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COMMUNITY PARTICIPATION IN DISASTER RISK MITIGATION: A COMPARATIVE STUDY OF MONGOLIA AND JAPAN

FINAL REPORT

OF THE VISITING RESEARCHER PROGRAM- YEAR 2011B

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Table of Contents

Abbreviations and Acronyms	1
ACKNOWLEDGEMENT	2
ABSTRACT	3
INTRODUCTION	4
CHAPTER 1. OVERVIEW OF DISASTER SITUATION IN THE WORLD, MONGOLIA AND JAPAN	7
1.1. <i>Natural and human-made disasters trend in the world</i>	7
1.2. <i>Overview of Disaster Situation in Mongolia</i>	8
1.2.1. <i>Disaster Management Framework in Mongolia</i>	11
1.3. <i>Overview of Disaster Situation in Japan</i>	12
1.3.1. <i>Disaster Management Framework in Japan</i>	15
CHAPTER2. COMMUNITY-BASED DISASTER RISK MANAGEMENT: A FRAMEWORK FOR COMMUNITY PARTICIPATION IN DISASTER RISK REDUCTION	17
2.1. <i>Framework disaster risk management, and CBDRM</i>	17
2.1.1 <i>Why the community based approaches to disaster mitigation?</i>	18
2.1.2. <i>Key Points on the CBDRM, and participatory disaster risk reduction</i>	20
2.2. <i>Paradigm Shifts – From Relief and Response to Disaster Risk Management</i>	22
CHAPTER 3	25
COMMUNITY PARTICIPATION IN DISASTER RISK REDUCTION IN MONGOLIA AND JAPAN ... 25	
3.1. <i>Community Participation in Disaster Risk Reduction in Mongolia</i>	25
3.1.1 <i>Recent Activities for Enhancing Community Capacity for Disaster Risk Reduction in Mongolia</i>	27
3.1.2. <i>Capacity Development and Raising Awareness of Communities</i>	28
3.2. <i>Community Participation in Disaster Risk Reduction in Japan</i>	31
3.2.1 <i>Recent Activities for Enhancing Community Capacity for Disaster Risk Reduction in Japan</i>	32
3.2.2. <i>Case studies in external on community participation in Japan</i>	38
a) <i>Themes in Iza! Kaeru Caravan disaster reduction activities:Non Profit Organization”</i>	38
Comparative Analysis of community participation in Japan & Mongolia	43
CONCLUSION	44
LESSONS LEARNED	47
RECOMMENDATIONS FOR COMMUNITY PARTICIPATION ON DISASTER RISK REDUCTION IN MONGOLIA	51
BIBLIOGRAPHY	54
ENDNOTES	55
CASE STUDIES	55

Abbreviations and Acronyms

ADRC Asian Disaster Reduction Center
ADPC Asian Disaster Preparedness Center
CBDRM community-based disaster risk management
CBDRR community based disaster risk reduction
CBO community-based organization
CSO civil society organization
DP disaster preparedness
DRM disaster risk management
DRR disaster risk reduction
HFA Hyogo Framework for Action
ISDR UN International Strategy for Disaster Reduction
NGO non-governmental organization
OCHA UN Office for Coordination of Humanitarian Affairs
PTSD post-traumatic stress disorder
UN United Nations
VCA vulnerability and capacity assessment/analysis
UNISDR United Nations International Strategy for Disaster Reduction
NEMA National Emergency Management Agency
ISDR International Strategy for Disaster Reduction
CBDMit community based disaster mitigation
IDDR international day for disaster reduction
UNDP United Nations Development Programme
APCSS Asia Pacific Center for Security Studies

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ABSTRACT

Community participation has been recognized as the additional element in disaster management necessary to reverse the worldwide trend of exponential increase in disaster occurrence of and loss from small- and medium-scale disasters, build a culture of safety, and ensure sustainable development for all.

Actually comparison of a highly developed country like Japan and developing country Mongolia is not rationale. However, from the point of severity and intensity of disasters, both the countries have been facing disasters.

In the recent years in Japan, "Community based disaster Management" has drawn people's attention in the field of disaster management. This is an idea that it is important not only to provide support for developing countries, but also to provide support for the improvement of the ability of their local communities to prevent disasters in order to reduce damages, of lives and property. For effective disaster management, it is important that the Central Government, Local government, Public corporations and private citizens must work out their roles appropriately. Especially in Japan, after the Great Hanshin Awaji Earthquake, the role of local government and Local community has been increasing. Such experience and knowledge of disaster mitigation action in Japan should be shared with other countries by taking into consideration of local conditions in each country.

This paper gives a brief orientation on the community-based disaster risk management process can also meet the goals of development of new training tools to enhance the capacity of practitioners of Japan, implementation of innovative programs to explore new dimensions in CBDRR practices, namely community participation is able to improve the understanding of the sources of disaster risk for Mongolia.

Conspicuously from research awareness and knowledge as most people (Mongolia) still lack the proper knowledge, understanding/appreciation of disaster protection, thus, the need for it to be mainstreamed into national policies and initiatives.

Community awareness to recognize disaster prevention and mitigation by themselves is established in Mongolia. Also conspicuously from research awareness and knowledge as CBDRR to them to need to continue the future research work.

In this step for getting more understanding CBDRR, we can get the outputs to transfer to create some kinds of educational material; for create some activities.

Additionally, case studies a wide array of policy areas, highlight broader issues of institutional strengthening and local capacity building on different hazard types and with different stakeholders, such as: Strengthening connections between local communities and local governments (El Salvador), Risk-awareness program for schoolchildren and communities (Saijo city, Japan).

Key Words: community based disaster management, risk reduction, mitigation, community participation

INTRODUCTION

"The local community is taken as the primary focus of attention (in disaster reduction) since that is the common unit which is affected by disaster and, more importantly, responds to deal with the event." - Russell Dynes Whether a disaster is major or minor, of national or local proportion; it is the people at the community or village level who suffer its adverse effects. They use coping and survival strategies to face and respond to the situation long before outside help from NGOs or the government arrives. They are interested to protect themselves from the damage and harm.

Mortality and economic loss risk are increasing in absolute terms for all the principal hazards, except for landslides, where the tendency appears to be stable¹.

Each disaster has lasting effects, both to people and property. For instance, floods, fires, tornadoes, a cyclone or typhoon (windstorm) and earthquakes are natural disaster that has affected many individuals and families every year in the world. Disaster preparedness is always vital in disaster management which can reduce the impacts of disasters.

Appropriate support in order to enhance governance for disaster risk reduction, for awareness-raising initiatives and for capacity-development measures at all levels, in order to improve the disaster resilience of developing countries².

According to the World Urbanization Prospects 2005, a current database from the United Nations Department of Economic and Social Affairs, the total population will increase from 6.4 billion in 2005 to 8.2 billion in 2030. Most of the expected population growth will be concentrated in the urban agglomerations of the less developed countries. By 2007, for the first time in human history, more than half the people in the world will be living in cities³.

Generally, the disaster risk management process (cycle) is composed of the following main elements conflux **Knowledge management** (information programs and systems, public awareness policy, education and training, research in disaster reduction)

Currently is not the survey "Community based disaster management", "Community based disaster risk management" relative to this title in Mongolia.

But ph.D. Д. Гомбосүрэн⁴, П. Цэдэв⁵ the creature to reflect introduction of incipience development also trend, updating, trendy of evolutional of disaster protective management system of Mongolia.

So I would like to propose to study public awareness and community based disaster management, since I have been conducting the related researches in terms of community role in disaster mitigation. Since the community rescues the people lot more than rescuers do, it is essential to

¹ *Risk and poverty in a changing climate, 2009*

² *HFA 2005-2015*

³ *The Contribution of the Surveying Profession to Disaster Risk Management, 2006*

⁴ Д. Гомбосүрэн нар "Монгол Улсын иргэний хамгаалалт, 1999

⁵ П. Цэдэв "Монгол Улсад гамшгаас хамгаалах мэргэжилтэн бэлтгэх сургалтыг боловсронгуй болгох зарим асуудал" диссертаци 2004 он

improve the communities Disaster Education and understanding.

This study on “Community participation in disaster risk mitigation” could take a “shortcut” to development and be able to meet the need on creating interactive activities on disaster prevention and response activities instead of the ordinary training or workshop on CBDRM’s activity; which should be new practices and different styles of drill or exercise for different target groups such as general public or children in normal time.

Our Research focuses on Dissemination of Disaster Prevention Activities for communities by introducing new activities for human resources development, particularly government officers, as practitioners or facilitators, who have been served as the partners in the disaster prevention activities in the normal time by the transfer of knowledge and technical know-how in the fields of “Learning with fun” from Japanese side where has expertise and appropriate technology which are applicable to their local community by concerning to each conditions and absorptive capacity.

Japan, as one of the world's natural disaster-stricken countries, has accumulated a fair amount of disaster reduction knowledge. In addition, Japan has provided emergency disaster aid for developing countries and has encouraged the efforts to improve disaster reduction measures and the commitment to disaster reduction in affected countries and areas.

Being a Visiting Researcher is a great opportunity for conducting research on disaster reduction. This program let me get more wide vision by sharing of information and experiences with fellow ADRC member will give me an opportunity to help develop a strategic approach to the promotion of safer communities. The experiences I have had during my stay would be tremendously helpful. Lessons learned by individual learning as Visiting Researcher has been the best way to enhance capacity building for strengthening NEMA’s staff as one of the Leader in the special field as shown in this paper on “Community participation in disaster risk mitigation”.

There are some interesting concepts to transfer knowledge on Disaster Prevention activities for Mongolia Communities. It’s necessary to reduce disaster damage by start at persons who agree with the spirit of our "Think in Global but act in local" campaign to reduce disaster damage". In order to reduce the victims of natural disasters, So it’s the time for us, as one of the good opportunity to stay here in Japan during “The Great Tohoku Tsunami had struck in the north part of Japan, and we are all realized that “we are all in risk; should be more aware of the unexpected giant disaster as it can be seen as in March 11 earthquake, tsunami and the ongoing nuclear crisis immediately affected the number of the whole Japanese now. By now, the small activity that I can do by my hands is about the Psychological and Moral support of the elderly groups who evacuees from the affected area and their livelihood as the secondary affected which has been omitted.

The community, therefore, has lots of chance to lose if they do not address their own vulnerabilities. It’s necessary to improve the local capacity on disaster prevention with the cooperation of each family, in local community, and related organizations in communities at the forefront or endeavor.

Specific Aims

The **main objective** of this study is to analyze some prevailing best practices of community participation in disaster risk reduction in Japan and make recommendations appropriate for Mongolia.

To study practices of community participation in disaster risk reduction in Mongolia and Japan. This will enable communities to better understand their changing risk environment and thus become more resilient through proactive risk reduction efforts

- Gather knowledge and skills from the disaster management system in Japan especially the participation community on disaster risk reduction in Japan
- Strengthening of community institutional mechanisms;
- Empowering community at risk particularly;
- To study the new skill of prevention activity for Mongolian community
- To recommend the appropriate practices of community participation in disaster preparedness planning in Mongolia

Proposed Research Activities

- Study the global trend disaster risk reduction, CBDRR
- Study the community participation during disaster in Japan and Mongolia.
- Learn basic ideas for preparing community through learning and training and drill in Japan.
- Conduct Case studies on the behavior of the community in response to disaster in Japan and other countries.
- Conduct study to adaptation in disaster situations and post disaster rehabilitation.

Required Data and Information and Research method:

Among the research methodology is comparison and analyzing.

The main source of secondary data of my research

- In Mongolia: published and unpublished data and information available in the National Emergency Management Agency & Published data from other ministries ,departments
- In Japan: ADRC Reference materials, JICA's Training materials and published data from different agencies have been used for Research purpose.

Expected Results:

It is true that community participation in Japan is highly commendable. The best practices of community participation in disaster risk mitigation planning in Japan could be replicated in Mongolia. The government and the local community both can be benefited by introducing the best practices of Japan in the area of Disaster Risk Reduction.

After the completion of the research, research findings will be published in the journals. Series of seminars will also be organized to disseminate research results for wider audiences. In addition, the results will be presented in disaster preparedness workshops at regional level.

The result of study will be useful for sharing knowledge, skills and techniques among Mongolia communities; as a support tools for create new activities for public awareness on disaster prevention; as 'self-help' villagers.

CHAPTER 1. OVERVIEW OF DISASTER SITUATION IN THE WORLD, MONGOLIA AND JAPAN

1.1. Natural and human-made disasters trend in the world

The first decade of the twenty-first century was a hallmark for natural and human-made disasters. The world community continued to experience regional conflicts, terrorism, environmental degradation, death, and economic losses. /Chart1/

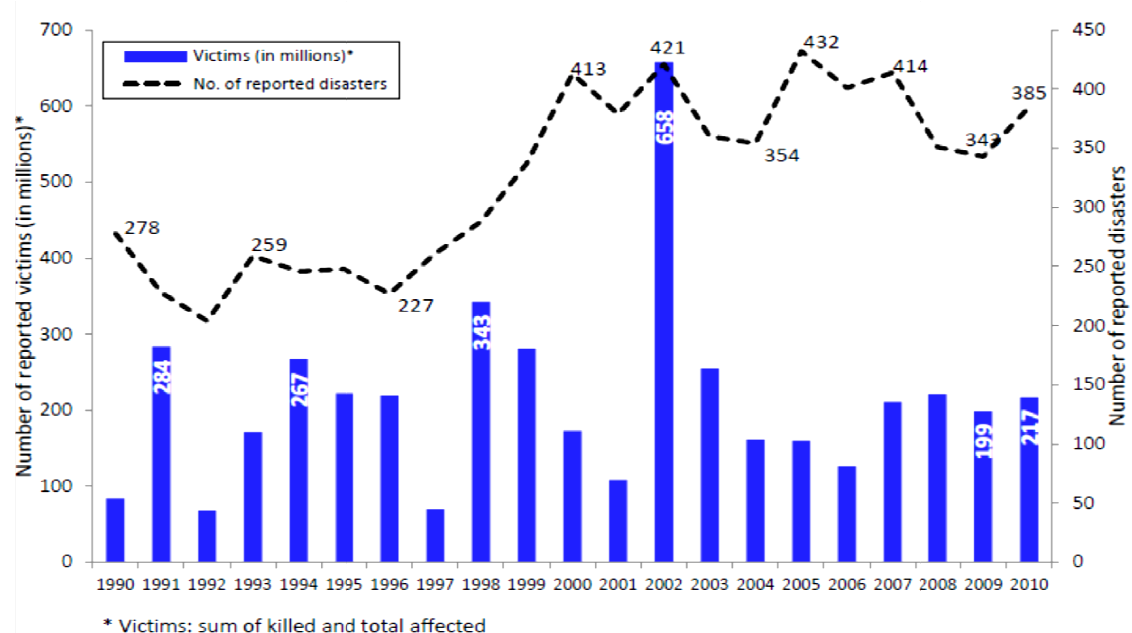


Chart1 – Trends in occurrence and victims in the world⁶

Disasters will continue to happen and proper support, through a granting program, will be necessary to explore and bench mark best practices in Disaster risk reduction. Especially natural disasters around the world last year caused a record US\$380 billion in economic losses. Almost two-thirds of 2011's exceptionally high costs are attributable to two disasters unrelated to climate and weather: the magnitude-9.0 earthquake and tsunami that hit Japan in March, and February's comparatively small but unusually destructive magnitude-6.3 quake in New Zealand. And the long-term rise in the costs of global disasters is probably due mainly to socio-economic changes, such as population growth and development in vulnerable regions⁷. That conclusion is backed up by a forthcoming study supported by Munich Re by economists Fabian Barthel and Eric Neumayer at the London School of Economics. Their analysis of events worldwide between 1990 and 2008 concludes that "the accumulation of wealth in disaster-prone areas is and will always remain by far the most important driver of future economic disaster damage"⁸. Any major weather event hitting densely populated areas now causes huge losses because the value of the infrastructure has increased tremendously, they note, adding that if the 1926 Great Miami hurricane happened today, for example, it would cause much more damage than it did at the time.

⁶ Annual Disaster Statistical Review 2010 – The numbers and trends

⁷ www.natur.com

⁸ F. Barthel and E. Neumayer *Climatic Change*; in the press

But attempts to attribute specific events to global warming are in their infancy⁹. “Disasters are a tempting image for advocacy, but the science is just not there to support strong claims,” says Roger Pielke Jr, a climate-policy researcher at the University of Colorado in Boulder. “We cannot yet attribute increasing dollar losses to human-caused climate change. Maybe we will one day, but not at present.”

1.2. Overview of Disaster Situation in Mongolia

Major disasters are drought, earthquakes, epidemics, famine, floods, forest fires, wind damage, snow damage (Dzud)

Also global warming is powerful inspiration in the climate, nature, climate of Mongolia. Because huge inspiration the frequency meteorological hazards on natural hazards. /Chart 2-5/

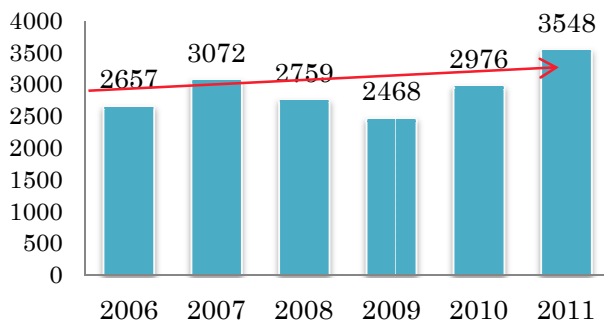


Chart2. Number of occurred hazardous and accident

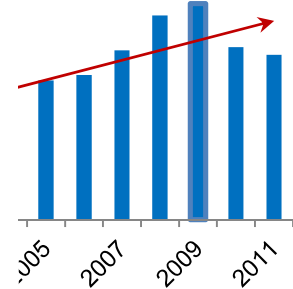


Chart3. Number of the people lost their lives in the disasters

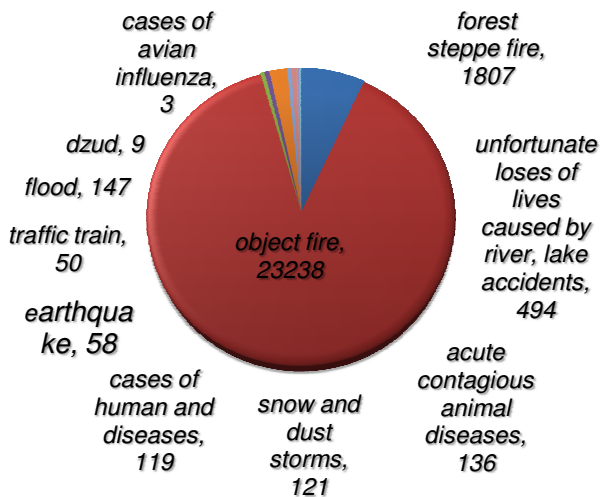


Chart4. Last 15 years we happened hazard accidents

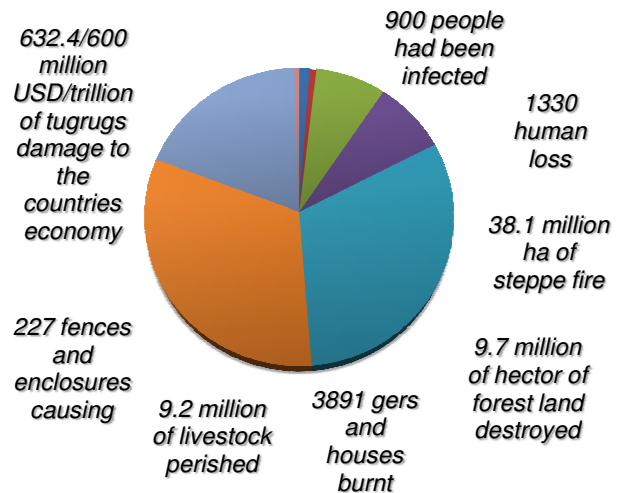


Chart5. Incurred losses

There is the tendency of increasing the toll of death in a result of disasters from year to year

These disasters cause huge number of damages to human life, their properties and environment and influence to the state social and economic sustainable development negatively. Mongolia is classified as one of the developing countries in the World. Mongolia has 2.7

⁹ see Nature 477, 148–149; 2011

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million population and almost 60% of them living in Ulaanbaatar city /Chart6/, which makes them very vulnerable to natural disasters such as earthquake. Around Ulaanbaatar, in comparison to western Mongolia, the seismic activity is relatively low.

But A high seismic activity occurs in Songino-Songolon area in western end of Ulaanbaatar basin of city since 2005. This area, which could be one of most seismic active zone around Ulaanbaatar, dramatically increases the seismic hazard of the capital of Mongolia where is concentrated about of 1/3 of the Mongolia population and the majority of industries of the country. Responding to a complex disaster such as an 8+ earthquake will present challenging issues for NEMA and the Mongolian emergency response system that in all probability have not been experienced before. Communications, emergency response and information assets will be required to function under the most demanding of situations. Information will be very uncertain. Traditional means of communications may not exist and emergency response assets will be hampered by the earthquake.



Chart6. Population density of Mongolia

Mongolia has a population density of 1.5 people per square kilometer.

Historical statistics would suggest that Mongolia with great negative consequences being associated with various natural and human induced hazards.

In 2007 OCHA Regional office for Asia Pacific publishes a map showing the probability that natural hazard risk of Mongolia. (Chart 7) The map is based on data provided by: UN Cartographic Section, Global Discovery, FAO, Smithsonian Institute, Pacific Disaster Center, UNISYS, Munich Reinsurance



OCHA Regional Office for Asia Pacific
MONGOLIA: Natural Hazard Risks
 Issued: 05 July 2007

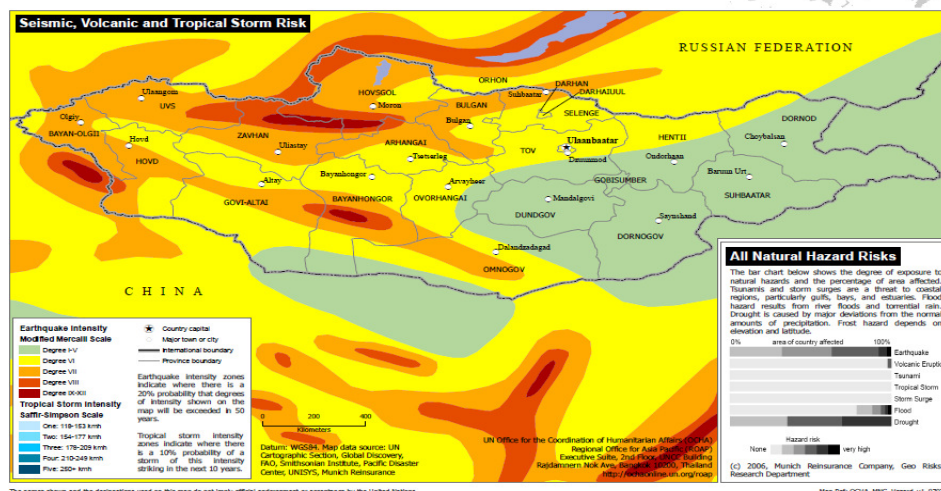


Chart7. Natural hazard risks of Mongolia

The map earthquake intensity zones indicate where there is a 20 % probability that degrees of intensity shown on the map will be exceeded in 50 years. Tropical storm intensity zones indicate where there is a 10% probability of a storm of this intensity striking in the next 10 years.

The bar chart below shows the degree of exposure to natural hazards and the percentage of area affected. Tsunamis and storm surges are a threat to coastal regions, particularly gulfs, bays, and estuaries. Flood hazard results from river floods and torrential rain. Drought is caused by major deviations from the normal amounts, from precipitation. Frost hazard depends on elevation and latitude.

As well as a natural disaster is a natural phenomenon or phenomena occurred covering relatively large territories and leading to human casualties or substantial damages to property and causing thereby serious obstacles to smooth operation of the society. Identification of the natural disaster is not only depends upon its intensity but much more upon its socio-economic and ecological consequences.

In this view of point, the issue of natural disaster shall be considered in association with the social economic situation at the level of a given country's development, the people's life styles, infrastructure development, etc. For example, the phenomenon of so called "Dzud" (severe winter conditions) when pastures are snow-drifted due to heavy snowfalls taken place in winter-spring seasons is referred to the category of natural disaster only under the conditions of our country with its transhumance cattle-breeding economy and would not be regarded as a natural disaster in any other countries with the settled type of civilization. A strong earthquake occurred in a desert place without human settlements is not disastrous for Mongolia whereas if it takes place in any other country with densely populated areas it would cause heavy losses and casualties which occurs rather frequently.

Mongolia has 2.7 million population and almost 60% of them living in Ulaanbaatar city. Because last 2 years Disaster Research Institute publishes a map showing the probability that hazard risk of Ulaanbaatar city.

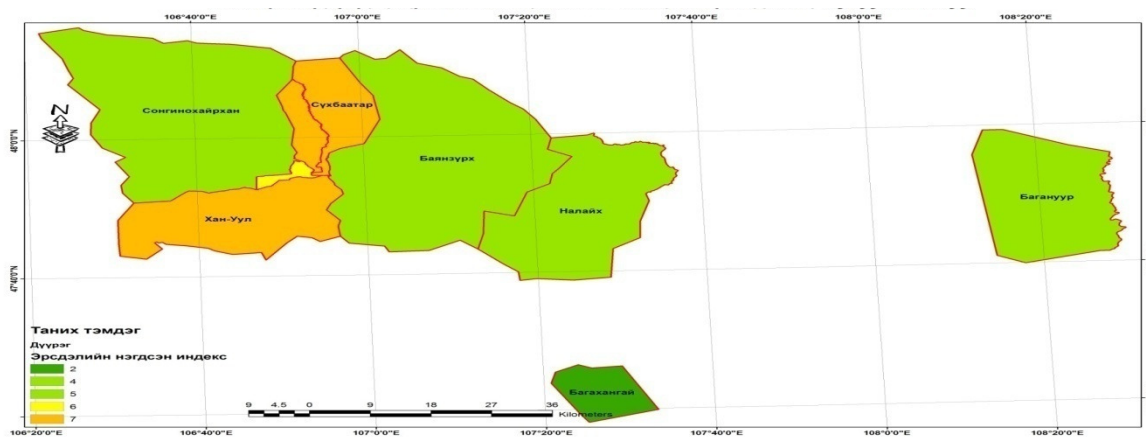


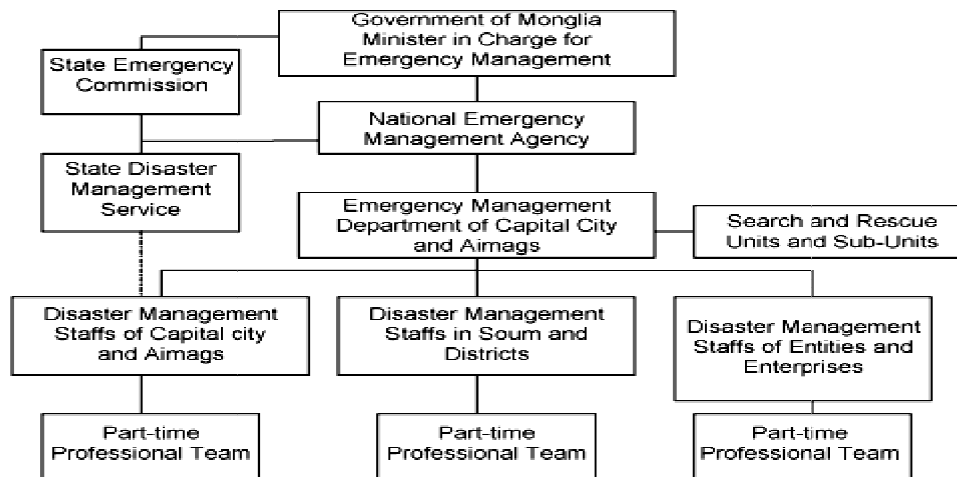
Chart8. Risk map of Ulaanbaatar city (fire, flood, radiation accident, chemical accident, earthquake, influenza)

The map that multi- hazards intensity zones indicate where there is a tree district (7 index), one district (6 index) probability that degrees of intensity shown on the map will be exceeded.

1.2.1. Disaster Management Framework in Mongolia

The Law on Disaster Protection was created in June 2003. In the Mongolian Constitution Article 6-(4) stipulates that the State regulates the economy of the country with a view to ensure economic security of the nation, the development of all modes of production, and social development of the population. There are laws on civil defense, air pollution, use of water resource, hydro-meteorology and environmental monitoring.

The National Emergency Management Agency's main duties are to develop legislative environment on disaster protection, to provide strategic management, to evaluate disaster risk and vulnerability, to implement activities on disaster prevention, disaster reduction, disaster preparedness in all levels, organizing search and rescue work, response, restore main infrastructures and rehabilitation, strengthening capacity of national disaster protection, cooperation with foreign countries and international organizations in disaster protection field, monitoring laws and legislations, and implementation policy on state reserve.

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NEMA is responsible for implementation of the State disaster protection policy and legislation, as well as for the professional organization of nationwide activities.

Plan

In 2011 Mongolian government confirmed disaster protection policy and program. Now our agencies consider revising disaster protection plan in the state level.

1.3. Overview of Disaster Situation in Japan

Japan has wide variety of natural disasters. Also one of the countries affected unpredicted events of natural disasters such as:

- Earthquakes
- Tsunamis
- Volcanic Eruptions
- Typhoons (July – October)
- Heavy Monsoon Rains (May – July)
- Floods
- Landslides
- Snow Avalanches

Japan is since 1950 many large scales Earthquake, Tsunami, and Typhoons struck the country, which caused massive damage and great loss of economy. That kind of enormous disasters killed huge amount of people. In fact the development of disaster counter measures has been contributing to the

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development of sustainable disaster management system especially, advanced weather forecasting system and disaster communication system.

a). The commonest disaster in Japan is Earthquake. Japan can have up to 5000 earthquakes each year, which is about 10% out of the total occurred of the world.

The government also publishes a map showing the probability that each area of Japan will experience tremors equivalent to a rating of Shindo Lower 6 or higher within the next 30 years. (At this level, furniture shifts and most people find it difficult to remain on their feet.)

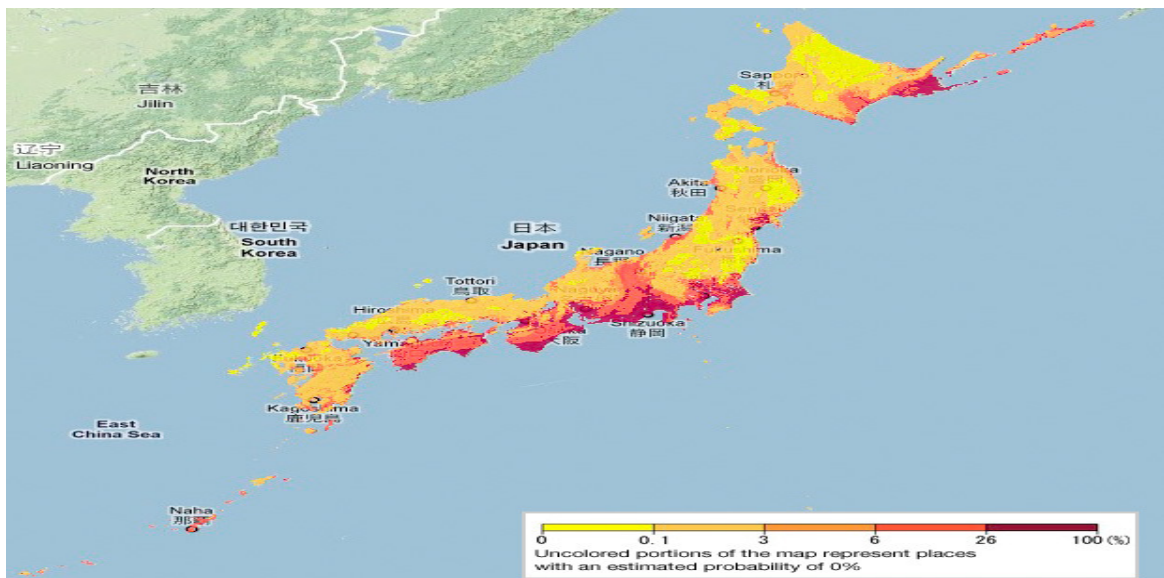


Chart10. Probability of Shindo Lower 6 Tremors within the Next 30 Years(Source: Japan Seismic Hazard Information Station (J-SHIS))

Map data showing predicted seismic activity is based on research data obtained by the National Research Institute for Earth Science and Disaster Prevention. The map can be enlarged to show detailed information for any location in Japan.

As well as publishes a map multi-hazard (flood, inland flood, high wave, tsunami, sediment, volcano) showing the probability that each area of Japan.

As a result of Earthquakes, Tsunami can also develop to cause catastrophic damages to the coastal belt of the country, which are large waves that crash up against the shore and can wash away people, buildings, and bridges. For example recent EQ and Tsunami (2011, Tohoku Pacific Ocean Earthquake)

The Great East Japan Earthquake occurred on March, 11, 2011 at 2:46 pm at a magnitude of 9.0 at a depth approximately 25 kilometer and tsunami hit along Sanriku offing, near the east coast of Honshu, Japan. The magnitude of the main shock was the largest in Japan's History. Either way it was the strongest quake ever recorded in Japan. It has been followed by more than 150 powerful aftershocks. Tohoku Pacific Ocean Earthquake followed by jet storm tsunami of 10 meters high waves devastated the entire eastern Japan namely Fukushima prefecture, Iwate, Sendai, Soma city, Miyagi prefecture.

The confirmed death toll from the earthquake and tsunami that battered Japan's northeast coast rose to 14,084 and Japan holds out little hope for 13,511 officially listed as missing¹⁰ Large areas of the countryside remained surrounded by water and unreachable.

The government said 2,75,000 people have been evacuated to emergency shelters. Civil society has emphasized the need for more community involvement through organizing community volunteers. Meanwhile, community members of those affected areas have started working which will gear up the relief and rehabilitation activities of the earthquake and tsunami affected areas. The Great Hanshin Awaji experience and other disaster related experiences had helped Japan to recover soon from this great disaster and human catastrophe.

b). Volcanic eruptions are the next dangerous disaster facing in Japan. There are 67 active volcanoes in Japan which means 10% of the world's total active volcanoes over in Japan. A volcanic eruption can discharge ash and lava all over the surrounding areas including populated area too.

c). During the rainy season Typhoons are occurring in Japan. Severe storm may cause many damages along with landslides and floods. Japan hits about 29 Typhoons in the year. Some recorded due to the worst meteorological changes, which cause significant damage and loss of the human life.

Namely to show on chart 11-13 of some statistic actual parameter.

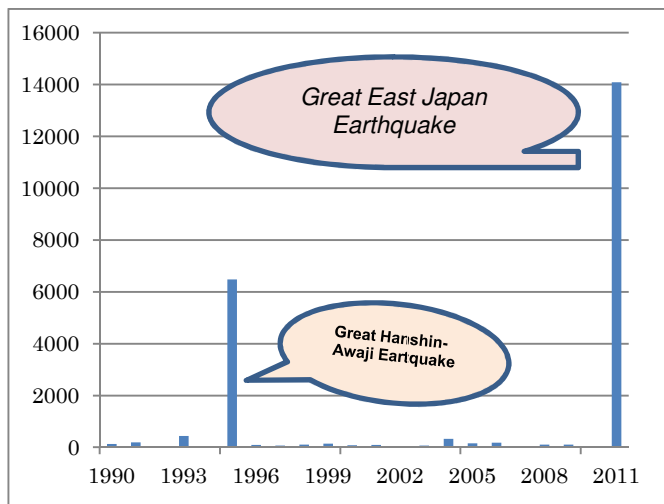


Chart11. The number of deaths and missing persons in disasters

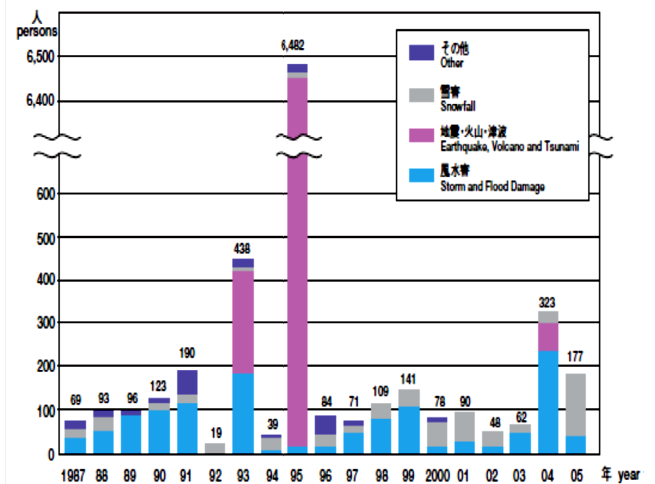


Chart12. The number of deaths and missing persons by type of disaster. (Source: Prepared by the Cabinet office based on date from the Fire and Disaster Management Agency)

¹⁰ Police Agency of Japan, date: 21 April 2011

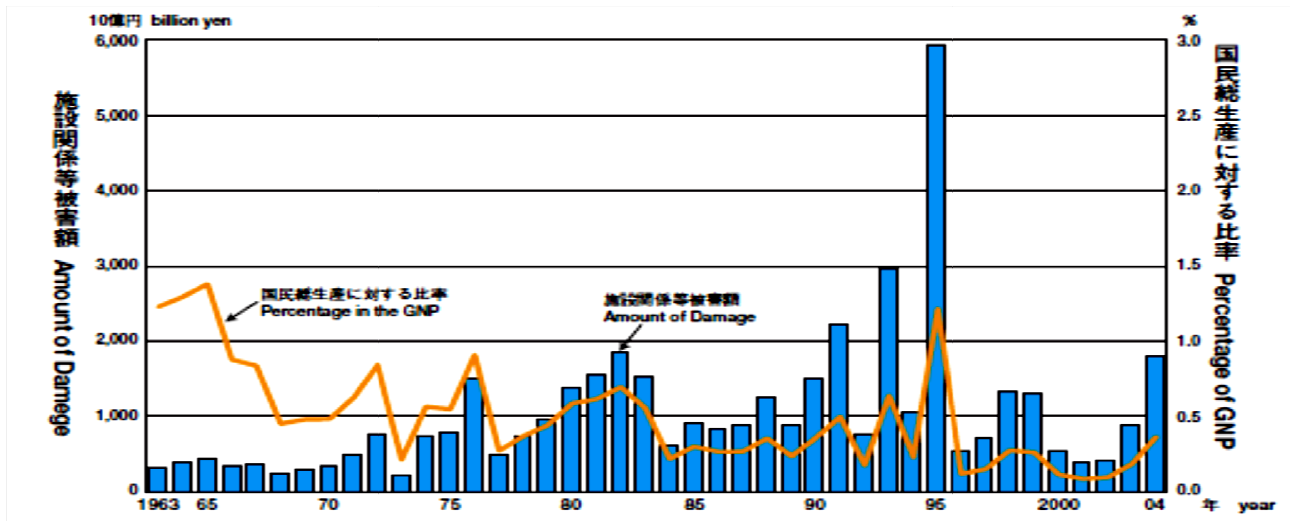


Chart13.Amount of damage to facilities due to disasters.(source prepared by the Cabinet office based on data from related ministries)

1.3.1. Disaster Management Framework in Japan

In Japan, the disaster management system has been developed and strengthened following the bitter experiences of large-scale natural disasters and accidents.

Disaster Management of Japan is categorized into 3 levels including national, regional and municipal level. The significance of each level is detailed as follows:

a) National Level:

The Prime Minister is the National Commander through the National Disaster Management Council, and the designed government organizations (23 ministries and agencies), and designated public cooperation (63 organizations including independent administrative agencies, Bank of Japan, Japanese Red Cross Society, NHK, electricity and gas companies). In this connection, the national council is responsible for formulation and promoting the implementation of the Basic Disaster Management Plan. Meanwhile, the other two designed agencies of government and public cooperation are responsible for formulation and implementation of the Disaster Management Operation Plan.

b) Prefectural Level:

The Governor is the commander ordering via the Prefectural Disaster Management Council, and the designed government organization and public corporations in local. The prefectural council will conjunctionally work with the mentioned designed agencies to formulate and promote the implementation of Local Disaster Management Plan.

c) Municipal Level:

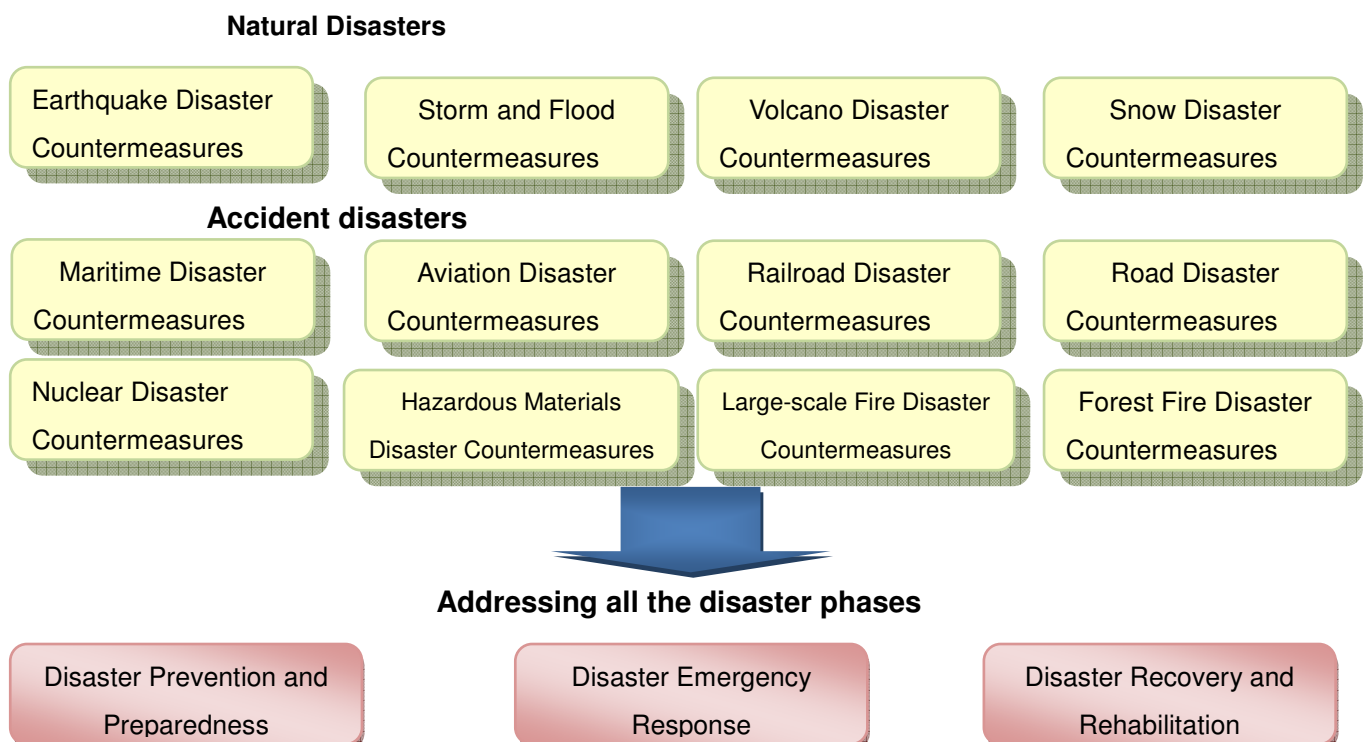
In this level, the Mayor of City, Town and Village is the commander, as the same of Governor in prefectural level, will take function through Municipal Disaster Management Council to formulate and promote the implementation of Local Disaster Management Plan.

To correlate with the three disaster management systems, Japan has made up the basic plans, operation plan, to effectively response to various types of disaster and to properly use in areas. The first is Basic Disaster Management Plan- the key plan for disaster reduction activities prepared by the Central Disaster Management Council based on the Disaster Countermeasures Basic Act, the second is

Disaster Management Operation Plan made up by each designed government organization and designed public corporation, and the last one is Local Disaster Management Plan set up by each prefectural and municipal council. The last two plans are based on the Basic Disaster Management Plan.

DISASTER MANAGEMENT PLAN

Basic Disaster Management Plan is the plan to state on comprehensive and long- term disaster reduction issues such as disaster management related system, disaster reduction projects, early and appropriate disaster recovery and rehabilitation, as well is scientific and technical research. For the Plan's structure, it consists of various plans for each type of disasters which is categorized into 2 main points of natural disaster and accident disasters.(Chart14)



Tangible countermeasures to be taken by each stakeholder

Chart14. Structure of basic disaster Management Plan

The tangible countermeasures will be taken by each stakeholder such as the national and local governments, public corporations and other entities in term of the disaster phases of prevention and preparedness, emergency response, as well as recovery and rehabilitation. Additionally, the conceptual formulation of the Basic Disaster Management Plan has emphasized on the important points of hazard and risk mapping, clarification of Jurisdiction, responsibilities and procedures on establishment of emergency response headquarter, evacuation guidance and order to citizens, designation of evacuation area in advance, procedure for disaster information gathering and dissemination, and public participation.

Disaster management related budget in Japan:

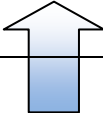
The National budget for disaster management is approximately 4.5 trillion yen (average annual budget from 1955 to 2004), accounting for approximately 5% of the total amount of budget for general accounts. The percentage for each field is a) Scientific Technology Research 1.3% b) Disaster prevention and preparedness, 23.6% c) National Land Conservation 48.7% d) Disaster Recovery and Rehabilitation, 26.4%. This year after Great Tohoku Earthquake, Government of Japan allocated 63 trillion yen for rescue, relief and rehabilitation. (Source internet)

CHAPTER2. COMMUNITY-BASED DISASTER RISK MANAGEMENT: A FRAMEWORK FOR COMMUNITY PARTICIPATION IN DISASTER RISK REDUCTION

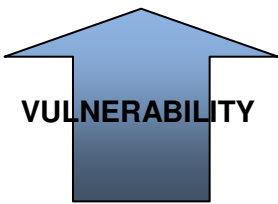
2.1. Framework disaster risk management, and CBDRM

According to ISDR Secretariat **disaster risk management** means the systematic process of using administrative decisions, organization, operational skills and capacities to implement policies, strategies and coping capacities of the society and communities to lessen the impacts of natural hazards and related environmental and technological disasters. This comprises all forms of activities, including structural and non-structural measures to avoid (prevention) or to limit (mitigation and preparedness) adverse effects of hazards.¹¹

Also to exhibit table1 from ISDR to assume global trends disaster thus.

Name of subject	Global trend	Consequence
Global Trends – Disasters are NOT natural		
Natural and human-induced hazards	Climate change and variables (global warming ...)	

¹¹ cf. UN/ISDR 2004 and www.unisdr.org

Socio-economic	Poverty, unplanned urban growth, lack of awareness and institutional capacities...	<p style="text-align: center;">HAZARDS+ EXTREME EVENTS</p>  <p style="text-align: center;">VULNERABILITY</p>
Physical	Insufficient land use planning, housing, infrastructures located in hazard prone areas...	
Environmental degradation ecosystem degradation	Coastal, watershed, marshland...	
<i>Natural hazard x Vulnerability = Disaster Risk</i>		

Several trends in weather extremes are sufficiently clear to inform risk reduction efforts. In many instances, however, the potential increases in extreme events due to climate change come on top of alarming rises in vulnerability. Hence, the additional risks due to climate change should not be analyzed or treated in isolation, but instead integrated into broader efforts to reduce the risk of disasters.

In recent decades, the global cost of disasters has increased substantially. There are several trends in society and nature that suggest this pattern may continue, with more frequent mega-disasters occurring in the future. In particular, risk perception that is at odds with the “real” risk underlies the process of risk transference which encourages development that increases long-term vulnerability.

Based on the above specified components, disaster risk management includes measures *before* (risk analysis, prevention, preparedness), *during* (emergency aid) and *after* a disaster (reconstruction). Sometimes disaster risk management includes only a part of disaster management, focusing on the *before* of the extreme natural event.¹²

Runaway increases in exposure and risk are pushing up the costs of disasters, while at the same time, countries and communities are struggling to reduce their vulnerabilities. Aside from reducing disaster mortality, existing risk governance capacities and arrangements generally fail to achieve their aims. A new paradigm for risk governance is required, one that must address the disaster risk internalized in, and sometimes generated by, development processes. Global public investments dwarf international aid. If national public investment systems truly account for disaster risk, they can reduce potential losses at a scale impossible to achieve through stand-alone DRM.¹³

In this context, this disaster risk reduction process I have been examinations in terms of community role in disaster mitigation.

2.1.1 Why the community based approaches to disaster mitigation¹⁴?

Parallel efforts in various regions worldwide called for a shift in perspective from the prevailing

¹² cf. GTZ 2004, p. 18

¹³ Global Assessment Report on Disaster Risk Reduction 2011

¹⁴ Lorna P. Victoria, Director, Center for Disaster Preparedness

emergency management framework to disaster risk management to reverse the trend of exponential increase in disaster occurrence of and loss from small- and medium-scale disasters. These highlighted the need for proactive disaster management activities and the significant role of local communities.

The community based approach also corrected the defects of the top-down approach in development planning and disaster management which failed to address local needs, ignored the potential of indigenous resources and capacities, and may have even increased people's vulnerabilities. Experiences in developing regions and countries now affirm the gains of community based disaster management. (Chart 15)

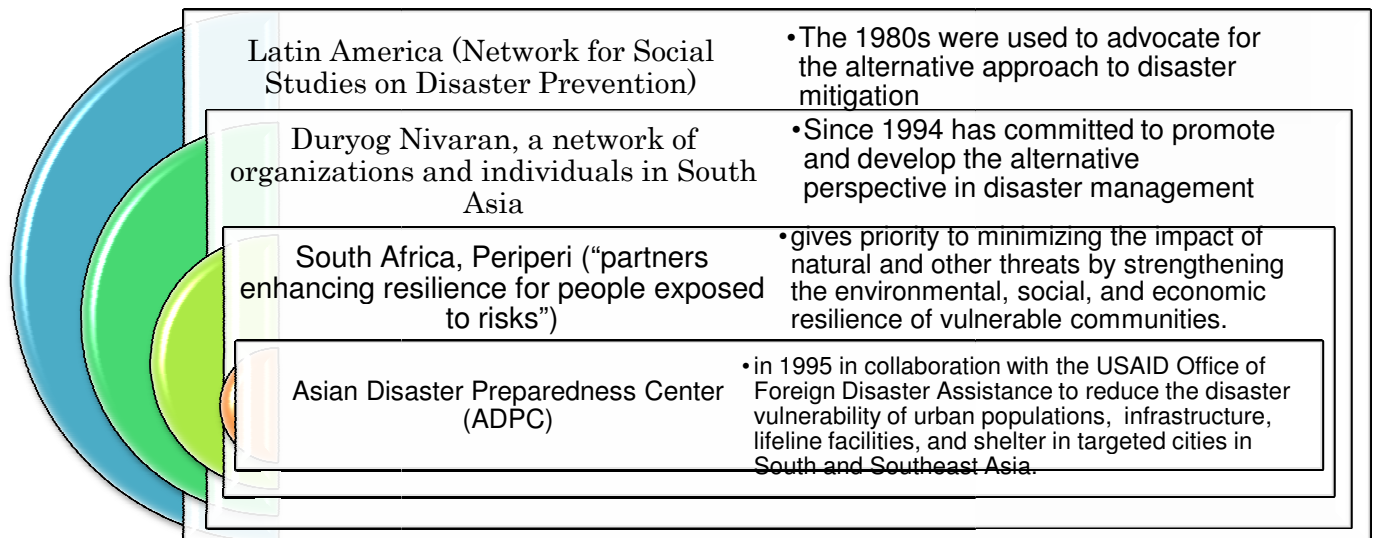


Chart15. Pioneering experiences in community based disaster mitigation (CBDMit) of PREDES

Four AUDMP projects which have very discernable applications of the participatory approach are featured in the session on Community Based Approaches to Disaster Mitigation -- Community Based Urban Flood Mitigation in Bangladesh, Mitigating Flood Risk in Cambodian Communities; Experiences of Community Based Disaster Mitigation in Municipal Ward 34 of Kathmandu Metropolitan City; and Community Based Approaches to Landslide Disaster Reduction in Sri Lanka ADPC also implements with DIPECHO the Partnerships for Disaster Reduction-South East Asia (PDRSEA), which has taken on Community Based Disaster Management (CBDM) as a core strategy for disaster reduction and sustainable development. When combined with the AUDMP learning loop, the practices in CBDMit in PDR-SEA and other initiatives such as the Community Based Approaches to Rehabilitation and Mitigation: Experiences from Patanka Village of Gujarat offer the wellspring of learning on the concepts, approaches, interventions, methodologies, tools and practical tips/considerations for communities to improve safety and achieve livelihood security together with sustainable economic, social and physical development.

While in the pioneering experiences, PREDES and La Red talk about the community based approach to disaster mitigation, practices in various communities, countries and regions now showcase a wide range of community based approaches to disaster mitigation, clearly with community participation as the crucial and pivotal element.

Box 1. Learning from Initial Experiences in CBMit in Latin America (Maskrey, 1989)

The top-down mitigation programs in Latin America had serious flaws such as failure to involve people since community participation was often limited to provision of labor in self-help projects, failure to address vulnerability as a complex relationship between people and their social, physical and economic environment, and the susceptibility to political manipulation by powerful groups.

In contrast, case studies on the piloting of the community based approach to disaster mitigation in the 1980s for drought, flood, and earthquake hazards highlighted the following benefits:

For our purpose in Community-Based Disaster Risk Management (CBDRM), a community can be taken as a group that may share one or more things in common such as living in the same environment, similar disaster risk exposure, or having been affected by a disaster. Common problems, concerns and hopes regarding disaster risks may also be shared. However, people living in a community have different vulnerabilities and capacities, for example men and women. Some may be more vulnerable or more capable than others.

2.1.2. Key Points on the CBDRM, and participatory disaster risk reduction

A process of disaster risk management in which at risk communities are actively engaged in the identification, analysis, treatment, monitoring and evaluation of disaster risks in order to reduce their vulnerabilities and enhance their capacities. This means that the people are at the heart of decision making and implementation of disaster risk management activities. The involvement of the most vulnerable is paramount and the support of the least vulnerable is necessary. In CBDRM, local and national governments are involved and supportive¹⁵.

In CBDRM, a community can be taken as a group that may share one or more things in common such as living in the same environment and similar disaster risk exposure.

In general, the goal of CBDM is to transform vulnerable or at-risk communities to disaster resilient communities, specifically through CBDMit. Although steps may vary from community contexts and organizational mandates, the process and requisites for disaster risk reduction can be generalized as follows:

1. Initiating the process - linkage and building rapport with community
2. Community Profiling - initial understanding of disaster situation and orientation on CBDM and CBDMit
3. Community Risk Assessment – participatory assessment of hazards, vulnerabilities, capacities and people’s perception of risks
4. Formulation of Initial Disaster Risk Reduction Plan - identification of appropriate mitigation and preparedness measures including public awareness, training and education
5. Formation of Community Disaster Response Organization - community organizing and mobilization, capability building in CBDMit and preparedness

¹⁵ ADPC-CBDRM-11, 2003

6. Implementation of short-, medium-, and long-term risk reduction measures, activities, projects and programs - implementation strategies and mechanisms; organizational/institutional strengthening

7. Monitoring and Evaluation - continuous improvement of disaster risk reduction plan, documentation and dissemination of good practices for replication

Notwithstanding the order, the community volunteers, disaster management committee, and disaster response organization are the necessary interface or the channel for outsiders such as NGOs or government agencies to assist/support the community at-large. The community groups and organizations in disaster management are essential in sustaining the risk reduction process for the community to meet intended aims and targets.

Centrality of the role of community in disaster risk management: The focus of attention in disaster risk management is the local community. The CBDRM approach recognizes that the local people are capable of initiating and sustaining their own development. Responsibility for change rests with those living in the local community.

Disaster risk reduction is the aim: The main strategy is to enhance capacities and resources of most vulnerable groups and to reduce their vulnerability in order to avoid the occurrence of disasters in future.

Participatory Disaster Risk Assessment (PDRA): This is a diagnostic process to identify the risks that the community faces and how people overcome those risks. The process involves hazard assessment, vulnerability assessment and capacity assessment. In doing the assessments, people's perception of risk is considered.

Participatory Monitoring and Evaluation: This is a communication system in which information flows amongst all the people involved in the project: the community, the implementing staff and the support agency, concerned government agencies and donors. *Please see chart 16 Resource Pack 7 for details on Participatory Monitoring and Evaluation.*



Chart16. The people involved in the project

There is growing evidence to show that most top-down disaster risk management and response programs fail to address specific local needs of vulnerable communities, ignore the potential of local resources and capacities, and may in some cases even increase people's vulnerability. As a result, a

broad consensus has been reached among disaster risk management practitioners to put more emphasis on community-based disaster risk management programs. This means the vulnerable people themselves will be involved in planning and implementing disaster risk management measures along with local, provincial, and national entities through partnership.

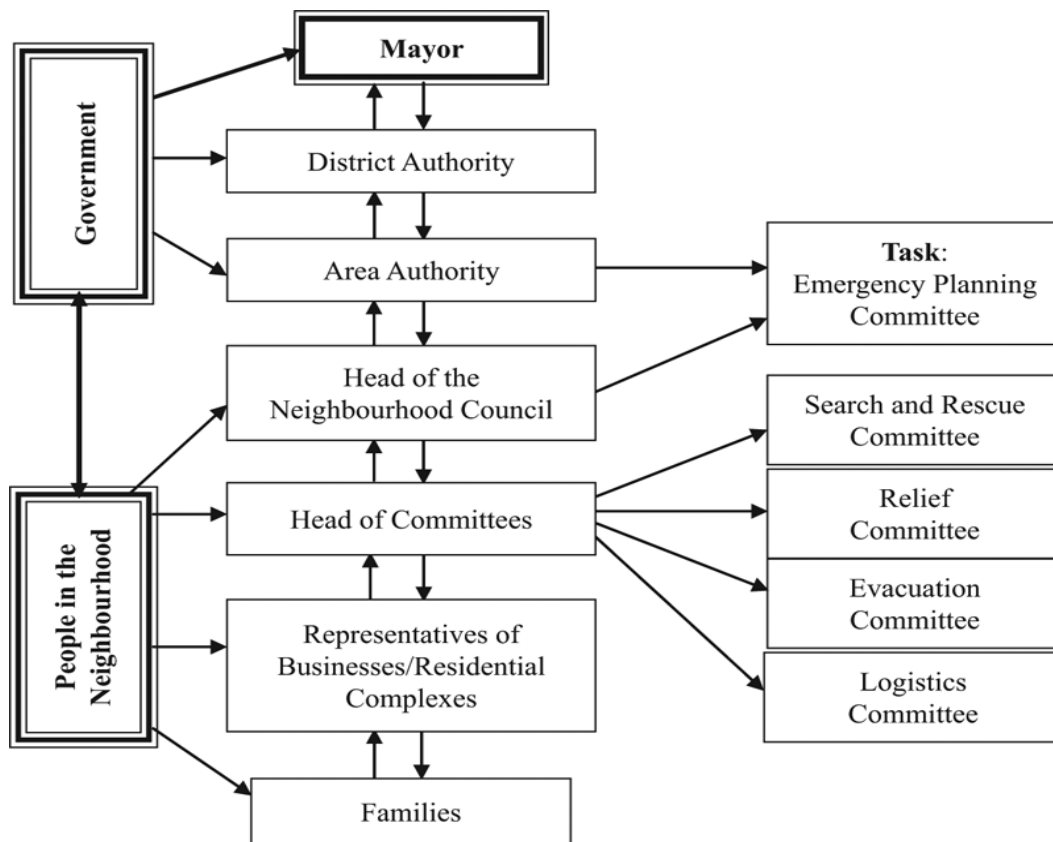


Chart17. Participatory community-level disaster management (Source:)

Participatory community-level disaster management involves a cross-section of people and interests in researching, planning and implementing projects. Because the projects are developed for and by local people, there is more interest, understanding and success in reducing suffering and losses.

The key principles of this approach are:

- Communities themselves are best placed to priorities threats and take effective risk reducing actions.
- The best time to reduce the impact of disasters is before the next disaster occurs.
- The identification of hazards and who and what may be affected by them is necessary before risk reduction plans can be made.
- Progress has to be well publicized to maintain interest and strengthen the culture of disaster reduction.

2.2. Paradigm Shifts – From Relief and Response to Disaster Risk Management

In the 21st century, the key issues in capacity-building efforts are strengthening the legal and organizational capabilities of institutions in charge of disaster risk management and networking between

them. Chart 18 summarizes good governance and capacity building as a central component regarding the process and implementation of disaster risk management and sustainable development.

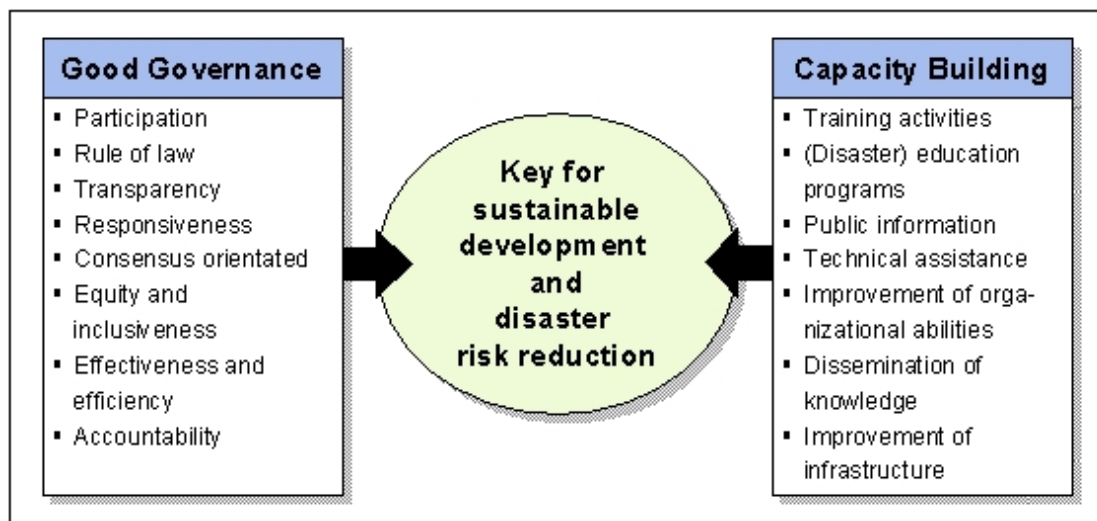


Chart18: Governance and capacity building for risk reduction

Climate-related disasters, like floods or droughts, are set to increase. In a report recently published by Oxfam, the number of people affected by climate related disasters is predicted to increase by 54% to 375 million people by 2015.¹⁶

Disasters entrench poverty and wipe out development gains. Investing in disaster risk reduction not only saves lives and livelihoods, it protects these gains, is cost effective and supports achievement of the Millennium Development Goals. DRR is therefore important not just for humanitarian efforts but for long-term development too.

Last year saw the publication of ISO 31000:2009, a new globally accepted standard for risk management together with a new, associated vocabulary in ISO Guide 73:2009. These were developed through a consensus-driven process over four years, through seven drafts, and involving the input of hundreds of risk management professionals around the world. The new standard supports a new, simple way of thinking about risk and risk management and is intended to begin the process of resolving the many inconsistencies and ambiguities that exist between many different approaches and definitions.

Almost in parallel with the paradigm shift in disaster reduction programs – from income disaster risk to human capacity -- the disaster management sector has also seen a paradigm shift. Disasters are no longer seen as extreme events created entirely by natural forces but as manifestations of unresolved problems of development. The disaster management practices have evolved from largely a top-down relief and response approach to a more inter-sectoral risk management approach. In the current paradigm of risk management approaches, there is more the issues of community participation in disaster risk reduction.

Till a few decades ago, disasters were viewed as one-off events and responded by

¹⁶ UNISDR, *Risk and poverty in a changing climate*, 2009

Research paper of VR Mongolia

governments and relief agencies without taking into account the social and economic implications and causes of these events. With significant advancement in our understanding of the natural processes that underlie the hazardous events, a more technocratic paradigm came into existence which believed that the “only way to deal with disasters was by public policy application of geophysical and engineering knowledge”. These approaches looked at disasters as exceptional events, not related to the ongoing social and developmental processes.

Table 2. Evolution of the participatory community and Risk Management Paradigms

Evolution of the participatory community paradigm (for capacity building of community)	Evolution of the Disaster paradigm ¹⁷
The approaches developed to be more people centric, and voluntary disaster response groups	Disasters were treated as one-off events responded to by governments and relief agencies
Development of a community approach in planning and decision making,	Improved preparedness (stockpiling of relief goods, better relief management etc.) among governments and relief agencies to “deliver relief”. This “contingency planning” approach certainly improved the efficiency of relief agencies but left a lot to be desired in terms of appropriateness and effectiveness of relief.
The approaches developed CBDM, define the overall project purpose, and the aims of the project’s communications strategy	A more technocratic paradigm came into existence which believed that the only way to deal with disasters was by public policy application of geophysical and engineering knowledge
Identify communication channels and formulate communications material, participatory pre-testing, implementation, evaluation	From the realization that people’s vulnerability is a key factor determining the impact of disasters on them, “vulnerability” emerged as the key theme and more and more emphasis was laid on using “vulnerability analysis” as a tool in disaster management
Institutionalization of CBDRR into the policy, planning and implementation, implementation of innovative programs to explore new dimensions in CBDRR practices, development of frameworks and tools to support the work of decision-makers and practitioners, development of new training tools to enhance the capacity of practitioners, continued support to the regional entities for promoting CBDRR practices.	In recent years, a more comprehensive approach called risk management has emerged. This approach has three distinct but inter-related components: hazard assessment; vulnerability analysis; and enhancement of management capacity.

Within this context this table attempts to:

1. Explore linkages between capacity building of community and disaster;
2. Provide examples of success stories in this area.

Since many disaster management agencies are by now influenced by the shift in paradigms to the disaster risk management framework, they usually initiate the CBDMit process with community project partners.

¹⁷ Dr. Suvit Yodmani, “Paper Presented at The Asia and Pacific Forum on Poverty Organized by the Asian Development Bank”.

On the other end, growing public awareness of disaster risks and the gains achieved in the CBDM/CBDMit approaches have spurred communities to seek out other communities and/or NGOs to assist them.

Conspicuously from research, and good practice the following benefits of the Community Based Approaches to Disaster Mitigation have been noted:

- 1) Community process and participation builds confidence, pride that they are able to make a difference and capabilities to pursue disaster mitigation and preparedness and bigger development responsibilities at the local level. This leads to empowerment.
- 2) Community involvement in risk assessment and risk reduction planning leads to ownership, commitment and individual and concerted actions in disaster mitigation, including resource mobilization;
- 3) Trusting and supporting the capacity building process results in a wide range of appropriate and do-able mitigation solutions;
- 4) Community Based Disaster Mitigation is cost effective, self-help and sustainable even if it is time consuming.

CHAPTER 3

COMMUNITY PARTICIPATION IN DISASTER RISK REDUCTION IN MONGOLIA AND JAPAN

The communities are the heart and soul of disaster management. They can identify their own risks and vulnerabilities along with capacities and available resources as well as their own needs. Major benefits of the community based risk assessment, mitigation planning and implementation processes underscored include building confidence, pride in being able to make a difference, and enhanced capabilities to pursue disaster preparedness, mitigation as well as bigger development responsibilities at the local level. Additionally, individual and community ownership, commitment and concerted actions in disaster mitigation, including resource mobilization produce a wide range of appropriate, innovative and do-able mitigation solutions, which are cost-effective and sustainable¹⁸ .

3.1. Community Participation in Disaster Risk Reduction in Mongolia

In the legal environment reflect community participation in disaster risk reduction:

a). Law on Disaster Protection:

¹⁸ *Regional Workshop on Best Practices in Disaster Mitigation*

1. to regulate matters relating to the principles and full powers of disaster protection organizations and agencies, their organization and activities, as well as the rights and duties of the State, local authorities, enterprises, entities and individuals with relation to disaster protection.
2. to communicate activities between the State and Local Governments, enterprises, entities and the state services in the framework of coordinating disaster prevention, rescue, response and recovery.

b). Environment of NEMA

Implementing disaster protection not only with the effort of the Government and the organization in charge for emergency management, but also with collaborative involvement and partnership of the general population, governmental and nongovernmental organizations, private sectors and international organizations is to strengthen disaster resilience of Mongolia.

The National Emergency Management Agency's main duties are to develop legislative environment on disaster protection, to provide strategic management, to evaluate disaster risk and vulnerability, to implement activities on disaster prevention, disaster reduction, disaster preparedness in all levels, organizing search and rescue work, response, restore main infrastructures and rehabilitation, strengthening capacity of national disaster protection, cooperation with foreign countries and international organizations in disaster protection field, monitoring laws and legislations, and implementation policy on state reserve.

My country the vision of the NEMA is *"To support in providing national safety through risk and vulnerability reduction, strengthening disaster management and implementing intensively disaster protection measures based on community involvement"* to underscore essential needs of community participatory.

Framework community participatory:

Disaster Research Institute resent year's published "Research paper". Last year research paper to reflect one to conduct a sample survey of community participatory on disaster risk reduction the Baynzurh district.(Chart 19, 20)

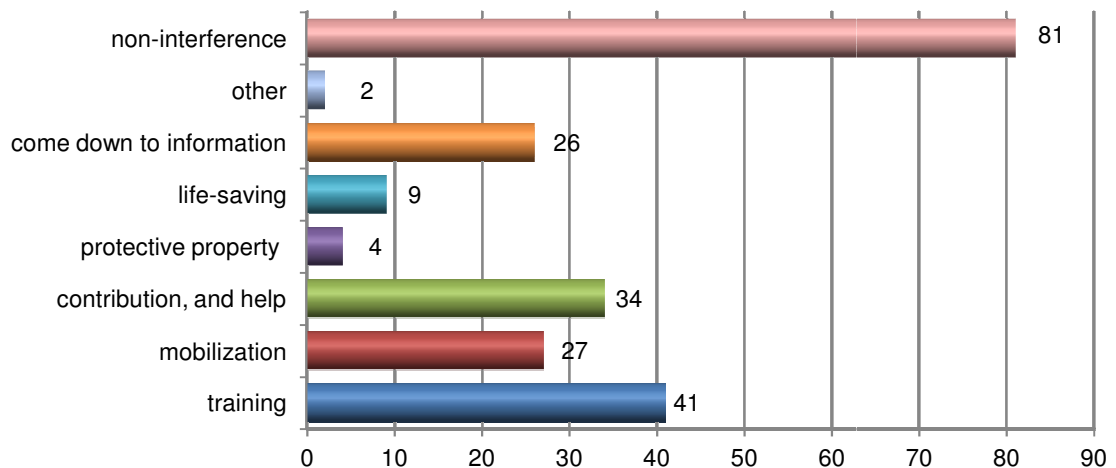
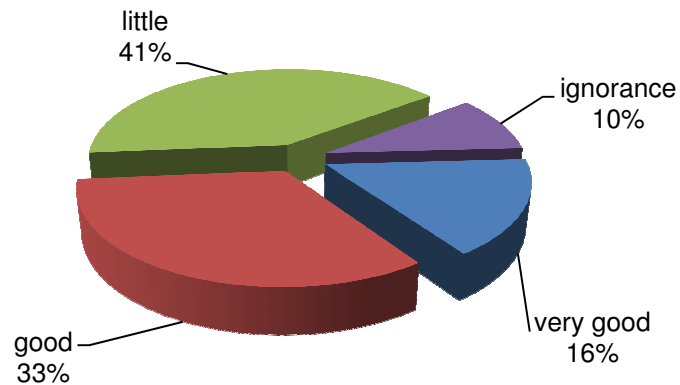


Chart19. Community participatory form. (Source: Research paper of DRI, 2011)

Mass community to answer as “non-interference” but considerable part to answer as “mobilization”, “contribution, and help”, “training”, “come down to information” and all that participated on disaster prevention. And to answer as “Do you know to what extent of disaster?” in chart 20.

*Chart20. Do you know to what extent of disaster? (Source: Research paper of DRI, 2011)*

Researcher watched to partaken survey of community as 90% ratherish learning of disaster prevention. Also resent years increase capacity development and raising awareness of communities, and participatory disaster prevention training, emergency drills.

3.1.1 Recent Activities for Enhancing Community Capacity for Disaster Risk Reduction in Mongolia

In the recent years in NEMA, “Community–based disaster Management” to signalize and has drawn people’s attention in the field of disaster management.

The “preparations” for emergencies that have been made on a regular basis will be greatly valued. Various preparations can be made for disasters, such as improving earthquake-proof equipment in houses, preparing emergency goods that can be easily carried out in case of disaster, and preparing the necessary materials and devices to directly respond to the disaster. Conducting the regular emergency drills is very important for being prepared for natural disaster situations.

Recently developed new term “Community-based disaster management”. Community based disaster prevention led by citizens that plays the central role in reducing disasters.

By this event, let’s try some activities of the demonstration site as the following;

Events organized by the NEMA Mongolia on occasion of the IDDR11. Within the framework of the IDDR11, the National Emergency Management Agency of Mongolia in cooperation with other

relevant agencies have organized variety of awareness raising activities on disaster prevention and risk reduction amongst the youths of Ulaanbaatar¹⁹:

NEMA, Mongolia and Authority of Children jointly organized the forum on "Public Initiatives on Potential Risk Prevention and Protection of Children" and involved policy making senior officers from the National Emergency Management Agency, Emergency Management Department of Capital city as well as district level Emergency Management Departments. Over four hundred Children has simultaneously attended the forum including the homeless and disabled children.

The illuminated and dedicated to the International Day of Disaster Reduction advertisement board with the theme of "Making Children and Young People Partners for Disaster Risk Reduction" has been placed in front of the Sukhbaatar square of Ulaanbaatar.

The Capital City Emergency Management Department in cooperation with the Department of Education conducted "Earthquake Evacuation Drill" and "Fire Prevention Table Top Training" simultaneously at all. (Cart21)

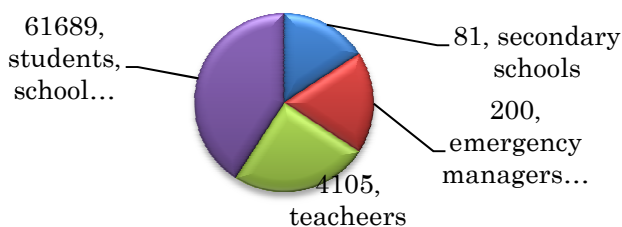


Chart21. Participation community

I watched hereof conspicuously to be released to develop basis of CBDRM.

3.1.2. Capacity Development and Raising Awareness of Communities

We take into account giving disaster protection education to the community so that according to the Law on Disaster Protection, disaster protection training is being organized. We organize the disaster management training to students of colleges and universities.

1). NEMA's to organize training for capacity development and raising awareness of communities. For example:

- Disaster protection complex training (1 year, 1-2 aimag)
- Disaster protection command staff training (every year, 2-4 aimag)
- Disaster protection preparedness inspection (every year, all district)

¹⁹ "National Post" on 13 October 2011

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Chart22. Disaster protection complex training



Chart23. Disaster protection command staff training



Chart24. Disaster protection preparedness inspection

To reflect the law on Disaster Protection “The disaster protection resources shall be emergency management institution, disaster protection state services, entities and enterprises and specialized units and volunteers”. Accordingly need to consider organization entities and enterprises and specialized units and volunteers.

2). On-going projects implemented by NEMA or International Organizations

Implementation of Hyogo framework for action

We take into account increasing community participation in the disaster protection activity. National Emergency Management Agency of Mongolia is implementing the UNDP Project “Strengthening the Disaster mitigation and management system in Mongolia” and in the framework of the project, the commencement of the developing disaster management on the base of local community for supporting community initiative was made. Policy on disaster management on the base of local community was included in the Action Plan of the Government of Mongolia.

A. The project “Strengthening the Disaster Mitigation and Management System in Mongolia” has been implemented by the national disaster management authority *since 2002*, and is currently in its third phase. The overall project goal is to contribute to the sustainability of the country’s development gains by reducing risks and vulnerabilities through enhanced government capacity, and wider partnerships with other sectors and regions.

The principal objective of the Phase III is to support the implementation of the long-term disaster risk management strategy of Mongolia to minimize vulnerability, improve preparedness, enhance institutional capacity for disaster management and emergency response, and assist in adapting to climate change that adversely affects sustainable development of the country, especially those in the rural environments. Withing this project organize training for capacity development and raising awareness of communities.(Chart25)

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Chart25. Target area for implementation of community-based disaster management (Source: internet)

B. Joint Training and Exercises

- **Disaster Preparedness Training and Exercise, COE, APCSS, Alaska National Guard, USA**
- **Disaster Management, Training, Bournemouth University, UK**
- **Earthquake Preparedness, EMD, Turkey**

NEMA has been charging series of meetings with COE, APCSS, Alaska National Guard, USA and Government officials on the process, methodologies, organizational roles and responsibilities of different organizations in order to strengthen response capacities of the stakeholders involved in disaster risk reduction.(Chart26) And compiled the outcomes of workshops held at the district, regional and central levels and forwarded the results to the NEMA for endorsement. As a result, more than 4 districts and same regional authorities initiated disaster preparedness planning jointly with other humanitarian partners.



Chart26. Joint Training and Exercises

C. The project by JICA “Strengthening earthquake prevention capacity in Ulaanbaator city” has been implemented by the workshops enhancing disaster risk reduction (DRR) capacities through transferring the measures and tools of Japan were conducted. The overall project goal is to contribute to the sustainability of the conducted a series of workshops and trainings for strengthening the capacities for earthquake disaster education. They include trainings for the NEMA officials and school teachers, a workshop to learn Japanese DRR exercises utilized creative and innovative ideas, and lecture for

school students, and DRR exercises in two target schools. On 13-19 February 2011, the NEMA Mongolia in collaboration with the government of Japan and the ADRC

Through the above mentioned activities, the NEMA and the related organizations and schools learned various knowledge, techniques, and tools for enhancing and promoting earthquake disaster education in Mongolia. We believe this project became one of the major driving forces for further promotion of earthquake DRR in Mongolia.²⁰

Conspicuously from research awareness and knowledge of people in community are still low. Community awareness to recognize disaster prevention and mitigation by themselves is established. But the people of Mongolia have won universal admiration for their courage and endurance when subjected to hardships year after year, as the government and international partners seek to protect them against the assaults of Nature.

3.2. Community Participation in Disaster Risk Reduction in Japan

Community and local involvement:

Japan has many experiences about natural disasters most frequently in the world. There is gained the knowledge and developed the skills of responding and preparing for disasters through its past experiences. Also “Community –based disaster Management” has drawn people’s attention in the field of disaster management

It is necessary to engage local government and community in disaster risk mitigation. If local stakeholders are not engaged in the disaster risk mitigation design, implementation and management of disaster risk reduction then the resulting policies, strategies and plans have limited chance to suit with the local conditions.

Similarly, if local community and organizations are not considered as stakeholders in the management of facilities and infrastructure then there is little chance to be implemented. For example, if local community is not involved in post disaster situation in Great Hanshin-Awaji Earthquake, Kobe, Japan in 1995 smooth recovery and reconstruction of the total area would not have been possible.

Cost of disaster risk reduction can be reduced to a great extent if the local community is involved in decision making process with reconstruction and rebuilding and mobilization of local resources, capabilities, knowledge and expertise. The potentiality of the community is proven great at the time of disaster. Engagement of local community contributes to building social capital, raises awareness of disaster risk and strengthens local capacities to address a wide range of development issue

The community based disaster management two epoch-making turning points for disaster reduction in modern Japan.²¹

²⁰ <http://www.adrc.asia>

²¹ Miki Kodama, *Local area network by “Building resilience of communities to disasters in Japan”, ADRC*

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- | | |
|---|---|
| <p>◇ 1959 Ise–Wan Typhoon
Improvement of Institutional Mechanism for
Disaster Reduction</p> <ul style="list-style-type: none"> ✚ Preventive Approach ✚ Multi-sectoral Approach ✚ Investment for Disaster Reduction | <p>◇ 1995 Great Hanshin–Awaji Earthquake (GHA
Earthquake)</p> <p>Typical lessons learnt from this disasters:</p> <ul style="list-style-type: none"> ✚ Quicker Information Gathering Mechanism ✚ Ensuring Building Safety ✚ Enhanced Capacities of Community |
|---|---|

3.2.1 Recent Activities for Enhancing Community Capacity for Disaster Risk Reduction in Japan

In the recent years in Japan, “Community –based disaster Management” has drawn people’s attention in the field of disaster management. This is an idea that it is important not only to provide support for developing countries to implement sabo works and build levees, as well as to improve their disaster specialist’s technical skills, but also to provide to support for the improvement of the ability of their local communities to prevent disasters in order to reduce damages.

The “preparations” for emergencies that have been made on a regular basis will be greatly valued. Various preparations can be made for disasters, such as improving earthquake-proof equipment in houses, preparing emergency goods that can be easily carried out in case of disaster, and preparing the necessary materials and devices to directly respond to the disaster. Conducting the regular emergency drills is very important for being prepared for natural disaster situations.

It is impossible to stop “natural disasters” from happening, but at least we can prepare for them. Recently developed new term, gensai “to reduce disasters” has commonly be used in Japan. We cannot reduce the damage from disasters to Zero but we can do our best to reduce the destruction to a small amount. Community based disaster prevention led by citizens that plays the central role in reducing disasters.

Importance of Enhanced Capacities of Community (from GHA earthquake)

People were not well prepared for earthquake disasters since there was no record of great earthquake in Kobe. Earthquake didn’t kill people, but collapsed buildings, fallen furniture killed people (nearly 80% crushing death), insufficient preparation for emergency evacuation. The percentage of people rescued by the rescue parties was only 1.7%. Most people were rescued by local community. (Chart 25)

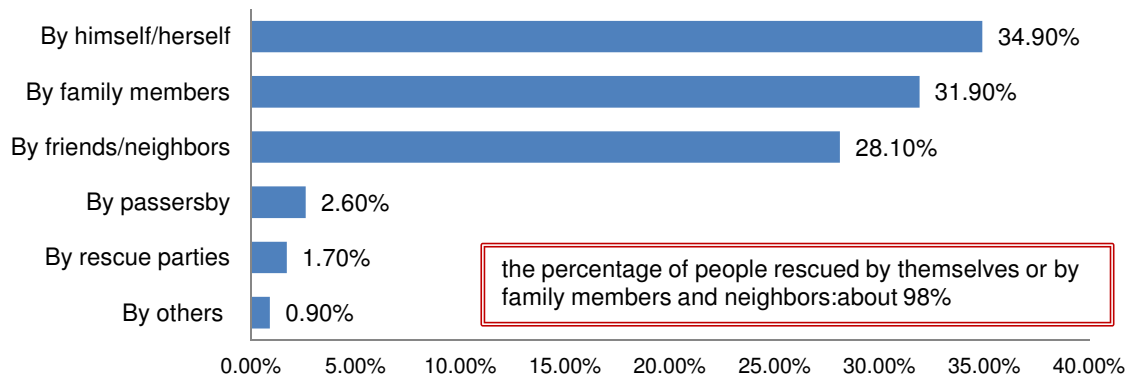
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Chart25. Who rescued buried or confined persons? (source: lecture by Mr.Kuniaki Takenaka, Kobe Fire Bureau)

Rescue workers couldn't reach to individuals immediately. And lessons from the earthquake need for capacity development and raising awareness of communities.

Capacity Development and Raising Awareness of Communities

Some Recent Significant Efforts by Japanese Government formulation of "Basic Framework for Promoting a Nationwide Movement for Disaster Reduction -Actions with Added Value to Security and Safety-"

- I) Involvement of various local groups
- II) Development of more attractive educational tools to understand proper knowledge on disaster reduction
- III) Promotion of investment for safety in corporate sectors and households
- IV) Facilitating networking of various stakeholders, and
- V) Sustainable disaster reduction activities by each individual and each sector of society

Involvement of various local groups

After the Great Hanshin-Awaji Earthquake, Kobe City lessons from the Earthquake and the city government has focused on establishing and developing voluntary organization for disaster prevention in communities for nationwide movement for disaster reduction.

The disaster countermeasures basic act, which is the most fundamental law of disaster measures, regulates that the municipalities must make efforts to fulfill the "Disaster-management organization based on the spirit of citizen's neighborhood cooperation" (Section 2 of article 5). This basic act Support for development of voluntary disaster response groups:

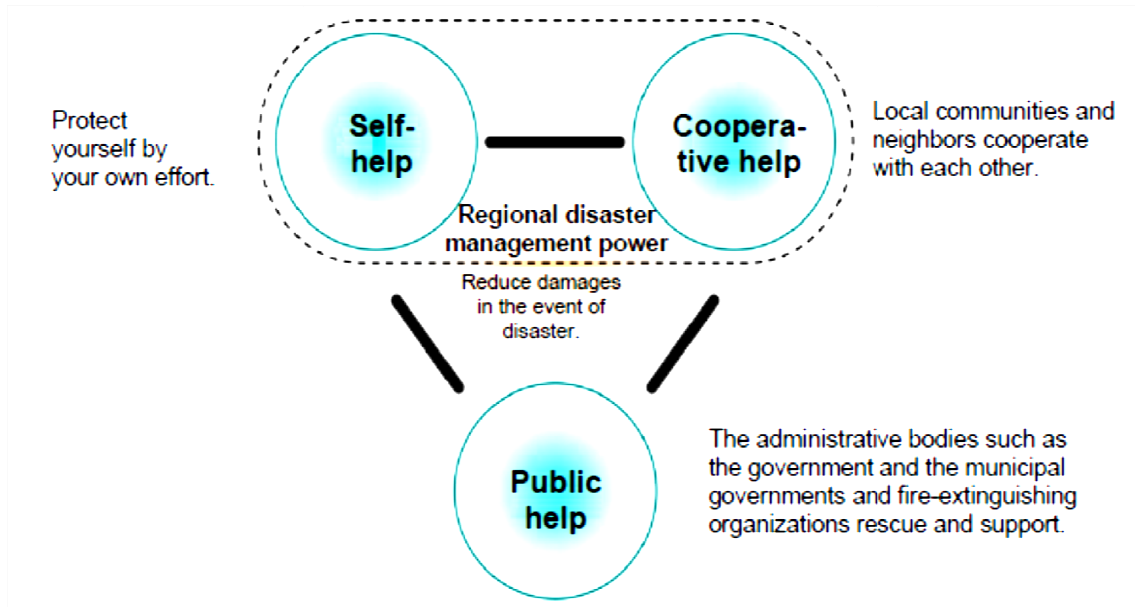


Chart26. Basic principle of voluntary disaster management organization (Source: lecture by Mr.Kuniaki Takenaka, Kobe Fire Bureau)

Voluntary disaster response group from the nucleus of community disaster management capability, and are supported to collaborate with local authorities to provide comprehensive support for efforts to improve and strengthen voluntary disaster response activities. Namely for involvement of various local groups a) Incorporating disaster reduction into the existing community activities, b) Educate key persons for regional disaster risk management strengthen voluntary disaster response activities.

In Japan, the term, “voluntary disaster management organization,” was used for the first time in an official document in 1961. Since then, this term has gained recognition every time the country has been challenged by disasters, and its importance gained dramatic recognition at the time of the Great Hanshin-Awaji earthquake.

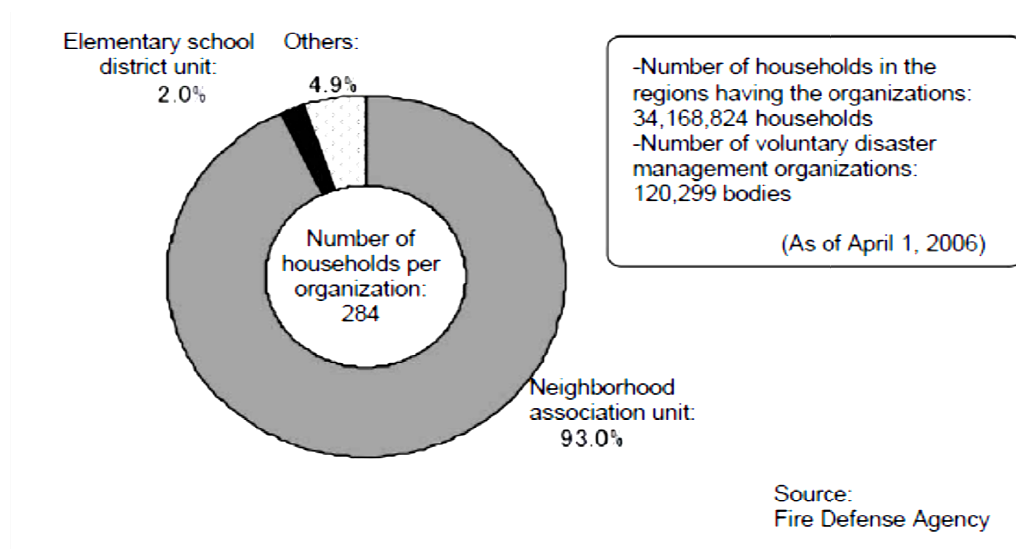


Chart27. Scale of voluntary disaster management organizations (formation unit)

Change of voluntary disaster management organizations.

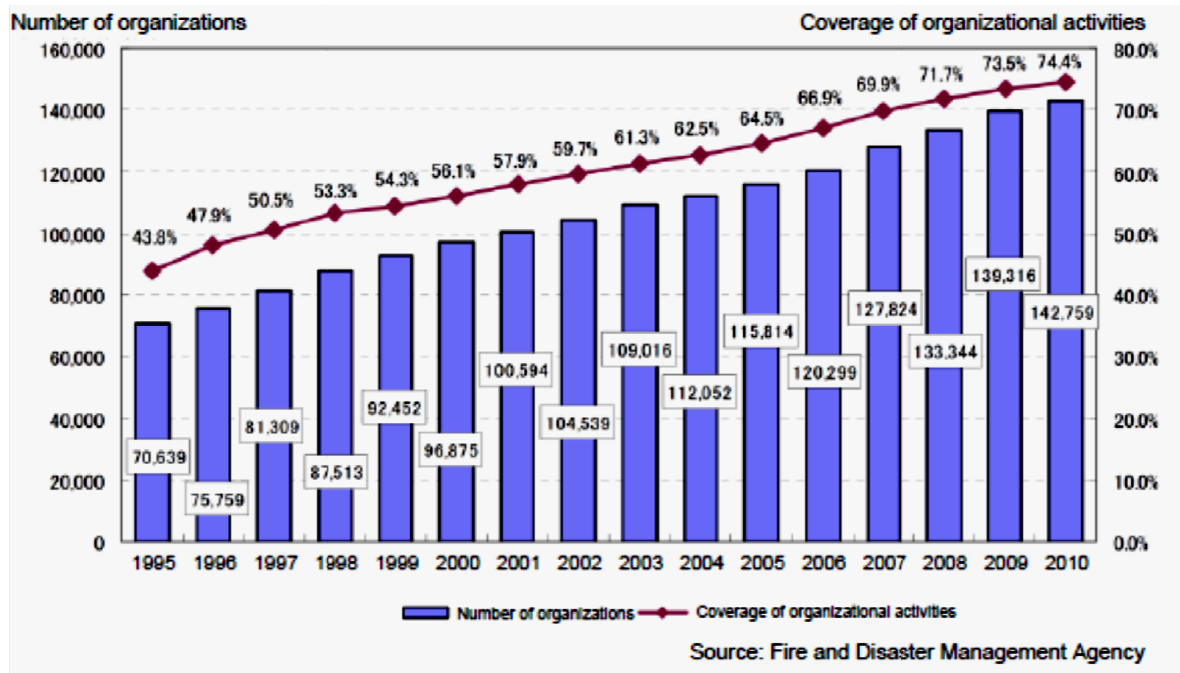


Chart28. Change of voluntary disaster management organizations (as of April 1, each year)

Next development of more attractive educational tools to understand proper knowledge on disaster reduction is BOKOMI. It is also distributing various disaster prevention equipment and materials, assisting the organizations in conducting the different emergency drills and offering them subsidies to conduct disaster prevention activities.

Kobe city calls these community –based disaster prevention organizations “Disaster Safe Welfare Communities” Short name is BOKOMI. It introduces a series of emergencies drill programs which can be conducted by community –based disaster prevention organizations and a series of disaster preventions educations programs mainly targeting to elementary schools.

The Kobe City Fire Bureau (KCFB) is assisting with training projects conducted by JICA (Japan International Cooperation Agency) as part of human resource development in the disaster prevention field in the developing countries. Community –based disaster prevention organizations, explains their specific activities to the training participants who are involved in the disaster management in disaster prone- countries.

“Kobe City Disaster-Safe Welfare Community”

Rate of formation 100%

Common name: BOKOMI

Area: Elementary school district
*191 bodies in the city

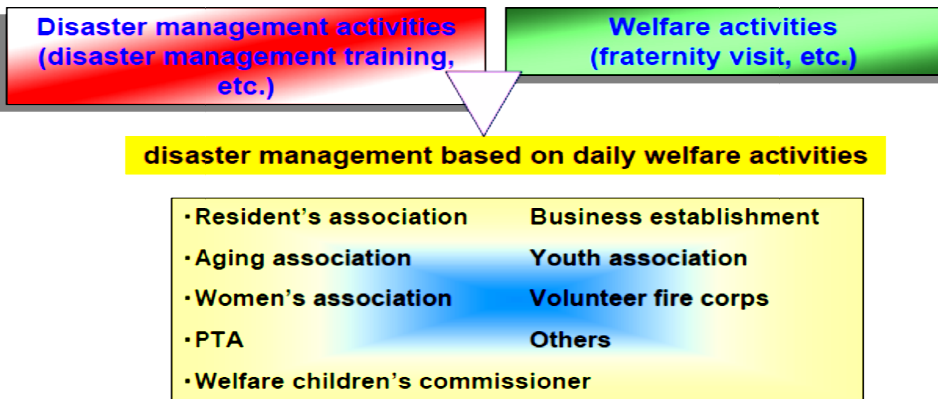


Chart29. Launch of voluntary disaster management organization by Kobe citizens (1995-), Source: lecture by Mr.Kuniaki Takenaka, Kobe Fire Bureau

For the above activities are conducted by team of BOKOMI in normal time:

- ✓ Public relations/enlightenment activities of disaster management knowledge
- ✓ Preparation in case of occurrence of disaster (grasping of dangerous points, establishment of information transmission system, etc.)
- ✓ Disaster management training

For example activities in normal time, at the time of disaster table 3.

Table3. Activities time of BOKOMI (Source: lecture by Mr.Kuniaki Takenaka, Kobe Fire Bureau)

in normal time		at the time of disaster	
Headquarters President/vice president Development of training plan Implementation of general training Preparation of evacuation center support Information exchange, etc.	Information team Utilization of information on people requiring assistance, implementation of information collection and transmission training, etc.	Headquarters President/Vice president General direction in the district Support to other districts Evacuation center operation support	Information team Collection of information about disaster, preparation of refugee list, etc.
	Fire extinguishing team Implementation of fire extinguishing training, securing of fire extinguishing water, etc.		Fire extinguishing team Initial fire extinguishing activities, security on fire (patrol), etc.
	Rescue team Learning of rescue technique, learning of first aid, etc.		Rescue team Rescue and first aid of injured people, transfer to first-aid station, etc.
	Escape guiding team Inspection of evacuation center/route, creation of safety map, etc.		Escape guiding team Transmission of evacuation instruction, personnel roll call/escape guiding, etc.
	Life support team Procurement of rice cooking tools/food supply, etc. training of meals preparation/distribution, etc.		Life support team Meals preparation/distribution, water supply/distribution of emergency supplies, etc.

In Japan, governmental support for emergency drills and first aid training is mainly provided by fire stations. This kind of emergency drill programs and disaster prevention education programs are also based on conditions in Japan. And to participate a junior team that consists of elementary school children and junior high school students in the BOKOMI. Implementing a training on a regular basis and issuing a commission. BOKOMI'S disaster management education for children in cooperation with school

Also in the many country assisting with training projects conducted by JICA (Japan International Cooperation Agency) as part of human resource development in the disaster prevention field. Community-based disaster prevention organizations, explains their specific activities to the training participants who are involved in the disaster management in disaster prone- countries.

Development of Attractive Educational

Tools for Proper Understanding

- Wide Variety of Tools by Using Various Medium
 - Develop Educational Tool of High Quality
 - Publication of Risk Information (incl. hazard maps, risk assessment) in an easily understood manner
- For example: Educational TV Program (source: NHK), Wide Variety of Educational Tools (Disaster-management card game)

Japan have to, card game developed by NPO Plus-Arts. Game in which participants are shown a card on which a situation may occur in the event of disaster (a scene of a person confined in a collapsed house, for example) is painted and choose required tools from the required pre-distributed cards of materials an equipment (draw bar, jack, saw, etc.) cards bar, cards.²²

Efforts to implement disaster management education at school

Efforts to make a large number of people implement the game (grouping, use of slides, preparation of answer sheet) (sheet)

Participants are to compete for building up points, using cards depicting materials needed for each scene.

Participants are to enjoyably learn about topics which will be useful in the event of an earthquake.



Chart30. Development of attractive educational for children (Source: ADRC reference material)

Promotion of Investment for Safety in Corporate Sectors and Households

- Promotion of Contribution to Disaster Reduction Activities by Corporate Sectors
- Raising Awareness of Investment for Safety
- Enhancement of Safety of Town as one of the Appealing Point of Town

Facilitating Networking of Various Stakeholders

Collaboration among Various Stakeholders (National and Local Governments, Schools, Community

²² lecture by Mr.Kuniaki Takenaka, Kobe Fire Bureau

Centers, Corporate Sectors, Volunteer Groups, etc)

Sustainable disaster reduction activities by each actor

- Promotion of the Establishment of Community Stakeholders Meetings for Disaster Reduction Activities
- Reward Good Practices of Disaster Reduction Activities in Communities, Schools, & Individuals (Portal Site for Establishment of Community Stakeholders Meetings, Poster Contest and Award for Good Practices)

The Hyogo Framework for action on disaster management has formulated the disaster mitigation activities among the communities according to the experience gained from the Great Hanshin Awaji Earthquake in 1995. The Kobe experience is one of the best example of community mobilization to mitigate the sufferings of the victims as well as involving the community with the decision making process and in the rebuilding and reconstruction process. Basically in Japan, local community organizations with responsibility for disaster preparedness cover half the population of the country.

3.2.2. Case studies in external on community participation in Japan

a) Themes in Iza! Kaeru Caravan disaster reduction activities:Non Profit Organization”

Iza! Kaeru Caravan- A new type of disaster drills system: (a new kind of disaster reduction training program learning through fun.)

Purpose of the Iza ! Kaeru Caravan- Introduction of the system of Kaeru Caravan and basic idea of leaning disaster risk reduction in enjoyable ways which create an opportunity for further learning

Followings are the main Purpose:

- To develop original disaster prevention education system appropriate to local condition.
- To create program which is localized, sustainable and with extendibility by considering not completed as a ad-hoc activities.
- Original programs were developed through collaboration work with the local NGOs and preparatory workshop
- Create a mechanism to organize “Enjoyable Disaster Prevention Drill” by local residents themselves

“Iza! Kaeru Caravan” has to, based on the experience of implementation, new programs were developed in consideration of the following points:

- 🚩 Overcome lack of knowledge of children
- 🚩 Support evacuation of disabled people
- 🚩 Promote a spirit of teamwork
- 🚩 Transferring not only how to implement the event, but also background and process to create the event.

Positive impacts of Iza ! Kaeru Caravan:

Fun” makes children active and inspires them to participate in the program again and again,

which bring significant learning effect to them.

- ✚ "Fun" also makes staff members (Volunteer & DRR related persons) inspiring. And a sense of achievement ensures a continuity of their implementation of the activities.
- ✚ Program itself is "incomplete" and easy to customized/localized. Therefore, the program is adapted in a way suitable for the local condition by involving many people.
- ✚ Utilization of Mascot Character (Frog) works greatly to provide "Fun", "Continuity" and "Customizing".

The Potentiality of the community in Japan has been proven great at the time of disasters. As the result of the engagement of the local community, the extent of damages of lives and property reduced to the minimum. After the Great Hanshin Awaji Earthquake in Kobe, Japan, smooth recovery and reconstruction of the area was possible due to spontaneous participations of local communities.

Getting to know "Iza! Kaeru Caravan!" is a Learning through fun; a new disaster reduction training program for families.

The popularity of the "Kaekko" Bazaar make the disaster response training much more attractive with the young generation and their parents, a group who are new to such training. Since its start in Kobe in 2005, these events have been nationwide in Japan, as well as in Indonesia, Guatemala El Salvador, Central America and Mongolia. The event provided a fun environment for cultivating children's interest in disaster management issues and emphasized the reality that disaster preparedness efforts are not a special, one-time activity, but something needed to be done on an everyday basis.

Why is it a "Kaeru" (frog) character ?



"Kaeru" is the Japanese word of frog, "Kaeru" carries the same pronunciation as the word for return or change. In "Iza! Kaeru Caravan!" context, this pun works as a friendly character of frog and the activity of exchanging toys in "Kaekko" Bazaar.²³

By the concept, is the mean to bring people's bond together in Team Learning on "Iza! Kaeru Caravan" in order to transfer this concept by using the power of team working or task force on the same concept as according to each one usually have different field to conduct more interesting by outside knowledge. It's the opportunity to create "Iza! Kaeru Caravan" through the best screening test by Team Learning. In this step we can use the "crossroad" game for support this idea before passing to transfer of Organization Learning on "Iza! Kaeru Caravan". A Learning Organization is an ideal goal, how to achieve this goal. It continues on this point.

So Let's learn on Iza! Kaeru Caravan. By the reason is "Time" go very fast , more than ten years had gone quickly, the memories and lessons gained by the citizens of Kobe from the earthquake were beginning to fade and be forgotten.

By the first step, we should address problems and issues that are complex and not easily

²³ www.plus-arts.net Resource person: Mr. Hirokasu Nagata; Chairperson of +art NPO

resolved. For major activities on this step, are as follow:

- 1) Create educational materials kits and launch campaign on “on Iza! Kaeru Caravan!” Learn with Fun” for well preparedness and “get ready to preparedness” both in normal time and during disaster in community.
- 2) Conduct the workshop for the staff or people in community about disaster prevention in general view (by using “Crossroad” card game and etc.) and getting involvement of different kind of target group including artist, designer, and volunteer or social welfare group in the community.

Create and provide some materials and knowledge which related to “different target groups’s consideration” in to the event drills as “Iza! Kaeru Caravan”

- 3) Provide more materials, tools, private organizer, school, NEMA regional center for preparing “Iza ! Kaeru Caravan” in proper places or district to meet the requirement and needs of people.

The event provided a fun environment for cultivating children's interest in disaster management issues and emphasized the reality that disaster preparedness efforts are not a special, one-time activity, but something needed to be done on an everyday basis.

By this event, let’s try some activities of the demonstration site as the following;



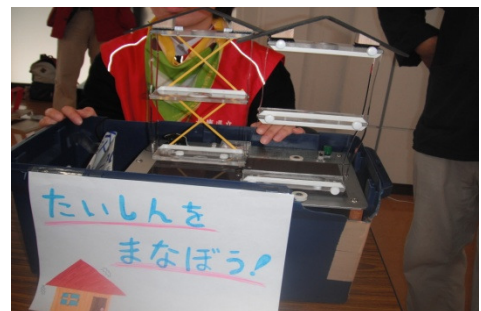
Picture 1. "Emergency pack" is something that I have organized by Social Unit Organization Disaster Interdisciplinary Education, Kobe Gakuin University



Picture 2. How to use Hi-Jack Lifting introduced by NGO



Picture 3. What you can do to protect my life ? Organized by Great Hanshin Earthquake volunteer, "light of hope 1.17" story teller to get



Picture 4. Earthquake building competitive manufacturing organized by Department of Environment and Disaster ; Maiko High Schools

ready to prepared!.



Picture 5. Original games “ Disaster Prevention” organized by NPO+arts



Picture 6. Challenge ropes tied to help disaster! organized by Kobe City Fire Department



Picture7: Time Trial blanket on a stretcher organized by NPO+Arts



Picture8: Just sit shaking experience "Zabuton Earthquake" organized by Hakusan Kogyo Co., Ltd.



Picture 9 : "Doctor" and learn about the living! Organized by Support center in Kobe City Housing relief (net Smile)



Picture 10: Disaster sugoroku learning for fun organized by 21

In this event, the organizer; and even incorporating a stamp rally, also challenged a new approach. Group also increased the number of exhibitors, but little by little, I felt that this HAT is spreading circle of activities in Kobe. Each year a single program, it is a good event able to enjoy learning more and more! For some information on the event, is highly needed to be well prepared in the early stage.

Let's use the example as Implementation “Iza! Kaeru Caravan” is different kinds of activities. Review the significant activities on “Iza! Kaeru Caravan” in Kobe:

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- ✓ The lessons gained by the production of JICA Hyogo in various activities; for selected activities;
- ✓ The outcome after finishing once activities which follow up program for sustainable activities; as the following activities;
- ✓ The organizer had convey the audience on Daily Awareness of Disaster Prevention by Comprehensive Production of a Large-scale Exhibit on Disaster Prevention.
- ✓ Plan and organize hands-on exhibits that allow parents and children to easily participate.

And also plus Arts is one of the Non Profit Organization which creates awareness and encourages of Community Participation in Japan which clarifies the lessons and skills learned from the Great Hanshin Earthquake, making the disaster reduction part of the daily routine.

+ Arts project team started by using research to clarify the lessons and skills gained from the earthquake. They designed educational programs (including learning materials and games) to communicate this knowledge to children, and they developed a new type of disaster reduction training event for family to experience Themes of + arts disaster reductions activities:

1. Making disaster reduction part of the daily routine
2. Putting creativity to work in disaster reduction
3. Disaster reduction measures that are fun to learn about

Disaster reduction learning materials and games are developed into 3 steps. New disaster reduction training programs were held in seven locations throughout the Kobe City. While the Kobe events were held as demonstrations with the NPO +arts taking a central role, the program held later throughout the country were run primarily by local disaster reduction and educational professionals with NPO +arts providing support. (*Learning Materials: Listening to the Stories of Earthquake Survivors, Learning at Earthquake Themed Museums and Libraries, Reading Earthquake Diaries, Online Research*)

There is very high challenge for me as Visiting Researcher to learn here and going back try out for promotion “Iza! Kaeru Caravan” is one of the goals that we are going to achieve. But we have to set of the principles to make decisions and to conduct our activities towards this goal. So, let’s start step by step from thinking in the way of “Learning Organization” which is focused on “Iza! Kaeru Caravan” as first stage of a small activity, one part of CBDRM’ activity.

Comparative Analysis of community participation in Japan & Mongolia

Actually comparison of a highly developed country like Japan and developing country Mongolia is not rationale. However, from the point of severity and intensity of disasters, both the countries have been facing disasters. Through initiation of more effective mitigation, prevention and preparedness measures, the Disaster Management is seeking while raising awareness about the need for inter-organizational and inter-disciplinary efforts at local, national, regional and international levels, in order to address the root causes and solutions of destructive natural hazards. Disaster prevention culture depends on the involvement the community. In future, research and development practice in Japan would explore the way in which understanding of disaster management and disaster reduction would be possible and discovering future technologies on disasters.

Japan	Mongolia
Disaster prone. Volcanoes, earthquake, tsunami, typhoon & floods, landslides	Mongolia is prone to a variety of natural hazards. Major disasters are drought, earthquakes, epidemics, famine, floods, forest fires, wind damage, snow damage (Dzud)
Strong DM Basic Countermeasure Act (formulated in 1961) Updated regularly	DM Countermeasure Act (formulated in 2003) Amendment
Japan highly developed country and pioneer in DM & DRR since 1959	Mongolia developing country and pioneer in DM & DRR since 2004
Community mobilization and strong response against any kind of disaster. Every citizen knows the concept of self help, mutual help/ neighbor help and community help during disaster	Community mobilization and community volunteers expanding gradually. Study starting the concept of self help, mutual help/ neighbor help and community help during disaster
Strong activities voluntary organization for disaster prevention	Still low activities voluntary organization for disaster prevention
Developed Tools for Proper Understanding: Educational TV Program (NHK), Wide Variety of Educational Tools (Disaster-management card game)	Developing tools for proper understanding
Promotion of Contribution to Disaster Reduction Activities by Corporate Sectors	Promotion of Contribution to Disaster Reduction Activities by Corporate Sectors
Inculcating the culture of transferring the lessons learnt from a disaster to next generation – Through telling story, museums, community drills, learning centers, video films, etc.	Still not yet.(museum, video films, community drills, learning centers for disaster)
Town Watching (Preparedness)- Disaster Management Cycle including that of community education	Still not yet.
Common educating children in basics of disaster management through participatory exercises like Kaeru Caravan	Starting framework ongoing project

Action Plan:

It is true that community participation in Japan is highly commendable. The best practices of community participation in disaster risk mitigation in Japan could be replicated in Mongolia. The government and the local community both can be benefited by introducing the best practices of Japan in the area of Disaster Risk Reduction.

After the completion of the research, research findings will be published in the journals. Series of seminars will also be organized to disseminate research results for wider audiences. In addition, the results will be presented in disaster preparedness workshops at regional level.

CONCLUSION

CBDRM puts community participation at the heart of process so that the main stakeholder and most vulnerable to disaster will have greater roles over the decisions and mitigation activities. As many of the cases show, it is imperative to promote a culture of participatory planning and implementation of disaster risk reduction initiatives. Innovative approaches and tools exist and are being applied creatively in urban and local governance and in community based approaches, as demonstrated by many of the examples. However, they need scaling up with support from national governments. Many cities have applied innovative methods to provide access to secure land tenure, infrastructure and services for the poor.

There have the “bottom-up” approaches at different levels of CBDRM but in some cases are still keen on top-down approach as a result of the community participation mechanism in the past years that not only partly obstacle but also need the more time for fully applying the CBDRM approach. However, those principles and mottos have strengthened the responsibility of relevant stakeholders. On the other hand, those have mobilized traditional experience, resources and partly ensure the sustainability and effectiveness of disaster management activities.

Conspicuously from research, and good practice the following benefits of the Community Based Approaches to Disaster Mitigation have been noted:

- 1) Community process and participation builds confidence, pride that they are able to make a difference and capabilities to pursue disaster mitigation and preparedness and bigger development responsibilities at the local level. This leads to empowerment.
- 2) Community involvement in risk assessment and risk reduction planning leads to ownership, commitment and individual and concerted actions in disaster mitigation, including resource mobilization;
- 3) Trusting and supporting the capacity building process results in a wide range of appropriate and do-able mitigation solutions;
- 4) Community Based Disaster Mitigation is cost effective, self-help and sustainable even if it is time consuming.

Mongolia: Also global warming is powerful inspiration in the climate, nature, climate of Mongolia. Because huge inspiration the frequency meteorological hazards on natural hazards. A strong earthquake occurred in a desert place, barren place without human settlements is not disastrous for Mongolia whereas if it takes place in any other country with densely populated areas it would cause heavy losses and casualties which occur rather frequently.

CBDRM is new in terms of “terminology” but in practice, this approach has been employed at different levels and in distinctive areas in Mongolia through many generations. The meaning and objectives of CBDRM are well reflected in policies and fundamental principles of Mongolian Government.

Conspicuously from research awareness and knowledge as most people still lack the proper knowledge, understanding/appreciation of disaster protection, thus, the need for it to be mainstreamed into national policies and initiatives.

Community awareness to recognize disaster prevention and mitigation by themselves is established. But the people of Mongolia have won universal admiration for their courage and endurance when subjected to hardships year after year, as the government and international partners seek to protect them against the assaults of Nature.

Also conspicuously from research awareness and knowledge as CBDRR to them to continue the future research work.

In this step for getting more understanding CBDRR, we can get the outputs to transfer to create some kinds of educational material; for create some activities.

Additionally, case studies a wide array of policy areas, highlight broader issues of institutional strengthening and local capacity building on different hazard types and with different stakeholders, such as: Strengthening connections between local communities and local governments (El Salvador), Risk-awareness program for schoolchildren and communities (Saijo city, Japan). Please see endnotes some case studies.

Japan has many experiences about natural disasters. It has gained the knowledge and developed the skills of responding and preparing for disasters through its past experiences. In Japan, 1995 January 17, Kobe city experienced an exceptional, disaster, called the Great Hanshin –Awaji Earthquake, which caused 6,400 people deaths and approximately, 10 trillion Yen damaged. Though the recovery process, from this great Hanshin Awaji Earthquake, Hyogo Prefecture learned many lessons and acquired extensive technology-based expertise on disaster management. When disasters strike, communities become the immediate victims, but they are also the first responders.

In the recent years in Japan, “Community based disaster Management” has drawn people’s attention in the field of disaster management. This is an idea that it is important not only to provide support for developing countries, but also to provide support for the improvement of the ability of their local communities to prevent disasters in order to reduce damages, of lives and property. For effective disaster management, it is important that the Central Government, Local government, Public

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corporations and private citizens must work out their roles appropriately. Especially in Japan, after the Great Hanshin Awaji Earthquake, the role of local government and Local community has been increasing. Such experience and knowledge of disaster mitigation action in Japan should be shared with other countries by taking into consideration of local conditions in each country.

Having more parties at stake would lead to active participations from as many sectors of the community as possible into the project, decreasing/ shrinking the unknown areas, integrating the information useful, and hence sharing the responsibility.

When the project is failed, parties concerned share the responsibility, ready to review the preceding programs and their actions, and hence take new measures for recovery / change strategies for human security, Educational tools for children.

However Disaster risk reduction paradigm requires a multi-faceted approach either in preparedness or in response. Because Active participation, sharing the important information and responsibility from as many sectors of the community as possible to reduce the disaster risk at all level.

LESSONS LEARNED

Disaster risk reduction paradigm requires a multi-faceted approach either in preparedness or in response. Basically institutional infrastructure must be built-up and accordingly role of the local people might be enlightened. Accordingly I have mentioned some core of my research in following sub-headings.

This will require more research on understanding the nature of linkages between poverty and vulnerability in different social, political, economic and hazard-specific contexts. This understanding will lead to development of specific frameworks and methodologies for integration of poverty and disaster reduction programs. At present, livelihood frameworks that recognize people's vulnerability context, community-based disaster management approaches and risk transfer and finance mechanisms are some of the approaches that can be used for this integration. In the coming years, poverty reduction and disaster reduction programs will have to develop innovative, multi-dimensional, inter-sectoral approaches to mutually support each other.

Also I gained versatile knowledge about disasters like tsunami , earthquake, flood, landslides, volcanoes from different disaster related public and private organizations of Japan through intensive field visits to different disaster related organizations. Disaster preparedness planning, projection of future disasters and the way to overcome these disasters with minimum loss of lives and properties and development of modern technologies to underline the causes of disasters have been widely practiced in Japan. Despite having such best precautions, modern early warning systems, equipments, disaster drills. Recently occurred disaster on 11 March 2011 had been devastating. It killed 17500 people officially and missing about 40,000 people and preliminary loss of properties estimated to \$310 billion dollars. However, the disaster management practice in Japan is highly commendable. Following are the major experiences and lessons I learned from the ADRC, Visiting Researcher Program:

- To minimize the extent of damage from disasters, it is important for self help, mutual help and neighbors help. Then aid from government and public organizations comes.
- Community based action plans and training improves community's problem solving skills.
- Because disasters are unpredictable, it is important to maintain the projects and people's awareness of disasters.
- Transparency of activities and dissemination of knowledge and information encourage people's participation in activities
- CBDM efforts need stable financial resources.
- There should be coordination with government, non government organizations, local government and municipal bodies.
- Stock and storage of emergency goods and services and first aid medical services should be prompt to disaster affected areas and necessary food and relief materials should be dispatch as soon as possible to the affected people.
- Community based disaster prevention culture lead by community members and civil society can play a vital role for disaster mitigation.

- Conducting regular drills/training and simulation is effective to reduce disaster related deaths.
- “Disaster Risk Reduction begins at school” It will be necessary to inform and ensure participation of communities, government and individuals to ensure that disaster risk reduction is fully integrated in school curricula in high disaster risk countries and that school building are build and retrofitted to withstand natural hazards.

Tools for Disaster Risk Reduction:

Emergency drills are most effective tools to minimize the loss of lives and properties during disasters. The government of Japan and its local governments have focused on the importance of the emergency drills conducting everywhere of the country to make people conscious about disasters. “What was heard can be forgotten, what was watched can be learned, and what was performed can be understood.” One of the most interesting drills is Card Game.

The following are the merits of game;

1. Positive participation can be expected because of the attitude towards the word “game” although it is not merely play.
2. Participants can find their lack of knowledge or problems for themselves during the game
3. Learning about feelings
4. Participants can notice other people’s ways of thinking.
5. Participants can think about what issues in real disaster prevention are represented by the rules of the game.

It is true that, active participation, sharing the important information and responsibility from as many sectors of the community as possible can reduce the disaster risk at all level

The Great Hanshin –Awaji Earthquake Memorial DRI Museum:

This museum built in memory of the deceased and victims of the Great Hanshin-Awaji Earthquake. Actually the Library is very informative and touchable also. The DRI library collects and preserves many materials related to the Great Hanshin –Awaji Earthquake and disaster reduction. Firstly, the tremendous destructive power of earthquakes is portrayed using sound and dramatic images on a big screen. It made me very gloomy. In fact, it demonstrates the problems faced by Japanese people during the recovery and reconstruction process after the earthquake up to present day. Personally, I must appreciate the courage and morale of Japanese people, putting their hard labor, had overcome the disaster. I knew the approaches to disaster prevention and reduction by citizens and international disaster reduction organizations. At the last movement of my visit, I saw the animation film. That film was a love of “life” and the courage to live depicted through the story “the fall of Freddy the leaf” It is the truth of life. I was impressed to see the management of the museum at Kobe, Japan.

The Volcanic geology, and volcano education Center, Shimabara, The Preventive Measures for Sediment Disaster: :

Japan is situated at the active Volcano Zone in Asia. I knew about the proper location or places prone to sediment of disaster occur in Japan.

I gained the knowledge about 3 pillars of the sediment disaster counter measures. These are:

1. Protecting life and Property-Using hard ware Measures (Soil erosion control project, landslide prevention, Steep slope collapse prevention works)

2. Protecting life-using software Measures (preparing hazard Map, and preparing warning system)
3. Controlling land development-Controlling new residential development

I watched the erosion control facilities and knew about the History of sediment related disaster and concerned legislation. I found that, the landslide prevention and Slope failure prevention is the main roles of national and prefectural government in sedimentation disaster reduction. At the end, I overviewed a hazard map about sediment related disaster.

Landside Museum at NIGAWA-YURINO-Area:

This area was suffered by the worst mass movement disaster caused by the Great Hanshin Awaji earthquake. I gained information about the Landslide Museum. The entire model about preventive landslide in the museum was very informative. I learned that the museum is very effective for raising public awareness on the landslide disaster. If we can construct this kind of museum in my country, it would be great help to enhance our people's knowledge on disaster especially in the landslide. Bangladesh is also the landslides prone countries. So I was interested to understand Japanese model which I will prefer to use in my country also. I was informed that when earthquake occurred, a 100m-wide, 100-long hillside on the right bank of the NIGAWA River Collapsed. Approximately 100,000m of displaced soil crushed 13 houses and blocked the Nigawa River, killing 34 people. An emergency project for landslide rehabilitation was planned and initiated in the after effects of the earthquake. The project was completed in 1997. I realized that if we want to live a natural environment, we need to understand the devastating power of nature and learn how to protect ourselves from natural disaster by visiting land slide project in Kobe, Japan.

NHK National Broadcasting Authority, Japan:

NHK has been serving Japan by collecting rare documents and pictures and video footage of disasters and accidents. NHK by using modern studio and most sophisticated cameras and equipments have made the organization a symbol of reliability. NHK broadcasting stations throughout the country aim to broadcast programs that are more attractive and easily understood by the viewers. NHK has been putting special importance to disaster related news, early warning on tsunami, earthquake and volcanoes. Japanese media played significant role in recent 3/11 earth quake and tsunami which caused huge loss of lives and properties of the people of northeast part of Japan.

Cabinet Office of Japan Tokyo:

Japan is a disaster prone country. Every year there is a great loss of people's lives and properties in Japan due to the Natural Disasters. Along with a series of reforms of the central Government of Japan, It has created the posts of State Minister for Disaster Management, appointed a Deputy Cabinet Chief Secretary and established the Cabinet information Collection Center. The Cabinet Office has a supporting role regarding disaster management matters. The Cabinet office has developed the Central Disaster management Communication systems involving government offices and public Corporations via hot line.

Japan Meteorological Society Tokyo:

The Meteorological Society of Japan at the time of disasters play key role in issuing early warning regarding earthquake, tsunami ,volcanoes, landslides and floods.. Japan Meteorological Agency has been promptly issues warnings and information on earthquakes and Tsunamis to mitigate

the disasters and protect lives and properties. In the event of large scale earthquake in ocean areas JMA announces estimated Tsunami heights and their arrival times in advance which can be regarded as Tsunami warnings and Advisories. In the event of earthquakes, JMA announces hypocenter magnitude and where strong shaking has been felt which can be called as Earthquake Information.

🚒 Disaster Management of Energy Supplies at Osaka Gas Company Limited:

I joined one lecture on Disaster Management of Energy Supplies at Osaka Gas Company Limited. The company Executive and Technical Experts demonstrated us how Osaka Gas Engineering Company has constructed the main Building of the company on base isolater which is earthquake resistant. Also the Company has been Supplying Gas to the whole prefectures area among 6.63 million Households. After the Great Hanshin-Awaji (Kobe) Earthquake fire had been escalated due to gas line damage and it had taken many valuable lives and properties of prefectures. On the basis of the past experience company has introduced disaster preventive city gas production and new supply connections,/networks, monitoring and control system, which is safe and earthquake proof.

🚒 The Role of Community Radio Broadcasting by FM-YY in Japan:

Community Radio plays a significant role at the time of Disasters in Japan. The concept of community Radio in Japan was replicated in Indonesia and other places of the world. Community volunteers operate this radio at the time of emergency and helps people to safe their life and properties.

🚒 The Emergency Disaster Management by Hyogo Prefectural Emergency Management Training Centre, Miki City.

This Emergency Disaster Management center provides training facilities to the emergency disaster management volunteers. For whole year training schedules and training programs are prepared for volunteers. Fire drill exercises are also organized on regular basis. This center is situated in the heart of Miki City. The Environment has also been protected here. A modern stadium has been constructed with Helipad so that in the time of emergency relief goods can be dispatched to the affected people within shortest possible period. At the time of emergency affected people will be given temporary shelter at the stadium located here.

RECOMMENDATIONS FOR COMMUNITY PARTICIPATION ON DISASTER RISK REDUCTION IN MONGOLIA

The most powerful tool for disaster management is community empowerment and community sustainability. Because the following recommendations are proposed to improve risk reduction efforts through the strengthening of key stakeholders' abilities to mitigate, prepare for and respond to a disaster:

I. For stakeholders:

- Government of Mongolia has to integrate disaster reduction activities into normal practice of good governance and into the regular planning and budgeting process.
- Communities have inherent capacity to respond to any disaster. Community help themselves and they are not the passive recipient of aid or help. Therefore, in disaster management strategy, communities should be involved in managing risks that may threaten their life and property.
- Government has to provide financial and technical and morale support to disaster related training centers, NGOs who would act as change agents in the community participation process on disaster risk reduction. (Train the people in community about disaster management in general to be the volunteer in that community)
- Development of participatory land use and development plans that incorporate disaster risks considerations
- Greater sharing of information on the government's preparedness, mitigation and response planning and actions initiated at the time of national disasters is necessary in order to achieve transparency of purpose. An effective communication with the media has to be made, so that the extent of the crisis and the efforts of the government to respond to the crisis are correctly reported.
- Networking among the communities should be further strengthened to share the experience and knowledge and expertise on disasters.
- Awareness creation, sensitization and capacity building of media in disaster risk reduction are necessary for effective use of the reach of media and civil society.
- Strengthen SAARC Disaster Management System for member countries to play central role in DRR.
- There is no disaster related museum in Mongolia. Like Japan, some disaster related museums can be established so that school children and members of the public can learn about disaster reduction activities through visits to disaster reduction museum.
- Application of microfinance and micro insurance to increase social protection and resilience
- Strengthening of local governance, including the disaster risk reduction capacities of local governments
- An evaluation and impact assessment may be undertaken in respect of the ongoing relief and rehabilitation efforts by the government to determine their effectiveness (strengths and weaknesses).
- Urgently develop retrofitting strategy for public facilities, schools and hospitals with tools for prioritization to demonstrate proper earthquake technology.
- We have to establish voluntary organizations for disaster prevention in communities or, disaster safe welfare communities, in Mongolia.

II. For Policy Planning and Monitoring Division, Disaster Management Department, Fire Fighting Department, State Reserve and Recovery Department of NEMA:

- Greater need for formalization of disaster management plans at the community level
- Comprehensive Action plan should be developed for increasing seismic safety of public facilities, schools, hospitals and life lines to minimize the future losses of lives and properties that may result from major earthquake.
- Development of disaster mitigation tools for communities at risks by involving schoolteachers and students in the process, in order to assess hazard and risk of community.
- Develop and implement a public awareness strategy involving communities and develop a perception through public information campaign that area is disaster prone.
- Participatory Learning Action (PLA) introduced by community based disaster management should be strengthen so that community's capacity for managing disaster related project will increase.
- Experience and knowledge on the Great Hanshin-Awaji earthquake can be replicated and shared in disaster related training institutions in Mongolia to face future disaster challenges.
- Community awareness programs on disasters such as Kaeru Caravan, school retrofitting program, disaster training /drills and simulation program in Japan can be replicated in Mongolia and should be rigorously applied in schools and communities in Mongolia.
- Strengthen the Community member's capacity building processes that promote self help, unity within the framework of local disaster reduction.
- Essential relief equipment (rescue vehicles, fuel supplies, telecommunications, mobile, fax etc.), materials and supplies (food, shelter materials, medicines, water purification tablets, etc.) necessary to respond effectively to natural disasters and human resources to tackle any catastrophe must be catalogued prior to the seasons of flooding and earthquake. Special needs of the vulnerable groups including the disabled, children and the elderly should be taken care of.
- National development plans and national disaster risk management planning must be integrated in order to protect valuable developmental assets from being adversely affected by natural or human induced hazards. Gender issues should be considered in the planning and implementation of all aspects related to flood risk management. Steps may be taken to establish an effective system for Damage and Need Assessment (DANA).
- A mechanism for continuous training should be put in place to improve the capacity and skills of all those who are involved in disaster management. Arrangements for the necessary training of relevant staff should also be made to build up capacity for making assessments after any natural disaster. The Disaster Management Department may be strengthened in terms of human resources and logistics to undertake the responsibility.
- The awareness campaign and advocacy program may be intensified in order to apprise the common people of the devastation of past natural disasters, as well as to prepare them for future catastrophic events.
- Need to establishing the database for the affected people for victim registration and tracking.

- Establish national disaster information management database system accessible to all stakeholders and to the communities.

III. For Disaster Research Institute:

Disaster risk reduction paradigm requires a multi-faceted approach either in preparedness or in response. Because Active participation, sharing the important information and responsibility from as many sectors of the community as possible to reduce the disaster risk at all level.

- Continue research and analyze CBDRM, CBDRMit, the additional element in disaster management necessary to reverse the worldwide trend.
- Research and analyze local perceptions and adaptations to disaster risks as a basis for a disaster reduction strategy in Mongolia.
- Research and analyze Methodology to enhance communities' awareness of disaster risk and to develop their ability to cope with and to respond disasters correctly.

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ENDNOTES**CASE STUDIES**

As part of this initiative, the idea of publishing a compilation of good practices and lessons learned by local governments in disaster risk reduction emerged from a consultative meeting held in Barcelona in May 2008 between UNISDR, UNDP, the ILO International Training Centre and the Advisory Group of the Local Government Alliance for Disaster Risk Reduction. The compilation showcases the essential roles played by local and regional authorities in local addressing disaster risks at sub-national and local levels, but also the challenges and constraints to sustain or scale-up these efforts.

It makes the case for increased local-level risk reduction action, and is aimed to stimulate more interest and commitment in this area from governments, practitioners, policy and decision makers. For example the cases that address specific policy areas include “Community risk assessment as a part of the country’s comprehensive disaster risk reduction programme (Bangladesh), other cases highlight broader issues of institutional strengthening and local capacity building on different hazard types and with different stakeholders, such as:

- The Comprehensive Disaster Management Programme: Empowering local governments (Bangladesh)
- Strengthening connections between local communities and local governments (El Salvador)
- Risk-awareness programme for schoolchildren and communities (Saijo city, Japan)
- Memo’Risks: Students survey community risk knowledge (France)
- Community-based poverty reduction for disaster risk reduction (Nepal)

We will continue to serve local governments and citizens through contributing to innovative ways to learn and develop sustainable urban communities, safe from disasters.

The challenge is to locate, collect and create access points for a range of tools and resources for disaster risk reduction. Research, monitoring and evaluation should be considered in all project and programme development. Support to localize and indigenize training programmes to reach communities and local governments in all areas.

Box 2. The Comprehensive Disaster Management Programme (CDMP), in Bangladesh

The Comprehensive Disaster Management Programme (CDMP) is a whole-of-government strategy led by the Bangladesh Government’s Ministry of Food and Disaster Management, and implemented by a range of government and private organizations. The community intervention part of the programme aims to increase community resilience and strengthen local government capacity to manage risk reduction as part of their development responsibilities. The programme has developed and implemented a standardized community risk assessment, and helped develop local action plans for mainstreaming disaster risk reduction into the work of government authorities. Most importantly, the programme provides a local funding structure to implement priority actions, motivating local authorities and communities to take part. The CDMP has been successfully piloted and designed for national roll-out.

ISDR, Local Governments and Disaster Risk Reduction, Good Practices and Lessons Learned, 2010

Box 3. The Reducing Vulnerabilities in Ahuachapan and Sonsonate Programme (PRVAS), in El Salvador

Based throughout the watershed areas of Ahuachapan and Sonsonate in El Salvador, PRVAS is a disaster risk reduction programme coordinated by a consortium of NGOs and donors, working to bring local communities into dialogue with local and national governments and funding sources. Where local governments are committed to the process, this has resulted in strong multistakeholder engagement, community capacity building, and collaborative disaster preparedness exercises.

ISDR, Local Governments and Disaster Risk Reduction, Good Practices and Lessons Learned, 2010

Box 4 The 'Mountain-watching' and 'Town-watching' project (Saijo city, Japan)

In 2004, Saijo City was hit by record typhoons that led to flooding in its urban areas and landslides in the mountains. As a small city with semi-rural mountainous areas, it faces unique challenges in disaster risk reduction. First, Japan's aging population represents a particular problem. Young able-bodied people are very important to community systems of mutual aid and emergency preparedness, and as young people tend to move away to bigger cities, smaller cities and towns in Japan have an even older population than the already imbalanced national average. Secondly, people within a small city with semi-rural areas may not often be familiar with how to help people in a different physical environment just on the other side of town.

To meet both of these challenges, the Saijo City Government has instigated a risk awareness programme targeting schoolchildren, and focusing on different physical environments of the city, from the mountainside to the town.

ISDR, Local Governments and Disaster Risk Reduction, Good Practices and Lessons Learned, 2010

Box 5 Memo'Risks: Students survey community risk knowledge (France)

The Memo'Risks initiative has been operating in the Loire River catchment area of France since 2004, and brings together local governments and schools to survey local disaster risk awareness.

Students are rallied by city Mayors to investigate the possible hazard impacts on their town, to map risks, and to survey the preparedness and risk knowledge of the local population. The survey results become a valuable data resource on perceptions of risk and the level of risk knowledge in the local population. Importantly, the process of collecting, presenting and publicising the results is used by the local government to raise disaster awareness through the media, to increase community participation in disaster risk reduction, and to form the basis of targeted disaster risk information campaigns.

ISDR, Local Governments and Disaster Risk Reduction, Good Practices and Lessons Learned, 2010

Box 6 Community-based poverty reduction for disaster risk reduction (Nepal)

People living in the flood plains of Nepal face complex disaster risks that are not just the result of natural hazards, but of poverty and poor development practices. Risk assessment in South Central Nepal found a varied mix of factors that was resulting in not only high flood risk, but also slow-onset disasters, such as crop failure in times of drought. Using the existing provincial authorities' channels for local development, this initiative tapped into Village and District level Development Committees to mainstream disaster risk reduction into poverty reduction. The initiative worked to protect agriculture, mitigate drought and improve flood preparedness. It was NGO and local government-led, with wide-ranging multi-stakeholder involvement.

ISDR, Local Governments and Disaster Risk Reduction, Good Practices and Lessons Learned, 2010

Box7. School Disaster Education Program

Disaster reduction materials already been inserted to the school curriculum from the elementary stage to above levels. For the purpose of the disaster education is to learn new ways for the preparedness and apply new technologies with it. School evacuation drills are conducted in several ways; Drills during the break time, and Drills with out pre notice to the children. Parents are actively involved to all the programs in the schools.

Students are specially trained as;

1. Fire fighting and first aid
2. Refuge Drills
3. Disaster Drills
4. Digital Hazard Mapping
5. Welfare Works
6. Camp Management

Since their child hood, they are learnt all kinds of disasters and they are giving that message to their parents and neighbors. That is a one of an important system to disseminate the disaster related knowledge to the public.

This is very common in Japan to hear of the past experiences of the survivors of the major disasters, This would be a great chance to share the experience and gain lessons to prepare for the future disasters.

Besides training, promotion of capacity development through experience sharing, South-South exchange and knowledge transfer; networking and partnership building; and joint project development and implementation. This is a pressing issue for everyone. Local governments must become the drivers of adaptation and mitigation strategies that will result in greatly reduced disaster risk and loss potential. The campaign will focus on sharing practical measures on effective climate change adaptation and the links to disaster risk reduction.²⁴

²⁴ *ISDR, Local Governments and Disaster Risk Reduction, Good Practices and Lessons Learned, 2010*