5-2. Capacity Building in Member Countries

5-2-1. ADRC Cooperative Project for Promoting the Implementation of the Hyogo Framework for Action

(1) Background and Objectives

The Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters (HFA) calls on regional organizations to contribute to periodic reviews on progress and to assist countries, as requested, in the preparation of periodic national summaries of their progress.

The year of 2012 is almost at the end of the implementation of HFA. The Mid-Term Review of the progress of implementation of the HFA, which was compiled by the UNISDR, highlighted that the significant progress has been made over the past five years in disaster risk reduction.

The Asian Disaster Reduction Center (ADRC) Cooperative Project for Promoting Implementation of HFA was conducted for providing support to the governments of the ADRC member countries to help them strengthen their commitment, expand resources and make further progress toward the expected goals of the HFA, and eventually build safer and more resilient communities in Asia.

ADRC called for the project proposals from the member countries, and the proposals from Armenia and Tajikistan were selected after careful screening.

The project included the Peer Review in the process of the implementation of the proposed activities for making the project more effective through mutual learning.

(2) Education and Training on Seismic Protection in the Cities of Yerevan and Gyumri in Armenia

① Context and Project Purpose

Armenia provides an example of seriously affected district by single major earthquake in a small-sized country (29,000 square kilometers), with high population density (117 per square kilometer). A textbook example is the Spitak Earthquake in 1988 (M7.0) killed 25,000 people. One of the lessons learned from this earthquake was that the level of disaster risk awareness and preparedness by population was far lower than required.

For this reason, they planned a project of capacity building for seismic safety through education and information dissemination at community levels. The target was for schools and municipalities.

② Outline of the Project Activities

To achieve the above-mentioned challenge, the following activities were conducted.

1) Information collection from relevant agencies

Collecting data regarding policy to protect population from seismic disaster from foreign relevant agencies, then analyzing them.

2) Revision and distribution of the teaching materials

Revision and distribution of educational information materials distributed to different target groups.

3) Conducting a workshop for disaster education

A workshop for the stakeholder of the project on disaster prevention education was conducted in collaboration with the experts dispatched by ADRC.

4) Holding training and drills

Disaster prevention education, training, exercises, contests, and drills were held at schools and local communities.

Fig. 5-2-1-1 Disaster Prevention Education at the Community

(3) Disaster Risk Assessment in Rudaki district of Tajikistan

① Context and Project Purpose

Central Asia is prone to natural disasters such as flood, landslide, and earthquake. More than 90% of land of Tajikistan is located in the mountainous area and the majority of population lives there. In particular, Rudaki district located between two rivers has been damaged by floods annually. In addition to these floods, high population growth and unplanned urbanization brought higher economic loss comparing other districts, which is shown as figure below.

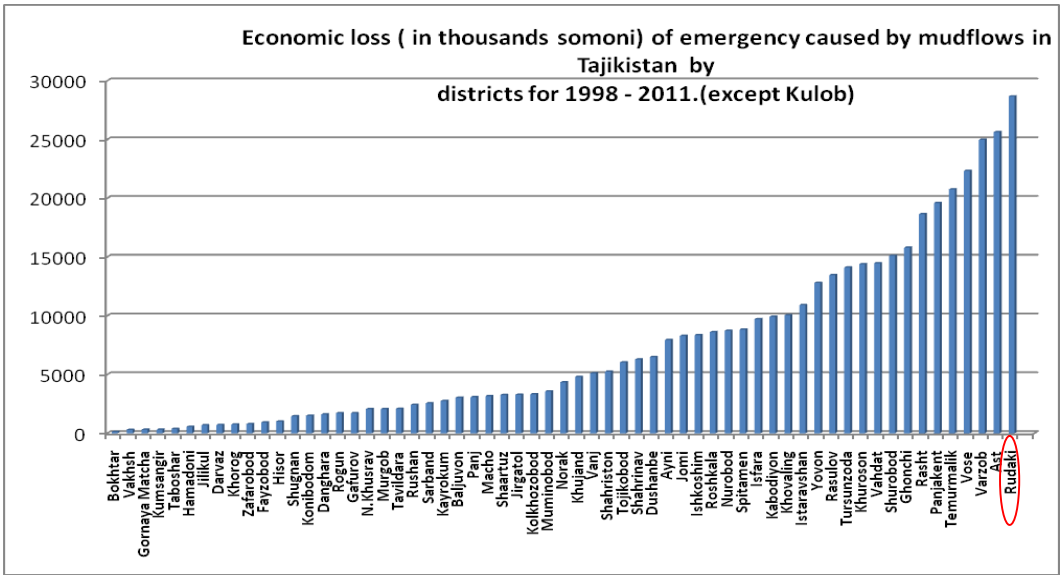

Fig. 5-2-1-2 Disaster Prevention Education at the Community

In this context, to reduce damage caused by disaster, it is essential to appropriately understand the risks people are exposed to, and share the knowledge of the risks and how to prepare for mitigating damages with people. And capacity development of local government officials to deal with disaster risk reduction activities should be addressed.

The objects of this project are as below.

- Building the capacity of the government, private sector and civil society to cope with natural disaster
- Increasing awareness and capacity to manage disaster risks at community level by disaster risk map
- Combining district-prepared development plan with disaster risk management plan
- Enhancing efficient collaboration with local authorities, communities and other relevant actors
- Using satellite images in disaster risk and hazard assessment

② Outline of the Project

To achieve the above-mentioned objects, the following activities were conducted.

1) Information collection from relevant agencies

Collection of topographic maps and satellite images from the Research Center of the State Committee for Land Management, Geodesy and Cartography of the Republic of Tajikistan, and Demographic data from Agency of Statistics under the President Office, and others

2) Field surveys

Sociological survey and Geological survey were conducted in the target area

3) Re-processing satellite data

Re-processing and digitizing the satellite and Google images of Rudaki district

4) Risk assessment

Land use classification and spatial analysis using high resolution satellite data were conducted. After analyzing the results of the field surveys, data base was developed.

5) Development of flood and landslide hazard maps for Rudaki district

Based on the result of the activities 3) and 4), flood and mudflow hazard maps for target area were developed

6) Conducting a workshop to share the project results with the communities in the target area

A workshop for local authorities and population in Rudaki district was conducted to share the results of risk assessment and to have them to make use of hazard maps for risk management in future.

7) Conducting a workshop to deepen risk assessment knowledge

A workshop to deepen the risk assessment knowledge to mitigate flood disaster was conducted, where project stakeholders were invited and experts dispatched by ADRC gave lectures.

Fig. 5-2-1-3 State of the Workshop

(4) Peer Review

ADRC has launched "ADRC Peer Review" since 2009 for further supporting the efforts for the implementation of the Hyogo Framework for Action (HFA) in member countries, through promoting information sharing and strengthening the relations among member countries.

Peer Reviews are generally the evaluation and review of certain subjects by other professional and technical people in the same field in order to appropriately maintain or enhance the quality of the subjects from highly technical point of view. In the context of this project, it means that experts from the outside of the target country review and assess disaster risk reduction related measures and policies of member countries for further promoting disaster risk reduction.

The aims of Peer Review are as follows.

- Contribution to the implementation of the HFA in the ADRC member countries
- Information sharing and exchange of ideas among the ADRC member countries
- Disaster risk reduction capacity development of the ADRC member countries

The Peer Review 2012 were conducted in Armenia for activities of disaster prevention education and in Tajikistan for flood risk management. The outline of the Peer Review activities is as follows.

1) Outline of Peer Review in Armenia

< Themes for Reviews>

Activity of the Disaster Prevention Education in Armenia

The review was conducted based on country reports submitted by target country, as well as on-site interview survey. The reviewer teams identified strengthens and weaknesses of the target countries and then developed recommendations for further promoting disaster risk reduction in the target country.

< Reviewer Team>

- Prof. SAKURAI Aiko, Associate Professor, Graduate School of International Studies, Kobe University, Japan (Team Leader)
- Prof. Vishnu DANGOL, Professor of Geology, Tribhuvan University, Kathmandu, Nepal
- Mr. MORIWAKI Junji, Researcher, ADRC

<Accompanied Counterpart (Ministry of Emergency Situations (MES), Republic of Armenia) >

- Dr. Hrachya PETROSYAN, Head, National Survey for Seismic Protection (SSP) Agency
- Prof. Sergey NAZARETYAN, Head, Northern Survey for Seismic Protection (NSSP) Agency
- Mr. Serob DARBINYAN, Head, Western Survey for Seismic Protection (WSSP) Agency

Fig. 5-2-1-4 Inspection of Evacuation Drill

Fig.5-2-1-5 Workshop for Disaster Education

The reviewer team visited and conducted interview survey to the organizations which was working on disaster prevention education. Also, the team conducted inspections of classes in the schools and evacuation drills. Based on the country report submitted from SSP and the result of the interview and the inspection survey, the team discussed for compiling a draft review report with all findings and recommendations. The summary of findings was introduced in the evaluation meeting on the last day of the survey. And the final review report was compiled among review team members after returning from Armenia.

The outline of the final report is as follows.

<Advantages –based on observation and analysis>

- Major stakeholders (SSP, local government, schools, UN organs and NGO, etc) related to disaster prevention education are involved in a process of formulating the seismic protection behavior rule.
- The teaching materials for disaster prevention are enriched and are utilized in the schools.
- The person belonging to the military holds a full-time position in each school and manages disaster prevention education and evacuation drill, which is well organized.
- By such measures, it functions well. (e.g. an evacuation route are posted in the schools, and roles such as rescue teams at the time of the disaster are decided).

<Suggestions>

- More systematic training (drills) modules might be required to respond to increasing coverage of trainings by NSSP. Setting up target organizations and priority actions are recommended.
- Standardized manual for evacuation should be distributed to schools for review. Thereafter criteria for evacuation should be revised.
- Plan-Do-Check-Action cycle should be introduced to drills, to improve the quality of the evacuation drill.
- SSP should conduct monitoring and evaluation after the drills.

2) Outline of Peer Review in Tajikistan

< Themes for Reviews>

Activity of the Disaster Risk Assessment in Tajikistan

The review was conducted based on country reports submitted by target country, as well as on-site interview survey. The reviewer teams identified strengthens and weaknesses of the target countries and then developed recommendations for further promoting disaster risk reduction in the target country.

< Reviewer Team>

- Prof. KOBAYASHI Kenichiro, Associate Professor, Research Center for Urban Safety and Security (RCUSS), Kobe University, Japan (Team Leader)
- Mr. Prasong THAMMAPALA, Scientist, Department of Disaster Prevention and Mitigation, Thailand
- Mr. MORIWAKI Junji, Researcher, ADRC

<Accompanied Counterpart (Committee for Emergency Situations (CoES), Tajikistan) >

- Mr. Alisho SHOMAHMADOV, Head, Information Management and Analytical Center (IMAC), Committee for Emergency Situations (CoES)

Fig. 5-2-1-5 Visit to Authority of Rudaki district

Fig. 5-2-1 -5 On-site visit to Ganjina vulnerable

The reviewer team visited and conducted interview survey to the organizations by the above schedule. Also, the team conducted on-site visit to the disaster vulnerable area. Based on the country report submitted from CoES and the result of the interview and the on-site survey, the team discussed for compiling a draft review report with all findings and recommendations. The summary of findings was introduced in the workshop held on the last day of the survey. And the final review report was compiled among review team members after returning from Tajikistan.

The outline of the final report is as follows.

<Advantages –based on observation and analysis>

- The Tajikistan professionals recognize disaster problems and understand the basic mechanisms of the disaster. Some pilot projects, grass-root/community level activities have brought good results for the disaster mitigation. For example, SCLUG/Focus has already earned capacities to make hazard map for landslide and mudflow.
- The villagers vulnerable to natural disasters try to protect their properties by making the mud control dam, mudflow diversion channels, etc. In other word, the villagers do recognize the risks.
- According to the Rudaki District Office / Department of Geology, Tajik people band together at the emergency situation. This is, according to them, the culture of Tajikistan. Such positive attitude is the strength of Tajikistan.
- Multi stakeholders such as governmental organs, Tajik-friendly NGO, internationally cooperative universities/institutes have high potential to manage disaster risk.

<Suggestions>

- To obtain recognition from international society as well as to collect fund from them, Tajikistan should roughly estimate amount spending for non-structure measures. For instance, budget for population survey and hazard map project. It's because it is difficult for fund raisers to decide if they do unless an overall picture of budget is made up. In this theory, Tajikistan should firstly focus on estimating budget calculation for non-structural measures, as it costs a lot for structural measure such as bank enforcement.
- Making hazard maps, compiled by the hearing from SCLUG and Focus, is a matter of urgent. In the later stage, more scientifically elaborated hazard map should be prepared.
- Currently main actors of hazard maps making and disaster education taking are disaster-prone villages' leaders. Involvement of children is recommended, since there was a good example in Japan tsunami-education to school children brought good result.
- Hazard map compiled by hearing is ad-hoc one, to upgrade it, scientific data collection (rainfall, land movement, river water level & discharge) should be made periodically, which is an essential element for future observation.
- The exchange of views with meteorologist and hydrologist was not realized this time. The meeting with them is valuable as the rainfall information is very important for rain-induced mudflow and landslide disaster prevention.
- Periodical evacuation exercise should be done in every village.
- Tajikistan should give more opportunities of the higher education to young motivated Tajik University students. This may, in future, reduce the operating cost relating to risk assessment, hazard mapping, disaster education. Especially cost relating to jobs PC literary is required. Well-educated Tajik younger generation will serve Government more diligently than outside experts does.
- Past reviews should be examined carefully.

  Recent management trend is so-called adaptive management such as PDCA cycle. If such

reviews are incorporated into next planning, then further progress is expected.

- Materials to obtain better recognition from international society should be prepared. More records, photos, statistical data, and documentation are included in the material. Release in English also should be considered in the future.

5-2-2. Technical Cooperation Project for Strengthening the Capacity of Seismic Disaster Risk Management in Ulaanbaatar City, Mongolia

5-2-2-1. Background

Mongolia, a landlocked country in East and Central Asia, whose population is 2.78 million, GDP per citizen is 2,207USD and area is 1.56 million km2, is prone to some natural hazards such as heavy rain, storm, and flood.

In Ulaanbaatar (hereinafter referred as "UB"), the capital of Mongolia, the number of unfelt earthquakes has been increasing since 2005, especially its trend has been more obvious after 2009. A French research institute pointed out in 2010 that UB City and its suburbs are surrounded by 4 faults including newly discovered ones which might cause the earthquakes of Magnitude 7 (M7) level. Also according to the 2000 simulation by National Academy of Mongolia, it is predicted that approximately 300 buildings and 60,000 citizens would be affected if the M7 level earthquake hits UB City.

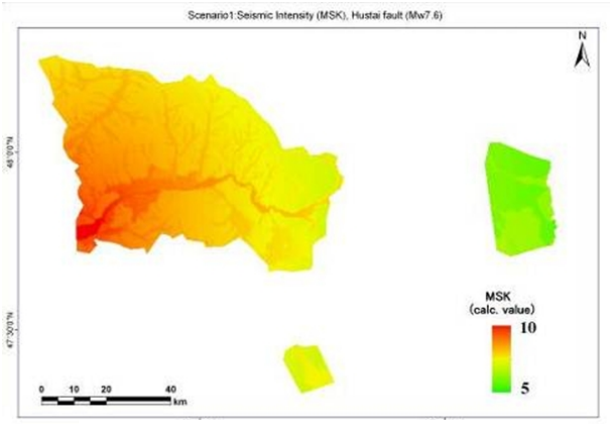

Fig.5-2-2-1 MSK intensity of the Scenario 1

5-2-2-2. Objective and outline

The objective of the project is to strengthen the capacity for seismic disaster risk management in UB City and to transfer relevant skills and technologies to personnel concerned with the Project. And remarkable outcomes of the project are as follows;

1) Formulation of integrated seismic risk map for UB,
2) Revision of regional seismic disaster risk management plan,
3) Preparation of the draft construction guideline for middle-high storied building considering seismic disaster risk resilient urban development and
4) Capacity development of the relevant authorities and citizens in seismic disaster risk management

Counterpart: UB City, Emergency Management Department of UB (EMDC)

Implementation period: February 2012 - October 2013

5-2-2-3. Outcome

1) Formulation of integrated seismic risk map for UB

Among the active faults in and around the UB city, two earthquake scenarios were set. A deterministic method for ground motion evaluation was conducted under the maximum earthquake estimated on the target fault.

(1) Scenario 1: The case of the Hustai fault earthquake (Mw7.6)

(2) Scenario 2: Integrated maximum value of Emeelt fault (Mw7.0) and Gunjiin fault (Mw6.6)

Both in the cases of Scenario 1 and Scenario 2, in the city area of UB, the calculated MSK scale seismic intensity are VIII-IV.

According to the calculated seismic intensity, damages of building, fire, road, bridges, and lifelines were estimated.

2) Revision of regional seismic disaster risk management plan

Earthquake Scenario is analyzed to understand what may happen and how to take actions or implement countermeasures assuming earthquake occurs evening of winter considering timing of using fire for cooking and difficulty of emergency response. Scenario for Emergency Management Headquarter, Search and Rescue, Medical Care, Evacuation, Food and Drinking Water supply, Electricity Supply, Heating Water Supply, School Education, Temporally and Permanent Housing Supply, Debris Treatment and Life Rehabilitation. According to the scenarios, items needed to be revised were pointed out from the present earthquake disaster prevention plan of UB city, and detail proposals for high priority items were proposed.

3) Preparation of the draft construction guideline for middle-high storied building considering seismic disaster risk resilient urban development

Following guideline was established by collaboration of PT and CP.

- Current issues
- Target performance of buildings
- Capacity evaluation of existing buildings
- Upgrading measures
- Promotion policy for upgrading
- Suggestions

Fig.5-2-2-2
Earthquake simulator by EMDC

4) Capacity development of the relevant authorities and citizens in seismic disaster risk management

The following activities were carried out in this project.

- Study meetings of hazard and risk assessment methods
- Training course in Japan
- Study meetings of earthquake disaster management for EMDC staffs
- Earthquake Disaster Management awareness activities WS
- Earthquake Disaster Management awareness campaign

Fig.5-2-2-3
Earthquake Disaster
Management Awareness Campaign

5-2-3 Technical Cooperation Project in Indonesia

5-2-3-1. Background of the Project

Indonesia is a disaster prone country which is frequently affected by various types of natural disasters, such as earthquakes, volcanic eruptions, and Tsunamis. Examples of such disasters and resulting damage in recent years are: the Indian Ocean earthquake and tsunami in December 2004 and the Java earthquake in May 2006. These disasters have raised the awareness on the importance of disaster management. The government of Indonesia, upon these occasions, enacted Law No. 24 on Disaster Management in 2007, and strengthened the disaster management systems of the country through establishing the BNPB (National Agency for Disaster Management).

However, BNPB, which has only a short history, does not have an adequate organization structure, budget, skills, knowhow or staff, and it is difficult for BNPB to give directions or sufficiently support the local governments in establishing BPBD (the Regional Agency for Disaster Management) or in formulating the Regional Disaster Management Plans. Additionally, although each local government proceeds with establishing its own BPBD as a permanent main agency in case of disaster, the effective activities do not seem realistic since their knowledge and experience on disaster management are lacking.

Against this background, the JICA Technical Cooperation Project “the Project for Enhancement of the Disaster Management Capacity of BNPB and BPBD” was formulated with a goal of enhancing the disaster management capacity of BNPB, provincial BPBDs in North Sulawesi and West Nusa Tenggara provinces, and regency/municipality BPBDs in both provinces for reducing damage from disasters in Indonesia.

The ADRC with the Oriental Consultants Co., Ltd, a partner agency was commissioned the Project and started the project activities based on the proposal from November 2011.

5-2-3-2. Outline of the Project

The outline of the project is as shown in the below table.

【Project Period】
November 2011 – December 2015 (4 years)
【Project Purpose】
Enhancement of the disaster management capacities of BNPB, the provincial BPBDs, and the regency/municipality BPBDs in the pilot area
【Project Target Areas】
1. Jakarta (BNPB), 2. provincial BPBD of North Sulawesi province and regency/municipality BPBDs within it, 3. provincial BPBD of West Nusa Tenggara province and those of its regencies/municipalities.
【Expected Outputs】
[Output 1]: Improvement of the capacity for the regency/municipality BPBDs to accumulate disaster data/information that is fundamental for disaster risk management and improvement of the accuracy of such data/information. [Output 2]: Creation of Hazard and Risk Maps at the regency/municipality level in the pilot area. [Output 3]: Formulation of Regional Disaster Management Plans for regency/municipalities in the pilot area. [Output 4]: Disaster Management Drills are to be conducted in the pilot provinces as well as in regencies/municipalities in the pilot provinces

From the ADRC, the experts on “Disaster Information System” for Output 1 and “Community Based Disaster Risk Management” for Output 4 have joined the activities.

5-2-4 Technical Cooperation Project in the Philippines

5-2-4-1. Background of the Project

The Republic of the Philippines has made substantial efforts for strengthening disaster risk management including of the development of Strategic National Action Plan for Disaster Risk Reduction (2009-2019) after the adoption of Hyogo Framework for Action 2005-2015 in the WCDR held on January 2005.

In recent years, the Philippine Government has been shifting the approach to disaster risk management from "Post Disaster Response" to "Proactive Disaster Management," which is an approach that focuses on mitigation and preparedness. The "Philippine Disaster Risk Reduction and Management Act of 2010 (RA No. 10121)" was enacted in May 2010, creating the legal framework to implement a new approach to disaster management called Disaster Risk Reduction and Management (DRRM). Under the DRRM Act, the NDCC (National Disaster Coordinating Council), the highest decision-making body related to disaster management on the national level, was reorganized as the National Disaster Risk Reduction and Management Council (NDRRMC) and the Office of Civil Defense (OCD) was appointed as the secretariat of the council and the central and leading organization for DRRM activities.

In order to implement the DRRM activities under the new approach, the needs for preparing the various plans as well as strengthening the capabilities of related organizations are rapidly increasing. The OCD is also facing challenges in organizational and human resource capabilities enhancement.

Against this background, the JICA Technical Cooperation Project "The Disaster Risk Reduction and Management Capacity Enhancement Project" was formulated with a goal of strengthening capacity on DRRM of OCD. The ADRC has participated in the project as a support organization and provided technical cooperation activities based on the proposal from March 2012.

5-2-4-2. Outline of the Project

The outline of the project is as shown in the below table.

【Project Period】
March 2012 – February 2015 (3 years)
【Project Purpose】
Capacity on DRRM of OCD is strengthened
【Project Target Areas】
Metropolitan Manila (National Government) and some pilot areas (2-3 areas)
【Expected Outputs】
[Output 1]: Planning and implementing capacity of OCD on DRRM is strengthened. [Output 2]: DRRM activities including information management are standardized. [Output 3]: Human resources development plan for DRRM is developed. [Output 4]: Support system to Community Based Disaster Risk Reduction and Management (CBDRRM) is strengthened.

The ADRC has dispatched the expert on "Human Resource Development and Planning" for Output 3 for the Project.