking at drawings of children. They draw what they thought of water and tanks. We think that children who are also community members should be involved in the project.



**Fig.9** Operation and maintenance of tanks and hygiene trainings to householders in a community



**Fig.10** Plant nursery center

#### 4. The impact of the project

Two years have passed since the launch of this project, and thanks to it, about 18,000 people have had easy access to clean drinking water without spending extended periods of time collecting water as they had before (an average of approximately 1.5 hours per day). Communities rely less on external water sources such as bowsers. Due to the increased availability of water, water security at the household level was realized, and training on hygiene resulted in a decrease of illnesses such as diarrhea.

Over 50 young people were given technical training on the construction of rainwater systems. In the future, they will involve even more people in the project and disseminate information through operating companies.

Fresh vegetables and fruits from home gardens have increased the nutrition levels of residents, and enabled some of them to save money (US 30\$ per month). The construction of tanks and plant nursery centers raised employment levels, and allowed for environmental conservation methods to be introduced and practiced in the community.



**Fig.11** Clean and safe water is precious

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# **Thematic Session 4 : Future of Regional Disaster Management Strategies**

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**“International Recovery Platform: A Tool for Building Back Better in the Region”**

Sanjaya Bhatia, Knowledge management officer, International Recovery Platform

**“Case Study from the 2008 Sichuan Great Earthquake in China”**

Gu Linsheng, Director, Beijing Tsinghua Urban Planning and Design Institute

**“Climate Change Adaptation and Disaster Risk Reduction”**

Mikio Ishiwatari, Senior Advisor, Japan International Cooperation Agency (JICA)

**“Integrated River Basin Management for  
Effective Disaster Management in Central Vietnam”**

Phong Tran, Consultant, United Nations International Strategy for Disaster Reduction (UNISDR) Asia and the Pacific

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## International Recovery Platform: A Tool for Building Back Better in the Region

Knowledge Management Officer, International Recovery Platform (IRP)  
Sanjaya Bhatia



### 1. Overview of IRP

The International Recovery Platform (IRP) was set up in May 2005 in Kobe. It currently has a steering committee of 12 organizations. The chair rotates, and the current chair is the International Labor Organization (ILO). The steering committee includes all the major international organizations which are involved in recovery operations globally.

#### Members of IRP

Asian Disaster Reduction Centre (ADRC)  
Cabinet Office, Government of Japan  
Hyogo Prefectural Government, Japan  
International Federation of Red Cross and Red Crescent Societies (IFRC)  
International Labour Organization (ILO)  
Ministry of Foreign Affairs, Government of Italy  
Swiss Agency for Development and Cooperation (SDC), Government of Switzerland  
United Nations Development Programme (UNDP)  
United Nations Human Settlements Programme (UN-HABITAT)  
United Nations Secretariat of the International Strategy for Disaster Reduction (UN/ISDR)  
United Nations Office for the Coordination of Humanitarian Affairs (UN/OCHA)  
World Bank (WB)

### 1.1 Objectives

The objective of IRP is basically to ensure that Build Back Better happens, and Build Back Better is not only about infrastructure but also about communities, relationships, and

livelihoods. The specific objectives are as follows: to integrate risk reduction into post-disaster recovery, to disseminate the lessons learned by documenting successes and failures, to advise and support ex- and post-disaster recovery operations, and to facilitate South-South co-operation between disaster-prone countries to utilize the accumulated know-how of these countries.

### 1.2 Areas of Work

Our areas of work include advocacy and development of partnerships; knowledge management, which is one of our key functions; capacity building, which has become more and more important as we go along; and effective global recovery operations. The word recovery that is used here means the long-term recovery which may run from 5 to more than 15 years, not the response or the early recovery. There is Prevention Web and some might ask why another platform is necessary. There is a difference. IRP and Prevention Web work in very close coordination to ensure that this difference is very clear. Anything before a disaster is under Prevention Web's oversight and anything after the disaster is under the oversight of IRP.<sup>1</sup>

#### 1.2.1 Advocacy and Development of Partnerships

Regarding advocacy and partnerships, IRP organizes, sponsors, and co-hosts a number of workshops to share knowledge of recovery operations. In January 2007, the International Recovery Forum on Tsunamis and Earthquakes

<sup>1</sup> Prevention Web (<http://www.preventionweb.net/english/?logotext>) is a website in which UNISDR provides the information necessary for community disaster risk reduction.



was held in Kobe, the Regional Recovery Forum was held in New Delhi in November, and the Caribbean Conference on Comprehensive Disaster Management was held in Barbados in December. The most important workshop organized by IRP is the International Recovery Forum, which is an annual global event. The last one was the International Recovery Forum on Capacity Development for Better Recovery which was held in Kobe in January 2008. In 2009, the IRP Regional Workshops were held in Islamabad, New Delhi, Kathmandu, Yogyakarta, and Dhaka.

### **1.2.2 Knowledge Management**

IRP's strength in knowledge management lies in its having a basic database, which contains information on 31 major disasters from 1985; a reference database of more than 500 documents and publications about good practices, case studies, and recovery reports that are all related to post-disaster recovery; and a case study database, which includes lessons learned from ex-post recovery operations in more than 53 cases for 6 major disasters. All of the databases are in the public domain.

IRP is also developing info kits. Since each of the databases has thousands of pages and nobody has the time to go through them when a recovery operation is being planned, IRP summarizes, picks up the good and the bad, and presents them in info kits to make the information easy to read and use. The current focus of IRP is the eight themes as follows: shelter, livelihood, governance, environment, infrastructure, gender, health and social affairs.

There are a number of tools for recovery. One is learning from disaster recovery operations all over the globe. Another is the analysis of recovery practices. The other is a publication which is for the guidance of decision makers. IRP is also developing guidance notes on each of the eight themes mentioned above. Contributions from the global community on instances of successes and failures in recovery operations are always welcomed.

There is a newsletter called Recovery Network which aims to network the community of practice, to disseminate information and to create opportunities for knowledge sharing.

### **1.2.3 Capacity Building**

For capacity building, IRP is involved with the Earthquake Risk Reduction and Recovery Preparedness (ERRP) programme in Bangladesh, Bhutan, India, Nepal and Pakistan. The programme is supporting the South Asian Association for Regional Cooperation (SAARC) disaster management framework. ILO has developed the IRP Capacity Building Database which is an online searchable database of capacity building resources.<sup>2</sup> This is ILO's contribution to IRP. Any country, any national government and any organization can search for an appropriate capacity-building organization in this database.

### **1.2.4 Effective Recovery Operations**

For effective recovery operations, there is the process of post-disaster needs assessment (PDNA). All the partners to the post-disaster needs assessment process including the UN agencies, the World Bank, the European Commission, which is one of the prime donors, and national governments agreed to a common methodology linking Damage Assessment and Loss Assessment (DALA) and PDNA. IRP and its partners are currently in the process of developing an online web-based tool for PDNA workspace, which will be operational in February 2010. It will be a guidance tool for common use.

IRP is also helping regional organizations to develop the Pre-Disaster Recovery Planning Framework. The idea is to plan the processes and the systems which will be needed for Build Back Better before a disaster strikes so that the recovery process will be more efficient and effective. ASEAN has just started this process

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<sup>2</sup> ILO [Database of Institutions specialized in Capacity Building on Disaster Risk Management] <  
<http://irp-capacitybuilding.delnititilo.net/home>>

and IRP is giving them the technical input and guidance for the process. When a knowledge-sharing workshop was held in Yogyakarta recently, ASEAN was present in full strength to draw lessons from recovery operations in the region for use in its recovery strategy.

### **1.3 News**

IRP is evolving a website to make it more interactive and user-friendly, with new functions such as e-mail alert and RSS. The website also contains a newsletter, guidance notes and tools. IRP documents various recovery operations and is currently involved in documenting the new projects in China and Myanmar. The recovery operation in Yogyakarta is almost finalized. It will be presented later to give a sample of what comes out in IRP reports. Development of guidance notes is ongoing. The next major event is the International Recovery Forum at Kobe on January 16th, 2010.

### **1.4 Roles of IRP**

IRP offers lessons, good practices and bad practices, which are drawn out from the databases, and also provides guidance on recovery. The info kits for the Philippines and Samoa recovery operations were made through an analysis of these documents. The volume of info-kits varies from 2 to 10 pages, but basically, IRP is trying to make easy-to-read and ready-to-use materials for recovery operations so that the people and the organizations engaged in recovery do not have to do research.

IRP provides an opportunity to share experiences of post-disaster recovery because in recovery operations, what people want to know is what worked, what did not work, why they worked, what was learned from that and what can be done.

IRP also promotes South-South cooperation in the exchange and sharing of tools for recovery.

## **2. Lessons from Yogyakarta**

Yogyakarta suffered the May 2006 Java earthquake. The recovery efforts and the lessons learned from them are as follows.

### **2.1 Disaster-Proofing Cultural Heritage**

The example in Kotagede district of Yogyakarta shows how cultural heritage is being preserved. An earthquake struck Yogyakarta where there are many unique cultural heritages such as monuments, traditional homes and handicrafts. The government programme for reconstruction covered private housing but without regard for old construction designs because they were more concerned about the reconstruction of shelters. The folk heritages which are represented by traditional houses of wooden construction in the Kotagede District are being sold and removed from the heritage district. Therefore, those traditional architectures are in danger of disappearing. However, with the help of some agencies including Gadjah Mada University (UGM), a few of them are being preserved. It was impossible to preserve everything because of economic constraints. A damaged traditional house on 750 m<sup>2</sup> of land, including all furniture, in Jagalan, Kotagede was bought by UGM. A Centre for Heritage Movement was established in this house, now known as 'Omah UGM' (UGM house) in which there are public spaces called Pendapa, for example, a folk heritage museum corner, library, class room, meeting room, studio, office and archive. Pendapa was reconstructed in the traditional manner. Part of the damaged building on this property will be conserved as a monument to the earthquake. The whole project, which started 3 years ago, is continuing. Jogja Heritage Society, UNESCO Bangkok and UNESCO published the Homeowner's Conservation Manual for Kotagede Heritage District in 2007. Total Indonesia, ExxonMobil and JICA funded most of the activities. This example was interesting because not only were some efforts made to preserve cultural heritage after a disaster, but also there was a unique



public-private partnership.

## 2.2 Recycled Brick Masonry Wall Rubble for Reconstruction

Another lesson learned in Yogyakarta was the technology of using rubble instead of disposing of it. There was a common assumption that rubble must be disposed of. Therefore, most people threw rubble by the roadside or trucked it out of the area and dumped it into either the sea or some other area. The brick masonry wall rubble was crushed and converted to fine aggregate to be used for making mortar or concrete. The material for the cast in situ wall is made of mortar using fine aggregate from the crushed rubble.

The cost of conventional methods is much higher than the method using the recycled rubble. According to the cost comparison of walls made of recycled rubble and conventional methods for a typical 36 m<sup>2</sup> house, the total cost of conventional methods is 6,946,000 rupiah (excluding the cost of stone crusher machine and formworks), and the total cost of the method using recycled rubble is 4,965,000 rupiah (excluding the cost of removing the rubble from the site).

As a result, lessons learnt are as follows: application of recycled material reduces the cost of clean-up; the process of cast in situ is easy and masonry is not required, therefore the reconstruction process is quite fast; neither plastering nor finishing is required; and environmental impact due to the large amount of brick masonry wall rubble is reduced.



Fig. 1 Reconstruction using recycled rubbles

## 2.3 Small Industry Revival Programme in Kotagede

Kotagede also has many small industries, specifically in silver craft. The traditional craft, which is a home-based industry, suffered severe economic disruption from the earthquake. After the earthquake, there were no buyers, which meant that craftsmen had no livelihood. Therefore, UGM implemented a programme focused on support of the silver craftsmen, which was supported by ExxonMobil. UGM was able to help them redesign their products and market it outside Kotagede and Yogyakarta. A website was used for promotion and marketing.<sup>3</sup> All products appear in the Kotagede silver craft production catalogue, which includes product pictures, title of products, product specification (weight, material), designer and silversmith names, and price. Now anyone can purchase the products online. The products have gone to a number of national and international exhibitions such as the TexCraft Exhibition 2008 in Yogyakarta, the JA New York Summer Show 2008 in New York, the International Jewelry Festival 2008 in Surabaya, the Jogja Export Expo 2008 in Yogyakarta, and the Jewel Expo 2008 in Jakarta. Each silversmith secured orders worth 2,500,000 rupiah. The craftsmen were able to regain their livelihoods. The lesson learnt from this programme was that craftsmen can improve their skills, design, knowledge of marketing and promotion, and can revive from financial losses after an earthquake.



Fig.2 Silver products of Kotagede.

<sup>3</sup> <http://kotagedecrafts.multiply.com>



Fig. 3 National and international exhibitions.

#### 2.4 Infrastructure

Regarding infrastructure, recovery from the Yogyakarta Earthquake 2006 exemplifies Build Back Better for school buildings. There were two unique things about the recovery efforts.

First, the actors decided to improve learning-teaching quality at the schools. This was achieved by the addition of two classrooms: one as a computer laboratory and another as a language laboratory. The schools did not have these laboratories before.

Second, there was a unique relationship between a funder, a supervisor consultant, and a contractor. Three independent agencies coordinated the reconstruction to ensure quality of construction. The funder was the Indonesian Bank Association (PERBANAS). The supervisor consultant who ensured quality of design was UGM. The payments were released to the contractor at different stages of completion: 33%, 70% and 100%. The contractor would not get funds from the funder until the supervisor consultant certified that the design principles were followed and wrote a quality assurance letter. This was a unique methodology in that involvement of PERBANAS which is a private organization, UGM which is an autonomous body and semiprivate, and the contractor which is totally private facilitated adherence to construction norms and quality. This approach is very important for recovery operations all over the world.

### 3. Closing

‘... throughout the world, we must work harder in the recovery stage to avoid reinstating unnecessary vulnerability to hazards. ...building back better means making sure that, as you rebuild, you leave communities safer than before disaster struck.’ This is a quotation from Bill Clinton in December 2006; he was the UN Secretary-General’s Special Envoy for Tsunami Recovery at the time. He emphasized Building Back Better as seen in the quotation, and that is the basic theme of the IRP. It will become more and more relevant as a tool for regional development especially in the field of disaster recovery.

## Case Study from the 2008 Sichuan Great Earthquake in China

Gu Linsheng

Director, Beijing Tsinghua Urban Planning and Design Institute, China



### 1. Introduction – the 2008 Sichuan Great Earthquake

12 May 2008, a violent earthquake hit Sichuan. This was the fifth largest natural disaster in the Chinese history and the largest since the founding of the People's Republic of China; it affected a vast area and required a considerably challenging rescue and relief work. The centre of the earthquake, with a magnitude 8 on the Richter scale and a maximum seismic intensity of 11, was located in WenChuan, Sichuan. It shook the area for a relatively long period (80–120 seconds). The damaged area extended over 500,000 kilometres, and the immediate economic loss amounted to 85,510 Chinese Yuan (about 10 trillion Japanese Yen.)

Dead	69, 227
Possibly missing	17, 923
Saved	84, 017
Refugees	15, 100, 000
Injured	4, 300, 000
Receiving relief aid	8, 810, 000

(People)

**Fig.1 The human damage resulting from the 2008 Sichuan Great Earthquake**

### 2. What the earthquake brought about

#### 2.1 Disaster relief and reconstruction

Rescue and relief activities immediately after the catastrophe were highly regarded in the following areas:

- Prompt start of the national emergency rescue
- Prompt dispatch of police, army and national guards
- Introduction of latest technology and facilities
- Information release to the world
- Support focusing on general public's livelihoods
- Laws newly enacted for reconstruction
- Acceptance of overseas aid
- Mutual help among municipalities
- Importance attached to disaster damage and environmental assessment for reconstruction planning
- Increased participation of domestic and international NGOs and the village inhabitants
- Lack of coordination among disaster management agencies
- Lac of disaster management capacity
  - No disaster management plans
  - Little investment in facilities for disaster forecasting
  - Low awareness by the government and the people
- Insufficient observance of rules and standards on earthquake safety
- Not sharing knowledge with foreign countries experienced disasters
- Depopulation of farming villages because of urbanization

#### 2.2 Disaster management, economic growth and regional development

This huge-scale earthquake brought to the fore many problems in this region and even Chinese society as a whole, so that the recovery process was difficult for most people.

China has realized dramatic economic growth over the past 30 years after shifting to a market economy. While the development was rapid, disaster management was ignored. Several lessons came out of the earthquake. These were as follows:

After the earthquake, the United Nations Development Programme (UNDP) conducted an investigation in 5 villages in Sichuan, Gansu, and Shaanxi that revealed a lack of disaster management capacity in farming villages. With the number of migrant workers to big cities increasing, the working population, particularly the younger population, is declining. There was neither disaster preparedness education nor training. Neither were there maps of evacuation routes nor risk assessments. And, due to the lack of financial resources, there were no facilities for disaster prevention. Above all, owing to the lack of disaster management plans and systems, there was almost no method of communication. The need for prompt action in the emergency situation of a disaster had never been anticipated.

Moreover, geographical features and weather conditions also had a negative influence. The ecosystem is vulnerable. Besides, the area has ethnic and economic problems. In this area, many disasters occurred in the past, but people there took few measures with regard to disaster preparedness and mitigation because of pressing social and economic problems.

### 3. National Recovery Plan

The Chinese government promptly designed a recovery plan. This three-year plan (2008-2010) has the following goals:

- To restore basic living conditions and the speed of economic growth to the same level as before
- To harness resources for sustainable economic and social development
- To provide housing and job security, welfare, well-equipped facilities, economic growth, and environmental protection

The National People's Congress held on 8 March 2009 resolved that the executing term of this programme be moved up from three years to two years. The recovery project advanced faster than planned. By October 2009, 97.1% of farmers' houses, 86.9% of schools, and 91.5% of medical and hygiene

facilities had been reconstructed. In addition, among public and private companies whose annual turnover amounted to 5 million Chinese Yuan, 97.6% resumed operations.

## 4. Sustainable Recovery/Rehabilitation

### 4.1 4 key areas for sustainability

To achieve regional disaster management and recovery from disasters, there must be sustainability in 4 areas, that is, governance, systems, financial resources and capacity. The region must have resources for sustainable development. If it has, these should be utilized to the maximum. If it does not, it is necessary to find a way to produce them.

For example, *Hokusen* village, Sichuan, was destroyed and the whole town moved to another area. In the new village, not only housing but also an industrial park was constructed. The villagers are expected to live there permanently, the village to become animated, and the economy to grow, which will lead to sustainable development of the village in the future.



Fig. 1 Hokusen village, completely destroyed ( 13 May 2008, photographed by Mr. Oho Ki)

### 4.2 Recovery of farmers' villages

After the model of Taiwan, the 'Public-Private Partnership (PPP)' method was adopted, and the government cooperated with NGOs towards sustainable village development.

In Yangliu Village, the village recovery plan to make it disaster resilient incorporated the customs of the minority living there. The villagers participated in housing construction.





**Fig.2 Villagers participating in housing construction.**



**Fig.3 The atmosphere of the new village represents the ethnicity of the people living there.**

#### **4.3 Recovery and difficulties**

It seems that the recovery plan has advanced smoothly, but it is true that it has faced difficulties. In fact, there is a huge gap between goals and reality. With the recovery plan, urbanization and economic development have been quickly realized, but villages are far from being rich and by contraries, there has been damage to traditional cultures resulting in new societal strains. Villages tend to rely on financial aids from the authorities and abroad. Moreover, national standards for earthquake safety are unknown among the villagers and in general, the participation rate of the villagers in the recovery plan is still low.

## **5. Future Goals for Regional Development in China**

There are four key concepts for new community development with regard to the recovery/rehabilitation process. These are as follows:

### **5.1 Urban planning for a disaster resilient region**

Disaster management should be integrated into community development planning. It is necessary to assess risks and to design comprehensive disaster management and safety plans.

One of the tasks is to make public facilities earthquake safe. Besides, there was no evacuation shelter in China until the 2000s; however, in 2003 the first evacuation park in China was opened after a Beijing City delegation visited Japan. In the case of Sichuan, the recovery plan suggested that evacuation shelters be constructed in towns. This should be spread to the whole country later.

### **5.2 Good governance**

It is necessary that standards and rules established by the central government be followed throughout the whole country, particularly in rural areas. Stable financial conditions are also essential for urban planning in support of a safer society.

### **5.3 Capacity building and disaster preparedness education**

Public awareness must be raised. There are plans to open a municipal centre for disaster management. Japanese trainers came to China to conduct disaster preparedness education training.

It is also very important to transmit the earthquake experience and lessons to generations to come. Capacity building, especially of volunteers, is required. School earthquake safety and disaster risk reduction education must be compulsory.



**Fig.4 Safety Map** created by children in a kindergarten. Even little children learn about self- and mutual-help.



**Fig.5 The mural** of the kindergarten in the town of HanWang, photographed immediately after the catastrophe. Thanks to donations, it was reconstructed in spite of serious damage to the building.

#### 5.4 International exchange

It is desirable that countries and regions that have experienced large-scale disasters mutually teach and learn recovery process expertise and the policies of disaster management and mitigation. China, Taiwan, and Japan, and possibly Indonesia and other South-East Asian countries, must develop a system to share information.

### 6. Closing—New Regional Policies Taking Disasters and Risks into Account

Traditionally, regional development studies focused on the following subjects: regions suffering economic underdevelopment, depopulated areas, the gap between rural and urban areas, and difficulties in industrial development in rural areas. To solve these problems, the authorities operated public enterprises or subsidized developing regions.

The United Nations believes the following five components are fundamental for regional development: systemic and societal changes, good governance, participation of the inhabitants, environmental protection, and cooperation between urban and rural areas. Besides those, disaster and risk management should be integrated into new approaches to regional development.



**Fig.6 The new mural** after the reconstruction of the same kindergarten above, now named 'the house for friendship of the United Nations Children's Fund'. Children are the symbol of the future and will shoulder the responsibility for future regional disaster management and sustainable development. That is why disaster preparedness education for them is important.



# Climate Change Adaptation and Disaster Risk Reduction

Mikio Ishiwatari

Senior Advisor, Japan International Cooperation Agency (JICA)



## 1. Introduction

In 2007, the 4<sup>th</sup> Assessment Report of the Intergovernmental Panel on Climate Change announced that global warming was beyond doubt progressing. Many impacts were forecast. For example, it would rain more in Siberia and less in Africa and the Mediterranean coastal regions and with the rise in temperatures, more heat waves and large-scale typhoons were likely to happen. The whole world has since taken climate change issues more seriously.

## 2. What is happening in the world ?

### 2.1 Glacial Lake Outburst Floods (GLOF)

A glacial lake is a lake of melted glaciers dammed up. This 'natural dam' may break and cause floods.

In 1985, Dig Tsho Lake broke and 5 million cubic metres of water were discharged. It destroyed power plants, bridges and houses in low-lying areas, and some people died. Other lakes, for example, Tsho Rolpa Lake, also might cause GLOF.

According to the research on Imja Tsho Lake conducted by JICA, it is unlikely that GLOF happens immediately. The International Centre for Integrated Mountain Development (ICIMOD) assumes that GLOF does not cause huge damage—60 houses at the most.

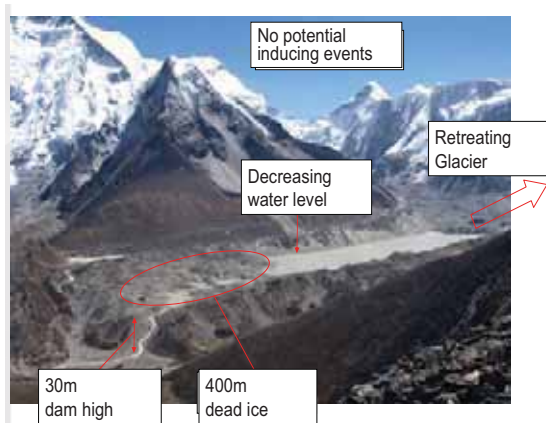


Fig.1 Imja Tsho Lake

The impacts of climate change are attracting a great deal of attention. However, Nepal is also prone to earthquakes and mudslides, which occur more frequently and cause more serious damages. It is necessary to determine priorities and to take measures based on a wider perspective.

### 2.2 Tuvalu: A country sinking into the sea

Tuvalu is an island country located in the South Pacific. It is said to be sinking into the sea because of the low sea level and global warming. The inquiry group of JICA found coastal erosion during their visit to Tuvalu. Tuvalu is prone to disasters (mainly, cyclones), as well.

However, it has been observed that the sea level is rising by a few millimetres each year. Other countries also face this problem. Even in Japan, there are many residential areas of low sea level, for example, Kotho Ward, Tokyo. It is too early to conclude that Tuvalu is sinking into the sea because of the impacts of climate change.

What we should really discuss is that this small densely populated country has become rapidly urbanized, which actually led to coastal erosion, inundation and water pollution. The country has become increasingly vulnerable to climate change.

It is true that Tuvalu will be in danger if the sea level rises by dozens of centimetres; however, we need to evaluate the impacts of climate change correctly, as in the case of GLOF in Nepal. We have to analyze the risk involved based on scientific data and take appropriate measures.

## 3. What will happen in Japan ?

According to a report by the Ministry of Land, Infrastructure, Transport and Tourism, in 100 years, precipitation will increase everywhere in Japan, which will lead to frequent floods and large-scale disasters. By contraries, during a farming season, it may hardly rain and the agricultural industry will

experience losses.

It is also predicted that in three large metropolitan areas, regions more than zero metre below sea level will expand. If that happens, coastal or low sea level areas will be exposed to water-related disasters and to storm surge caused by typhoons.

The Japanese government changed their slogan from 'no damage' to 'no victims' upon receiving the report of the Social Infrastructure Planning Council in 2008. It is also very important that the government continue to function effectively.

#### 4. JICA tackling climate change adaptation

##### 4.1 The case of Cavite Area, the Philippines

Cavite Area is located on Luzon Island and to the southwest of Metro Manila. This area is prone to frequent floods. An inquiry held by JICA revealed that in 2050 the annual precipitation and frequency of floods would be on the increase and that the flood volume would increase by 25–50%. Currently, about 20,000 houses are supposedly affected, but in the future, the number will more than triple to 70,000.

Besides the impacts of climate change, the rapid urbanization in Metro Manila is also a factor. Even the hazard area is densely populated, and more rainfall due to the impacts of climate change increases the frequency of and the damage caused by floods.

We cannot directly apply a conventional approach to handling climate change. If we plan to widen a channel, several people must emigrate from the surrounding area, which may be difficult to achieve. If we try to heighten a dyke, there is increased danger due to the rise in water level. We have the following five measures for dealing with flooding:

- More retarding basins in urban areas (leaving some areas undeveloped)
- Land use control (prohibition on residences in hazard area)
- On-site regulation ponds (use of small spaces such as tennis courts)
- Flood hazard map and river water indicator for flood warning

- Community based disaster management (workshops, walk in a town)

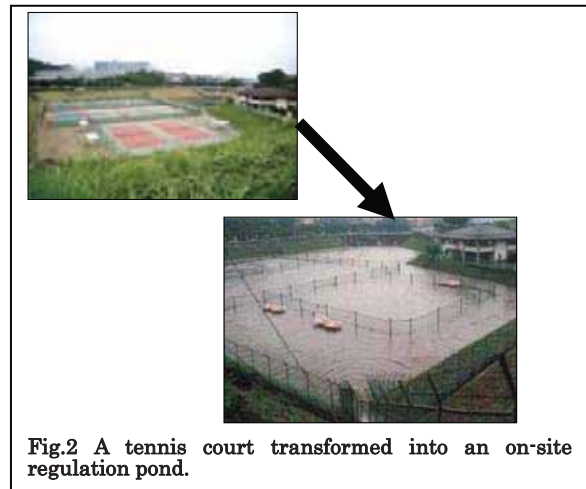


Fig.3 River water indicator for flood warning. Two marks differently coloured show the rise in water level.



Fig.4 At a workshop

## 4.2 Nyand River Basin, Kenya

Nyand River Basin, found in the western part of Kenya, is hit by floods almost every year and sustains great damage. JICA involves the inhabitants in securing evacuation routes and safe and comfortable shelters, in hazard mapping and in carrying out evacuation drills and first-aid training as well as river improvement works.

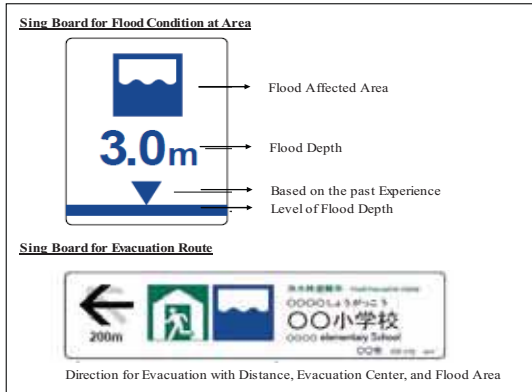


Fig. 5 Signs, commonly found in Japan, are introduced to show evacuation routes



Fig.6 River improvement works using low-cost method.



Fig.7 Heightening an agricultural road to make an evacuation route safe.



Fig.8 In evacuation shelters, facilities such as wells and toilets need to be equipped in preparation for a lengthy stay.



Fig.9 Evacuation drills

## 5. Closing

As the case in the Philippines shows, both climate change and urbanization increase disaster risks. In particular, developing countries have to cope with both problems.

Approaches from different perspectives are required in addition to conventional river improvement works. One of the most important ideas is that the community or government has the capacity to manage problems. Communities in the Philippines and Kenya have good capacity when it comes to mutual help, while the capacity of the governments needs to be enhanced.



# Integrated River Basin Management for Effective Disaster Management in Central Vietnam

Phong Tran  
 Consultant, UNISDR Asia and the Pacific



## 1. Introduction- Climate Change and Central Vietnam

According to the World Bank, Vietnam is one of the five countries most affected by global climate change. If the sea level rises at 75 cm from now, large parts of the Mekong Delta and the Red River Delta will sink into the sea. Floods and typhoons hit the country almost every year, and environment degradation, insufficient disaster management measures have caused additional damage.

## 2. Disaster Characteristics and Trends

Floods, typhoons and droughts are common in central Vietnam, and with global climate change, they have begun to occur more frequently and on a larger scale. Figure 1 shows the average monthly precipitation during the rainy season (between August and December) from 1960 to 2004; it is evident that, year after year, it rains more and more. Figure 2 also illustrates that during the rainy season, more disasters tend to happen compared to in the past. In addition, disasters tend to last longer, such as the 1999 flood. Flood season is unpredictable, and it often comes earlier than before.



Fig.1 Average monthly precipitation in rainy season from 1960 to 2004

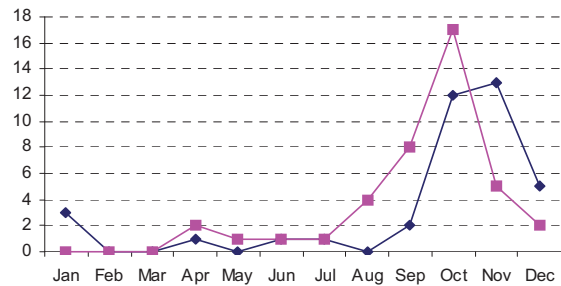


Fig2. Disaster frequency by month in Thua Thien Hue Province (blue: from 1804 to 1945. pink: from 1975 to 1999)

## 3. Social Change and Disasters

Vietnam shifted to a market economy in 1989, which brought economic growth and urbanization, but also caused environment degradation and social change.

### 3.1 Deforestation

Many people in central Vietnam used to live in lowland areas close to lagoons, but the government forced them to move to uplands for reasons of safety when the forests were cleared for cultivation. During the economic boom, even in coastal areas, deforestation for shrimp farming occurred. As a result, with heavy rains, water, earth, and sand flow to the lowlands, causing flooding. Forests play a negligible role in scaling down catastrophic floods, a fact which tends to be overlooked. Deforestation affects crops in the lowland areas and makes farmers more vulnerable.

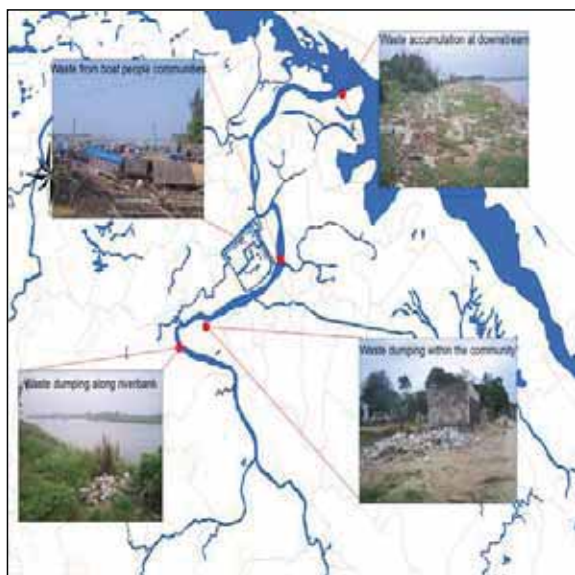
What's more, the mangroves are also being destroyed, which makes the coastal zones more vulnerable to floods and typhoon, and damages the diversity of flora and fauna.



**Fig.3 With deforestation, many serious disasters happen all over in lagoon areas in blue.**

### 3.2 Waste dumping

Urbanization has brought with it many lifestyle changes. Most waste used to be organic and disposed of naturally, but today, there is much plastic and metal waste. Vietnam, especially in rural areas, has no system or knowledge of how to deal with waste dumping. Consequently, because of heavy rains, refuse drifts to lower land and accumulates there. Water flow is blocked by waste, thereby intensifying disaster risks.



**Fig.4 Waste dumping found everywhere in lagoon area**

### 3.3 Poverty

About 80% of the people in central Vietnam earn a living through agriculture or aquaculture; these industries are controlled by weather conditions and the economy is unstable. There is no way to adapt to climate change, for advanced agriculture technologies do not exist.

In terms of living conditions, the Vietnamese are at risk due to unsafe housing and a lack of hygienic facilities. More and more people leave their homes during flood season, heading for Hanoi or Ho Chi Minh City, where jobs can be found more easily. Then, the majority of those who are staying in villages are children and the aged, who are obviously more vulnerable to disasters.

The government continues to go ahead with development projects, but high percentage of people are in fact living in unsafe conditions and an unstable economy. They are prone to great disaster risks.

## 4. Challenges of Floods and Risk Management

Some catastrophic floods were exacerbated by the development of main roads and dyke infrastructures in the lowlands, although the impact of climate change was also a factor. When the heavy rain occurred, forests in the uplands could not prevent water from flowing to the lowland areas, and as the rapid construction of infrastructure blocked the water flow to the sea, catastrophic floods occurred.

Although these floods were on a larger scale than before, the same coping mechanisms as for normal-sized floods were used. The government tried to control the flooding by constructing reservoirs and dams in the upper mountain, which turned out to be ineffective.

At the national level, the government has already developed “the national target program for climate change response” and “the national strategy for disaster reduction until 2020.” There has been, however, a huge gap between the central and local governments. At the community level, disaster management still focuses on coping with emergency situations. Development programs fail to integrate disaster management at the district level. Although



disasters, development, and social problems are connected, no disaster management programs have addressed their interdependence.

Still, the government tries to implement poverty alleviation programs and ease the economic difficulties of communities in the upland areas. They may have the opportunity to integrate disaster risk reduction. Furthermore, in rural areas, their social capital and pre-existing knowledge would be helpful for building the disaster management capacity of the community. More people understand that the community has an important role in coping with natural disasters, and widely accept the idea of community-based disaster management. Concerning deforestation, people plant more and more under the “re-forestation program.”

In the end, Vietnam is now seeing the rise of civil society. There is a positive relationship between people and the state, which requires government accountability regarding disaster management.

**5. Conclusion**

Social vulnerability should be considered as a core risk component of flood disasters. Some development projects lack a risk assessment process. Preliminary flood risk assessments should be carried out before formulating any new development project.

Development and urbanization will bring more environment degradation and an increase of disaster risks. In addition, with the ongoing situation of climate change, traditional coping mechanisms for floods will be less effective, and integrated river basin management strategy should be developed. There are three components to be integrated: disaster risk management, the sustainable use of natural resources, and environmental management.



## Questions from the audience

**Question1** I've heard that in China in Vietnam, all the inhabitants must participate in river improvement works in the community where they live. Do they still do so?

**Gu Linsheng** : In the past, People's Commune mobilized them for making dikes during the agricultural off-season; however, I think that today, construction firms hire farmers as you do in Japan. In fact, almost all the works were done in the era of Mao Zedong.

**Phong Tran** : Vietnam shifted to a market economy in the '80s and farmers do not have to do voluntary work any longer. But at the same time, in some rural areas, people cannot afford to hire workers, and they leave river improvement works incomplete. This is a new problem.

**Question2** In China and Vietnam, are local governments in charge of designing disaster management plans?

**Gu** : In China, municipalities design each comprehensive programme of disaster management, and also programmes specializing in each kind of disaster, environmental issues and war.

**Tran** : In Vietnam, the Central Committee for Flood and Storm Control of the central government annually sends notification of designing a disaster management plan to local governments or communities. However, they scarcely prepare in advance, and when a disaster happens in reality, they hasten to take measures.

**Question3** In your presentation on the IRP, you mentioned the post-disaster needs assessment and development of a common methodology. What is the difference between what you want to develop and what other UN agencies do? Does it include giving special attention to people with special needs?

**Sanjaya Bhatia** : This Post Disaster Needs Assessment, called PDNA, is a process for long-term recovery. It is not the assessment focusing on very immediate needs after a disaster. The PDNA process is led by the national government of the country affected and coordination is done by the World Bank. The participants include the local governments, all the UN agencies and NGOs. They form teams and cooperate from various points of view such as poverty alleviation and urban development. The teams go into the field and do an actual assessment of the damages, the losses and the cost of reconstruction.

Concerning your second question, it depends. The IRP can play a role in pointing out the gaps which are often overlooked in the reconstruction process led by the government. That is why, with inputs from NGOs and others, we are able to show these gaps to the world and try to integrate all the vulnerable into the recovery process.

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# **Panel Discussion : Regional Disaster Management for Sustainable Development**

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**Facilitator** : Kenji Okazaki, Professor, National Graduate Institute for Policy Studies

**Panellists** : Mikio Ishiwatari, Senior Advisor, JICA

Amod Dixit, Director, NSET

Manu Gupta, SEEDS India

Yoko Saito, Researcher, UNCRD Disaster Management Planning Hyogo Office

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Professor, National Graduate  
Institute for Policy Studies

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**Yoko Saito**, Researcher, UNCRD

**1 . The purpose and questions under consideration (by Mr.Okazaki)**

Recently, large-scale disasters have successively occurred in Iran, the Indian Ocean, Pakistan and China and many thousands of people died. Due to the impacts of climate change, water-related disasters and droughts also affect us. Disasters are not a phenomenon in nature, but result from the activities of human beings. Under this conception, what is a 'sustainable society' or 'safe and secure society'? What kind of problems should we tackle in the process of regional development? These are questions posed by the secretariat of this symposium and will be the topics of today's discussion.

In addition, this symposium is held to celebrate the 10<sup>th</sup> anniversary of the inauguration of the UNCRD Disaster Management Planning Hyogo Office, so we would like to discuss how the UNCRD can achieve sustainable regional development in future, in terms of disaster management, also.

In my opinion, disasters are the result of the impact of development on nature, and sometimes, a huge number of people are killed. Environmental issues concern the negative impacts on nature brought about by development. It is possible that the occurrence of a disaster leads to environmental degradation and by contraries, that environmental degradation causes more disasters.

However, a large-scale disaster seldom happens. Possibly, it never happens. People don't tend to take measures against anything

uncertain. Good preventive measures require the consensus of community members. It is most difficult to motivate and convince the public. To raise public awareness, NGOs play a supplementary role to the authorities, though very important.

There are 3 things I think important: firstly, 'ownership' is fundamental for sustainable community based disaster management. It is essential to think, plan and act independently, not to be coerced by others into doing things. Recently, 'risk communication' has been one of the topics often discussed. It doesn't mean that specialists only teach. Specialists themselves have to learn about the region where they work. Specialists and people living in a community teach and learn mutually the risks involved and how to cope with them, which finally leads to motivating the community members. Secondly, technologies appropriate to developing countries need to be developed. Thirdly, cooperation among actors in various domains is crucial. Without partnership at regional or international levels, things don't work effectively.

Finally, I also want to give my own opinion of the UNCRD's future activities. The UNCRD has two offices in Japan, Nagoya and Kobe, and works on the issues of regional development and the environment, and of disaster management, respectively. These issues can be dealt with in an integrated manner, but the UNCRD has never done so. So I think that the UNCRD can relate them to each other and take a comprehensive approach towards sustainable development.



**Mr. Kenji Okazaki, Facilitator**

## 2. Discussion

**Question1** What role does disaster management play in the process of sustainable regional development? (including presentations of each panellist and his/her organization and its activities)

**Okazaki** : I would like to ask Mr. Mikio Ishiwatari to speak first. He is a senior advisor of JICA and a specialist on river engineering. Please tell us about your organization's disaster prevention projects conducted in several countries, and any efforts to firmly establish the outcomes of 2-3 year projects in targeted areas, if you will.

**Ishiwatari** : Thank you. JICA used to focus on technology transfers and built dams and dikes in many countries. In many cases, Japanese government officials transferred technology directly to the partner country. But this trend has changed greatly in the past couple of years, and what we regard as very important now is different from our past construction activities. We call communities the main actors and think that municipalities, NGOs and universities play a role in supporting them. What JICA does is to assist them in their activities.

When it comes to sustainability, I feel as if I were tackling a problem I could never solve. For example, in most projects of community based disaster management, we choose about three pilot sites, and 2-3 year activities there result in drafting a guideline in the end. We hope that local people continue the work or that other communities will learn from the example, but in reality, they seldom do. But, I want to talk about our mudslides and flood prevention project in Nepal as a good example. There are three important points. The first is capacity building. JICA is really good at it. As has often been said, talented people are indispensable for building a nation. Partner countries send people to Japan for training and the Japanese go to their

countries. The second is institutionalization. In the case of Nepal, JICA's project office was upgraded to an authority, that is, the disaster management bureau, like the river bureau or the road bureau. A regional office was also established. Although the project came to an end, there remains the specialized bureau. The third, the most important, but maybe the most difficult, is to budget continuously. In spite of having a small amount of money, the government of Nepal has budgeted for disaster management as well as for roads and irrigation. With these three elements, the Nepalis keep carrying out activities, though JICA no longer gives them much support. They have started to decide for themselves what is best and to act upon it.

When we start a project with a community, we tend to stick to details such as how to make a hazard map or to write a textbook. They are important, but in designing a project, we should remember that we have to hand over the project and let the community do it all by themselves in due course.

**Okazaki** : Thank you. The next is Mr. Amod Dixit, who is the director of the very famous NGO named NSET. It works very hard on earthquake risk reduction, and also community based disaster management. I guess that you have difficulties in making the results of projects sustainable and in spreading your ideas to other communities. Please tell us your experience, in these areas.

**Dixit** : Thank you. NSET is an NGO tackling earthquake risk reduction and I am one of the five founders. To begin with, we researched the causes and impacts of earthquakes, and focused on how to protect human lives and to reduce risks. At first, we conducted several pilot projects and they were successful. They taught us an important lesson: the key is the acceptance of the community. Specialists want to give advice about this and that, but it does not make sense if people in communities do not



accept it.

All of us are engineers or geographers, so we tended to talk about technical or scientific methods or hazard mapping. They are, of course, important, but we realized in the early stage that the most critical concern was to save as many human lives as possible and that it was necessary to look into their surroundings.

Technical methods for disaster prevention must be linked with people's daily lives to be applicable and to be sustainable. Disaster management has connections with poverty and should be integrated into development projects at community level. But, specialists in development issues such as poverty alleviation are not eager to work with us, specialists in disaster management.

And now, there are 2 tasks that I think NSET should tackle. The one is to encourage dialogues among different specialists working in related institutions, such as those of poverty, disaster prevention and the environment. And the other is to institutionalize the efforts that will result in programmes at national, regional and community levels.

**Okazaki** : Mr. Ishiwatari introduced their project in Nepal as a successful example. It is about mudslides prevention; you may not know about it in detail, but if you have any opinion about JICA's activities in Nepal, please share it.

**Dixit** : Well, JICA's project has been very successful as well as others. But I have to say that it still focuses on the hardware part. Of course, they made efforts in capacity building, but until now, no one has taken on the role of giving advice to the national government. There are the specialized organizations, programmes with good content and financial resources, but they should strengthen the linkage with the communities for further sustainable capacity development. Capacity building means not only giving training but also enabling the participants to put knowledge into practice and

to develop their faculties. More efforts must be made. I hope that this project will finally result in projects at the national level.

**Okazaki** : I suppose that 'institutionalization', which both Mr. Ishiwatari and Mr. Dixit have mentioned, is one of the keywords of this discussion. The next speaker is Mr. Manu Gupta. He founded an NGO, 'SEEDS', in India when he was a student. SEEDS works on disaster preparedness; it also worked on recovery activities when India was hit by the 2001 Gujarat earthquake and the 2004 Indian Ocean earthquake. Based on your experience, could you talk about sustainable regional disaster management or disaster management for sustainable regional development?

**Gupta** : Thank you and good afternoon. I am here today as a representative of SEEDS and an Asian network of NGOs called ADRRN (Asian Disaster Reduction and Response Network). Sixteen years ago, I was engaged in the foundation of SEEDS and in relief activities as a volunteer in the case of several catastrophic disasters in the '90s. And I am a professional of development issues.

India, whose population is huge, has one of the largest knowledge pools in the world, and at the same time, in the same country, a lot of people are dying because they lack knowledge and access to safe housing and clean drinking water. So SEEDS's mission was transformed by the realization that we need to bridge the gap between knowledge and practice, and practice here means reaching out to the most vulnerable. The bottom line of our activities is education, not only in the formal sense of education in schools, but also by a whole variety of means depending on the capacity of local communities. For example, we provided knowledge for illiterate people in a way they could understand and accept. Our activities have been very successful, but there remain problems in terms of sustainability.

A few successful initiatives are as follows: one is the institutionalization of education. It is crucial to make people understand about sustainability. Another is funding. We have recently set up 'the Community Disaster Resilience Fund'. We put a small sum of money at the disposal of local communities, such as community based organizations, volunteer groups and even local elected government. They use the money for building resilience in their own communities.

The other is networking. SEEDS or any other NGO is a small organization and has its limit as to what it can do. So we tried to find institutions that had common goals and were ready to work together. The great outcome is ADRRN, consisting of 16 countries and 35 NGOs. At the national level, there is 'the National Alliance on Adaptation and Disaster Risk Reduction', and about 150 organizations and individuals are promoting disaster risk reduction. Networking enables the good results of one single organization to be replicated and to be more efficiently available for others.

We also take up advocacies at the national and the state government level. This is most difficult for us. Most governments do not give priority to disaster risk reduction in their agenda. We should make it attractive so they would integrate it into their plans.



**Panellists (from left: Mr. Mikio Ishiwatari, Mr. Amod Dixit, Mr. Manu Gupta and Ms. Yoko Saito)**

**Okazaki** : I am interested in what you said, so I will ask you 2 questions. Firstly, what is the difference between 'the Community Disaster Resilience Fund' and micro financing such as Grameen Bank? Secondly, what has been achieved as a result of advocacy at the national government level? I have heard that national policy with regard to disaster management changed drastically after the 2001 Gujarat Earthquake.

**Gupta** : What Grameen Bank has done is introduce a micro credit scheme, and they lend money to individuals and relatively small groups. Our fund is more like grants. Each has its merits. The basic difference is that we do not expect immediate returns and that people have wider freedom to invest the money in whatever they want.

Concerning your second question, it is true that there has been policy change after the earthquake. And the tsunami in 2004 has accelerated the changes. For example, the National Disaster Management Authority was established. In terms of advocacy at the national government level, we succeeded with regard to school earthquake safety. The national government instituted a special committee to come up with guidelines on school safety, and then the Supreme Court made it mandatory for all schools. Actual disasters pushed the government to take measures, but I think that this is the result of civil society lobbying.

**Okazaki** : Next, I would like to ask Ms. Yoko Saito to present the UNCRD's activities, especially in terms of gender and sustainability.

**Saito** : Problems related to sustainability are a major concern for me. In our activities, the establishment of the disaster management committee is often discussed. In the case of Sri Lanka, the national government has already established the comprehensive disaster management plan, and I heard that each village

has a disaster management committee. However, in the village I visited, the committee was not active at all. In Sri Lanka, each village has many kinds of committees: for funeral, micro credit, sports etc. As the government directed, they tried to establish a disaster management committee as well, which did not work. It is a question of acceptance. As Mr. Dixit indicated, it is critical whether the community members accept the idea or not. They are voluntarily engaged in the management of committees which meet their needs, such as those for funerals, micro credit or sports, while they are not as interested in something they are obligated to do. It did not take root.

In another case in Bangladesh, we had a dialogue on the disaster management committee with the inhabitants of a ward in Dhaka. We talked with them about why it was necessary and how it was to be established. Finally, the ward leader joined the discussion and the committee was founded under his authority. This ward had a problem with flooded roads, due to lack of infrastructure, garbage and water supply stations. These are free of charge and water was running 24 hours a day there. But people complained of a shortage of water during dry season. We asked questions and discussed the problem with them. Some said that they should start by stopping the water running. This was not our opinion, but that of the community members. The faucet commonly used in Japan might be stolen, so a wooden one was installed under the supervision of the members of the committee. And they started activities for raising public awareness.

When this case was introduced by them on the occasion of the national-level workshop organized by the UNCRD, government officials were surprised and adopted it for use in the national plans. What we did was only to facilitate, not to indicate. We discussed with local people and told the authorities the outcome. This made me think that we should serve as intermediaries between local communities and

the government, which will result in sustainability.

**Question2** How should we treat environmental problems and disaster management? Recently, climate change has had a great impact on the frequency of disasters. Should we consider disaster management as related to environmental issues?

**Ishiwatari :** As was presented previously, with climate change, conventional approaches won't work. In short, even if we construct a lot of dykes along all the riversides, they are useless against larger-scale floods, which possibly occur more frequently because of climate change. In the case of the Philippines, we have decided not to do it, because we are not sure of the effects. We should adopt different measures from those that are common in Japan. However, I do not mean that we are not going to construct dams or dykes. We should select important areas, for example, Metro Manila, to be protected. But the fact is that dykes are not always useful. Based on what I said, in regional development, we should look over the whole river basin, and then choose one area for development and others to be protected, respectively.

Kobe is a good example. Mudslides often happened on the hillsides of Mt. Rokko in the past. But today, we see no serious risk factors and even a lot of plants remained, because the municipality regulates and protects the plants. Nobody lives in the hazard area, so risk reduction has been successful there. These kinds of policies are desirable for climate change adaptation.

In addition, Toyooka city in Hyogo which was hit by a large-scale water-related disaster about 5 years ago is reconstructing dykes, and also put up signs to indicate the evacuation route in case of floods. It is important that all community members get involved in disaster management.

**Okazaki** : Thank you. NSET is a group of specialists in earthquake risk reduction. But Mr. Dixit specialized in geology, and when we talked yesterday, he said that in his youth, he had investigated glacial lake outburst floods, as was mentioned in Mr. Ishiwatari's presentation. I am sure that you would like to give some comments, Mr. Dixit.

**Dixit**: I have investigated the causes and impacts of glacial lake outburst floods. I am also informed about flash floods, which happen more frequently. NSET takes other types of disasters into consideration as well as earthquakes. We are going to all the 758 municipalities in Nepal and helping them to integrate earthquake risk management into their annual plan, but people often ask us questions on floods and other environmental issues. One and a half years ago, I was responsible for developing a national strategy of disaster risk management. Of course, it included not only earthquake but also different kinds of disasters. As in the discussion on disasters, 'community', 'local government', 'self, mutual and public help'—these are keywords for discussing any hazards implied by climate change and environmental degradation. Sometimes people laugh at me, talking about these problems, but they are mistaken.

Recently, NSET has strengthened the tie with SAARC (South Asian Association for Regional Cooperation). We jointly organized a workshop on climate change adaptation and disaster management and the results were developed into a sort of road map. We have diversified our activities, and intend in particular, to carry on more dialogues between the main actors in those two areas. We are taking two approaches. One is advocacy to the central government, and the other is the development of integrated plans at community level.

**Okazaki** : Next, I would like to invite Mr. Gupta. Cyclones often occur in the Indian Ocean causing serious damage to India and

Bangladesh. I know that SEEDS has got involved in the recovery process in many cases. So from this aspect, or even from a different aspect, could you make any comments regarding environmental issues and disaster management issues?

**Gupta** : A lot of things such as earthquakes and the impacts of climate change affect the livelihood of persons, and when we think of impacts at community level, our thoughts converge on specific issues that relate to safety and sustainability.

To give an example from our activities, Northern Maldives is facing beach erosion and rising sea level, so we have developed 'coastal bioshields'. To be brief, we plant seeds along coasts. It is the first layer closest to the sea, and has the capacity to hold sand together against erosion. Trees that grow there have spread their roots widely in the earth and are able to survive. They are not affected by the salinity of the soil. And in the second layer, behind them, we plant seeds of spices to grow higher up. These act as 'wind buffers' to protect against winds and also tidal surges. Depending on the soil conditions or locations, we can actually select species that will have multiple functions of protecting against sea level rise and cyclones, and at certain points, they also provide opportunity for economic development among local home garden plant traders.

Of course, coasts are common property in the local community. For example, it bothers fishermen who wonder where they will put their boats. However, what is most important is to save our livelihood and lives, so we have to establish good communication with the local people and find the best solution.

**Okazaki** : I would like to turn to Ms. Saito. She has also worked on flood control projects in Bangladesh, and this is also related to the impacts of climate change. Could you give your view in relation to climate change and disaster

**Questions?** How should the UNCRD tackle the issues of regional development, environment and disaster management?

Bangladesh is the most affected country among the target countries of my projects. We know it, so we have to manage it. Countermeasures are needed. As Mr. Okazaki made mention of environmental issues, I would like to comment on these. I talked about flooded roads in an area in Bangladesh earlier. The major reason was very simple: the gutters got clogged. When it rained hard, filthy water and garbage overflowed and spread over the villages. Sometimes, epidemics arose. In discussion with the community members, we realized that it was caused by garbage they dumped as well as insufficient infrastructure. I told them that they should think about what they could do by themselves, not only criticizing the government.

In another area, I had dialogue with the inhabitants there on climate change adaptation. But it was difficult to make the community members aware of climate change, so I asked them to give examples of something they feel has changed. They said, 'It rains more frequently'. 'Unusually, a cyclone hit the country', 'The rainy season lingers'. Then we have further discussion on how to change them and to adapt to the situation.



**Ishiwatari** : In designing a project, I always refer to the UNCRD's publications related to community-based disaster management and 'A User's Guide' (published in 2004). I hope that the UNCRD leads us and continuously publishes guidelines and documents to let us share your advanced knowledge. In particular, for climate change adaptation, we can't cope with the problems using only conventional methods of river engineering. It would be appreciated if the UNCRD systematizes your experience and knowledge that you have accumulated from past projects on river basins, larger areas or communities. Of course, JICA also has technology and accumulated knowledge, so we are ready to cooperate with you.

**Dixit** : In every country the UNCRD is working with, there have been tremendous changes in recent years. At regional level and in organizations that many countries have joined, people understand the necessity of taking active measures in disaster management and dealing with climate change, and have initiated action. I hope that the UNCRD will be a good partner to them in implementing policies. And don't forget the great results of your activities such as the 'Hyogo Framework for Action'.

Also, dialogues with civil society organizations should be expanded, not only those which governments recommend. It is desirable that you cooperate with civil society and specialists in various domains.

Additionally, improve your means of capacity building. Especially, it would be nice if you focused on training trainers. Training one single trainer is equivalent to training the thousands of people he or she will train in the future. And you are expected to get together actors in climate change adaptation, disaster management and poverty alleviation, and to facilitate their dialogues.

I also hope that you constantly publish the outcomes of your projects. Certainly, many people read and use these as materials for



training, and then take action based on the knowledge gained, which is absolutely wonderful.

**Gupta :** The UNCRD is a relatively small organization among UN agencies, but it can be a strong resource. I expect you to act strategically. What is important is not the number of communities you have worked with, but the results of your projects, how strategically you became involved with them and developed the project. Many regional organizations have learned much from your experience and knowledge, and I hope that you will always be a supportive partner for implementation of their policies, giving them beneficial advice. If you play your role strategically, your experience and knowledge will make a huge impact on our society. And I also believe that it is very important to train trainers.

In this symposium, some argued that with only conventional engineering methods, we were unable to adapt to climate change. I think that it will be necessary to put traditional knowledge rooted in community into practice or to update it. If the UNCRD plays an active role, we will be greatly influenced by the results.

### 3. Questions from the audience

**Question1** Based on my own professional experience in international cooperation, in my opinion, minimum infrastructure development and BCP (Business Continuity Plan) are indispensable for the recovery process. What do you think?

**Okazaki :** Thank you. We did not talk about that at all, but infrastructure and BCP as he mentioned are worth discussing as a topic. In a community, there are the members, the public authorities, and private companies where people work. I think that we need to reflect on their financial contribution to public disaster management plans or their own plans. In terms

of infrastructure and local companies, could anyone give a comment? Well, Mr. Gupta, please.

**Gupta :** Development and basic infrastructural development are naturally requirements of a community. But safety must always be taken into consideration. For example, when community members need a school, what is important is that it be built with safety in mind and be available as a shelter in the case of disasters. It must be safe and sustainable.

Concerning the local business sector, they feel the effects of damage by disasters immediately, which adversely affects people's livelihood. So they think that there is much to be gained by taking measures and initiating action. We didn't mention them, but I think that they are inherent in the whole question of disaster management of communities.

**Dixit :** Regarding infrastructure, even the best hospital in Kathmandu, which was built with support from the Japanese government, has to be improved for better performance in the event of disasters. However, we are still in the process of advocacy and have done nothing. It is true that in Nepal, infrastructure has not been sufficiently developed yet. This is the problem we have in common with many other countries.

Concerning BCP, it seems that it is successful in India. Infrastructure-related companies such as those in communication or water supply were privatized in many countries and have their BCP. But, in Nepal, they don't. This is something we have to work on. Thank you for pointing it out.

**Okazaki :** Please let me also make some comments. In my opinion, housing is a fundamental infrastructure among others. If your house is destroyed, it means that your life is in danger and also that you lose your base to live, even if you survive. You will be put in a totally miserable environment because of the disaster having destroyed your house. In Japan,

housing is considered as individual property and there is not much public aid in this area. I believe that housing security must be given top priority in securing infrastructure, followed by roads or river works.

**Question2** What opinions do Mr. Dixit and Mr. Gupta have on how to motivate people in the community and to get them involved in the programme on climate change, the global issues?

**Gupta**: That's a tough question. The school that I talked about in my presentation is located in the area where large earthquakes are likely to occur. People know it, but they don't think of it as a hazard, because they themselves have never experienced it. So we did experiments or asked those who have been affected by earthquakes to talk about the experience to them. We made them imagine the situations.

Of course, you need to explain scientific information in simple terms to make it understandable. With current scientific information, we don't exactly know yet what kind of impacts climate change is having at the community level, but more information, better analysed, and available dates will gradually enable us to take the appropriate approach to target the community.

**Dixit** : You first have to raise their awareness. There are several things you may have to keep in mind. First, you must pay attention to your manner of communication and your behavior,

and try to maintain good relations with community members. Moreover, you have to be in step with their interests or understanding. They will be confused if you suddenly talk about difficult matters.

#### **4. Conclusion of the Discussion by Facilitator**

To conclude today's discussion, I have three keywords in mind. The first is 'ownership' or 'acceptance'. For disaster management, it is crucial to think and act independently. It makes no sense to follow what is imposed by others. From the viewpoint of ownership, in Japan, we have poorly developed disaster management plans. In many cases, various municipalities or organizations only ask professors or specialists to design their disaster management plans. Few inhabitants know the contents. The process totally lacks the ownership of people who live there. In this area, the UNCRD can play an important role even in Japan.

The second is education. Many people have knowledge, but don't put it into practice. To bridge the gap, training and education are of great importance. In this area, too, the UNCRD can be active.

The third is the role that the UNCRD can play as a facilitator. A lot of stakeholders want to be involved in the development of disaster management policies or plans. The UNCRD has to network and facilitate them. I believe that this will lead to know-how about advancing sustainable regional disaster management.

## Closing Remarks

Shoichi Ando

Coordinator, UNCRD Disaster Management Planning Hyogo Office



Over 2 days, we have learned much from all of you. I deeply appreciated your participation from abroad and the whole of Japan. At the end of the panel discussion, Mr. Okazaki said that there was something the UNCRD could do for Japan. We are very grateful that Hyogo Prefecture has supported us for 10 years, so one of the objects of this 2-day symposium was to give people in Hyogo a better understanding of the challenges in global disaster management as well as the UNCRD activities.

Additionally, in the area of gendered community based disaster management, there was a meeting of those in charge of housing policies in Osaka Prefecture and Ms. Saito outlined our past training for women on the method of making safe and fixed furniture in Nepal. Those at the meeting found it very interesting, and many related institutions invited her to give a lecture. According to the headquarters in New York, the UN agencies must support countries in need of aid from the UN, and Japan is not such a country. But we do our part for Japan where our office is situated.

To my regret, some people who want to advance development rapidly consider environmental protection and disaster management as obstacles to achieve their goal. They are not at all motivated to take measures in these areas because they think that these are expensive and meaningless. This manner of thinking has existed for a long time and is shared by government officials and businessmen. And probably, the general public has felt the same way. In this case, the word “development” is perhaps used differently from in economics. But, for example, when people want to own a house, they think that they don't have to spend

money on ensuring their house is built to withstand natural disasters or environmental degradation since they cannot be held responsible for these and there is little likelihood of them experiencing natural disasters. It seems that safe housing at the individual level has nothing to do with governmental development policies, but in fact, it is in line with the idea that economic efficiency and meeting immediate needs are of high priority to attain development and a satisfactory standard of living. Security and environment have been ignored. However, more and more people are becoming aware of the importance of environmental protection and of its merits for development and economic growth. That is why the whole world paid a lot of attention to the UN Climate Change Conference in Copenhagen COP 15 /CMP 5 in December 2009. I would like to insist that disaster management has the same importance. We have the mission to make people realize that disaster management should be integrated into development programmes, because it is also advantageous for the process.

As Mr. Kobayashi said in his speech yesterday, our office is really small, but with the support of various people, we have consistently carried out our projects so far. I hope for your further cooperation. Thank you very much for your presence here over 2 days.

# Appendix

## Photos





Photo Exhibition at the lobby of Yomiuri Kobe Hall





# 「行政と地域 役割分担を」 神戸の教訓踏まえ提言

## 国際防災シンポジウム

神戸市中央区のよみうり神戸ホールで27日に始まった国際防災シンポジウム（読売新聞大阪本社など後援）では、阪神大震災以降、神戸から発信された教訓

関西学院大の室崎益輝教授（都市防災）は「地域防災力を育む行政支援」をテーマに講演。「日本では、親が子どもの宿題をするように、行政が地域におせっかいをやきやき」とし、「地域でできることは、そのまま任せざるべきだ」と指摘した。さらに①仮設住宅の建設より、住民の大規模ニーズに対応する「スペース」の必要性②必要な情報や財源を地域に与える「などを挙げ、「地域で限界のある施策を補充するのが、行政の役割」と強調した。

ほかに、神戸市教委の防災教育の教材作りや、フィジー政府の減災の取り組み、インドネシアの障害者興味があるのでは、ためにならな

み、インドネシアの障害者興味があるのでは、ためにならな  
を踏まえた防災や、減災に向けた様々な意見が交わされた。「地域コミュニティ  
が防災力を高める」「行政と地域の役割  
分担が必要」。集まった災害ボランティア  
団体の関係者や大学生らは、国内外の専門家が訴える言葉に真剣に耳を傾けた。

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団体の関係者や大学生らは、国内外の専門家が訴える言葉に真剣に耳を傾けた。

### The Yomiuri Shimbun Osaka, 28 November, 2009

The articles dated on the 28<sup>th</sup> November, 2009 touched the importance of community based disaster management through the introduction of the opinions of the speakers of the 1<sup>st</sup> day's programme Mr. Murosaki, for example, told that the role of public authorities was to support local communities.

One of the audiences, Ms. Kazuko Nishi, student of Osaka University, said to the journalist interviewed that she got more interested in mitigation and wanted to study further about the comprehensive approach to disaster management at the national level.

28日は、海外での災害復興事例の講演や専門家らによるパネルディスカッションなどがある。

### 地域防災の課題 テーマにシンポジウム

神戸

国際連合地域開発センター（UNCRD）防災計画兵庫事務所の設立10周年を記念して、国際防災シンポジウム「持続可能な地域開発に向けて」（読売新聞大阪本社など後援）が27日、神戸市中央区のよみうり神戸ホールであった。国内外の専門家や市民ら約70人が、地域防災に必要な取り組みについて意見を交わした。写真。

兵庫県の井戸敏三知事も出席。講演した伊藤滋・早稲田大特命教授（都市防災）は、新潟県中越地震など多くの災害が山間部など人口が少い地方で起きていることを指摘、「このような地方で災害復旧の方を備えるには、定住人口の増加が必要で、多くの若者に住ん



でもらうための戦略も大切」などと話した。28日も午前10時から開かれる。入場無料。

# 防災教育 継続的に 国際シンポジウム 閉幕

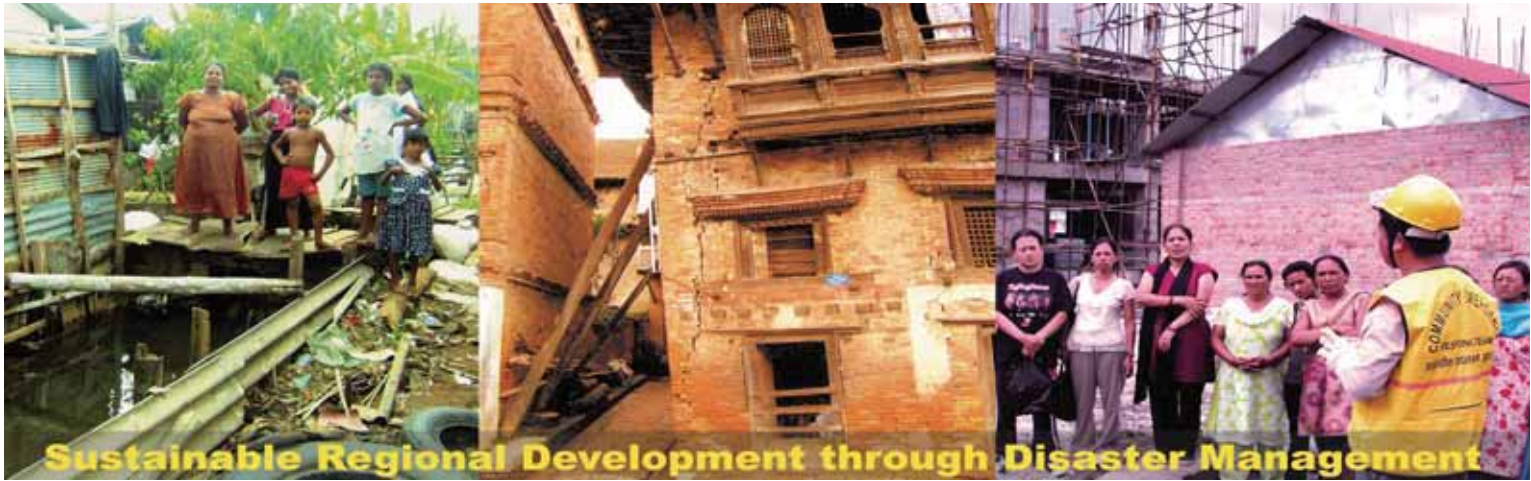


国際連合地域開発センター（UNCRD）防災計画兵庫事務所が設立10周年を記念した国際防災シンポジウム「持続可能な地域開発に向けて」（読売新聞大阪本社など後援）は28日、神戸市中央区のみどり神戸ホールで2日間の日程を終え、閉幕した。アジア各国から集まった専門家らは「防災には地域社会の自助努力が大切」などと訴えた。この日は研究者や自治体の防災担当者ら約70人が参加。人と防災未来センターの河田恵昭センター長は基調講演で、発展途上国に向けた防災事業の開発援助について「ダムや堤防などハード面を整備するだけではなく、防災教育を継続的に実施し、防災意識を高めていくべきだ」と説明した。同事務所研究員やネパールのNPO代表らが参加したパネルディスカッションでは、防災と環境保護の両立などを議論。インドの防災NGO「SEEDS」のマヌ・グプタ代表は「両立を進めることの重要性を理解してほしい」と話した。

▲ 防災対策への意見を述べるパネリストら（みどりの神戸ホールで）

## The Yomiuri Shimbun Osaka, 29 November, 2009

According to this article of the 29<sup>th</sup> November, 2009, the specialists coming from different Asian countries insisted the necessity that local communities should address themselves to disaster management, not only waiting for the public assistance. The article said that disaster preparedness education had a significant role to raise public awareness as Mr. Kawata mentioned in his keynote speech and that disaster management and environmental protection should be dealt with in the integrated manner according to the panelists of the discussion.



Sustainable Regional Development through Disaster Management



阪神・淡路大震災  
15周年記念事業  
-伝える 備える-

United Nations Centre  
for Regional Development  
Disaster Management Planning  
Hyogo Office

# 10<sup>th</sup> Anniversary

## International Symposium on **Disaster Management for Sustainable Regional Development**

27 November, 2009 (Fri.) 13:00-17:15  
28 November, 2009 (Sat.) 10:00-16:30

**Free Admission**

Simultaneous Interpretation will be Available

Venue :

**Yom iuriKobe Hall**  
1-2-10 Sakaemachi-dori, Chuo-ku  
Kobe, 2F Yom iuriKobe Building

The United Nations Centre for Regional Development (UNCRD) Disaster Management Planning Hyogo Office was established as a research institution in 1999 in Kobe. The Office promotes effective disaster mitigation, focusing on the key elements of self-help, cooperation, and education activities such as research projects, capacity-building, and advisory services through international workshops and training. Through our 10 years' experiences, we have accumulated many important lessons to work with other disaster-prone countries.

In the Symposium, we will introduce how the lessons from the Hanshin-Awaji Earthquake are being applied in the field and how we reduce risks focusing on less privileged people at worldwide. We invite governments, academics, and NGOs to present case studies and local initiatives towards sustainable regional development.





10th Anniversary of the Establishment of the UNCRD Hyogo Office

# "International Symposium on Disaster Management for Sustainable Regional Development"

## Programme

### 27 November (Fri) 13:00-17:15

12:30-13:00 Registration

- 13:00 Opening and Introduction
- 13:00-13:05 Welcome address/ Kazunobu Onogawa, Director, UNCRD
- 13:05-13:10 Opening Remarks/ Toshizo Ido, Governor, Hyogo Prefecture
- 13:10-13:15 Guest Speech/ Nao to Tajiri, Director for Disaster Preparedness, Cabinet Office of Japan
- 13:15-14:05 Keynote Speech:  
"Disasters and the sustainability of local cities"  
Shigeru Itoh, Professor, Waseda University
- 14:05-14:15 Break
- 14:15-15:45 **Thematic session 1: Community Participation for Disaster Management**
- 14:15-14:45 Thematic keynote "Challenges of Disaster Risk Management in Nepal" / Amod Dixit, Director, National Society for Earthquake Technology in Nepal
- 14:45-15:05 DRR education for Children with Disabilities: Case study from Indonesia/ Sae Kani, Programme Manager, ASB (Arbeiter-Samarter-Deutschland e.V.) Indonesian Office
- 15:05-15:25 Disaster education for children in Japan "Shiawase Hakobo (Let's carry on happiness)" / Taisuke Matsuzaki, Senior manager, Research division, Kobe City Board of Education
- 15:25-15:35 Q & A session
- 15:35-15:45 Break
- 15:45-17:10 **Thematic session 2: Roles of public administration for Building a Resilient Community**
- 15:45-16:15 Thematic keynote "Supporting Public Administration for Building Disaster Preparedness Capacity" / Yoshiteru Murosaki, Professor, School for Policy Studies, Kwansai Gakuin University
- 16:15-16:35 Roles of the Government of Fiji toward Disaster Resilient Country/ Samoni Wabuta, Principal Education Officer, Asset and Monitoring Unit, Ministry of Education
- 16:35-16:55 Supporting Local Government Agencies for Disaster Resilient Communities through UNCRD Activities/ Yoko Saito, Researcher, UNCRD
- 16:55-17:10 Q & A session

### 28 November (Sat) 10:00-16:30

9:30-10:00 Registration

- 10:00-10:50 Keynote Speech:  
"New steps for the Promotion of Regional Development"  
Yoshiaki Kawata, Executive Director, Disaster Reduction and Human Renovation Institution (DRI)
- 10:50-11:00 Break
- 11:00-12:00 **Thematic session 3: Roles of NGO for Building a Resilient Community**
- 11:00-11:20 Thematic keynote "Regional Disaster Management in Afghanistan" / Masakiyo Murai, Director/Secretary-general, Citizens towards Overseas Disaster Emergency (CODE)
- 11:20-11:40 Retrofitting School for the Disabled in India/ Manu Gupta, Director, SEEDS India
- 11:40-12:00 Water and Food Security for the Tsunami Affected Areas through Rain Water Harvesting/ Tanuja Ariyananda, Executive Director, Lanka Rain Water Harvesting Forum
- 12:00-13:00 Lunch
- 13:00-14:30 **Thematic session 4: Future of Regional Disaster Management Strategies**
- 13:00-13:20 Thematic keynote "International Recovery Platform: A Tool for Building Back Better in the Region" / Sanjaya Bhatia, International Recovery Platform Knowledge Management Officer
- 13:20-13:40 Case Study from the 2008 Sichuan Great Earthquake in China/ Gu Lisheng, Director, Beijing Tsinghua Urban Planning and Design Institute, China
- 13:40-14:00 Climate Change Adaptation and Disaster Risk Reduction/ Maki Ishiwatari, Senior Advisor, Japan International Cooperation Agency (JICA)
- 14:00-14:20 Integrated River Basin Management for Effective Disaster Management in Central Vietnam / Phong Tran, Consultant, UNISDR Asia and the Pacific
- 14:20-14:30 Q & A session
- 14:30-14:50 Break
- 14:50-16:25 Panel Discussion "Regional Disaster Management for Sustainable Development"  
Facilitator: Kenji Okazaki, Professor, National Graduate Institute for Policy Studies (GRIPS)
- Panelist: Maki Ishiwatari, Senior Advisor, JICA
- Panelist: Amod Dixit, Director, NSET
- Panelist: Manu Gupta, SEEDS India
- Panelist: Yoko Saito, Researcher, UNCRD
- 16:25-16:30 Closing Remarks/ Shochi Ando, Coordinator, UNCRD

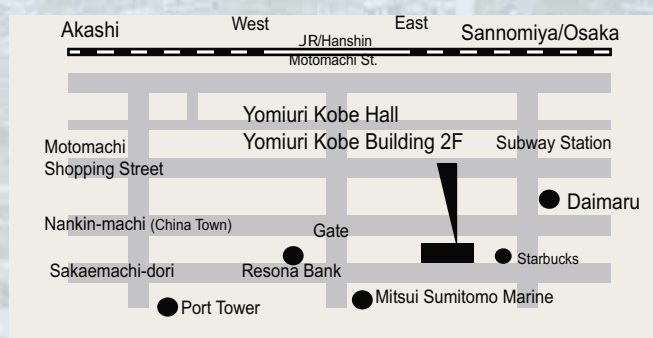
### Organizers:

United Nations Centre for Regional Development, The International Symposium Steering Committee: (Hyogo Prefecture, Kobe City, The Hyogo Earthquake Memorial 21st Century Research Institute, United Nations International Strategy for Disaster Reduction (ISDR) Hyogo Office, United Nations Office for the Coordination of Humanitarian Affairs (UN OCHA) Kobe, International Recovery Platform (RP), Asian Disaster Reduction Center (ADRC), JICA Hyogo International Center, Citizens towards Overseas Disaster Emergency (CODE)

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### Venue: Yomiuri Kobe Hall



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The 10<sup>th</sup> Anniversary of the Establishment of  
the United Nations Centre for Regional Development  
Disaster Management Planning Hyogo Office

**Proceedings of  
International Symposium on Disaster Management  
For Sustainable Regional Development**

March 2010

Published by UNCRD Disaster Management Planning Hyogo Office

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