5-2. Capacity Building in Member Countries

5-2-1. ADRC Peer Review Project

The ADRC has launched its new initiative "ADRC Peer Review" since last year 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 DRR related measures and policies of member countries for further promoting disaster risk reduction.

Based on the issues identified in the pilot project last fiscal year, following changes in the method were made.

- Two member countries were selected as reviewer countries per a target country.
- Reviewer countries were selected by the ADRC from member countries which own similar disaster trends to target countries.
- The period of survey conducted by reviewer teams was extended for better learning about target countries.
- Counterparts in a target country and a reviewer team will have a small workshop or meeting to discuss the results of survey and to exchange their opinions on the last day of the survey.
- Target countries identify their own themes for reviews.

This fiscal year the ADRC selected Bangladesh and Mongolia as target countries. The following is the outline of the project.

<Target Countries &Themes for Reviews>

Bangladesh: Cyclone preparedness

Mongolia: Awareness raising and capacity development for earthquake disasters

<Reviewers per a target country>

- One expert
- One expert each from two other Member Countries *Not from either of the countries being reviewed.
- ADRC

These reviews were conducted based on country reports submitted by target countries, as well as on-site interview survey. The reviewer teams identified strengths and weaknesses of

the target countries and then made recommendations for further promoting disaster risk reduction in target countries.

(1) Bangladesh

Bangladesh faces various natural hazards such as storms (cyclones), floods, landslides, droughts, cold waves, and heat waves. The cyclones which hit the country in 1970 and 1991 brought about devastation with fatalities of about 300,000 and 140,000 respectively. These disasters had led the country to promoting cyclone preparedness by public and private sectors.

Fig. 5-2-1-1 Interview survey in Bangladesh

The field survey featuring cyclone preparedness in Bangladesh was conducted as below with full support from Disaster Management Bureau (DMB), Ministry of Food and Disaster Management of Bangladesh.

The reviewer team visited and interviewed more than 8 organizations in Dhaka and then in Noakhali and Hatia located in a cyclone-vulnerable coastal area, regarding their efforts on cyclone preparedness. Based on the survey, as well as on the report submitted by Bangladesh, the reviewer team identified the following "positive aspects" and "challenges ahead" in the efforts of cyclone preparedness.

Positive Aspects	Challenges Ahead
・ MoFDM and DMB are keen to uphold the continuous professional development of CPP（Cyclone Preparedness Plan?） through various activities such as conducting surveys and hazard mapping. ・ An active approach is being taken to enhance disaster risk management, especially in disaster education and public awareness in cooperation with all stakeholders by forming strong ties with regional and international relevant organizations and NGOs including Bangladesh Meteorological Department (BMD), Bangladesh Water Development Board (BWDB), Institute of Water Modeling (IWM) and local organizations, Bangladesh Red Crescent Society (BRCS), World Bank (WB), Asian Development Bank (ADB), JICA and so on. ・ CPP leverages volunteers, NGOs as well as officials from national and local governments for the purpose of raising awareness and preparedness motivation, and ensuring the safe evacuation of volunteers and the general public. ・ Warnings issued by BMD trigger actions by the CPP, which disseminates warnings at the community level. CPP volunteers inform residents in rural areas of impending disasters and help people evacuate to cyclone shelters. ・ As many as 3,000 cyclone shelters have already been constructed in the coastal regions where they are most needed and many people can evacuate to these shelters in case of cyclones and other disasters.	・ There is a need for more skilled staff in the relevant agencies and capacity development of technical staff is required for advanced disaster risk reduction. ・ Specifically, local government officials need to increase their skills and knowledge. ・ Some CPP offices lack fundamental communication equipments. ・ More cyclone shelters are necessary in vulnerable areas. Also, some cyclone shelters need repair work so they can store necessary equipment and relief goods as intended.

Based on the above observation of the "strengths" and "weaknesses" of Bangladesh, the reviewer team provided the following recommendations to Bangladesh.

Recommendations
• Promote human resource development in all agencies in order to increase their capacity and expertise in using state-of-the-art DRR tools and methods. • Construct more cyclone shelters in the densely-populated local area with high risk. • Reinforce embankment in the river lines and coastal regions and maintain afforestation. • Promote to establish emergency communication system. Utilize mobile phone for early warning media available in the rural area. • Enact the DM Law to prioritize advocacy involving all stakeholders.

(2) Mongolia

In recent years, the frequency of earthquakes in Mongolia has increased and Ulaanbaatar, the capital city of Mongolia is considered to be facing growing risks of earthquake occurrence. Since the city has about 50 per cent of total populations of the country and work as the center of industries and commerce, the president and the government of Mongolia have recognized the urgent need of the strengthening earthquake disaster measures.

Fig. 5-2-1-2 Reporting Session

In March 2010, the Integrated Earthquake Response Plan was developed and approved and all the sectors of the government of Mongolia have started to take necessary actions for improving earthquake disaster measures. Due to the limited experiences of the earthquake disasters in Mongolia, they need further consideration of the policies and activities to be implemented for the purpose.

In this context, in collaboration with the National Emergency Management Agency (NEMA) of Mongolia, the ADRC reviewer team visited Mongolia for the survey to examine how they have been making the efforts for earthquake disaster education and capacity development in the government and non-governmental organizations.

The reviewer team visited and conducted interview survey to the organizations pertaining to DRM. Then, the team conducted on-site visit to identify earthquake risk of building and infrastructure condition in urban and suburb areas. Based on the country report on disaster management, submitted from NEMA and the result of the interview and the on-site survey, the team compiled a draft review report with all findings and recommendations. On the last day of the survey, a workshop with 30 participants from NEMA was held for acquiring opinions and comments to finalize the report.

The outline of the finalized report is as follows.

Positive Aspects	Challenges Ahead
・ President's concern on disaster prevention particularly earthquakes ・ Development of disaster protection legal environment, integrated planning and policy system ・ Budget allocation for earthquake disaster risk reduction from 2011 ・ Collaboration among NEMA and RCAG for DRR ・ Integrated data base of social information such as buildings ・ Seismic and geological information for earthquake scenario ・ Collaboration with Irkutsk experts on seismic performance of buildings ・ Undertaken activities at the sub-district level ・ Development of good disaster education materials and trained 80 persons as trainers and 300 volunteers for disaster risk management activities by Mongolian Red Cross ・ Telecommunication technology used as a tool for early warning ・ Nationwide coverage of cellular services	・ Lack of public awareness on earthquake risks ・ Non-identification of amount of earthquake damage for the earthquake scenario ・ Weak dissemination of information to public ・ Unidentified risk of expansion of fire during earthquakes in the Ger districts ・ Insufficient use of lessons learnt from the past earthquakes ・ Non-functional emergency siren system developed during the early 1970's ・ Insufficient fire services including man power, equipments and fire stations ・ Lack of collaboration of scientists and structure engineers for earthquake disaster prevention ・ Inadequate seismic inspection of existing buildings especially for PC panel structures ・ Insufficient knowledge of seismic retrofit ・ Checks and balances on the quality of building elements used by builders

Suggestions
1. Necessity of earthquake damage prediction based on possible earthquake scenario In combination of social information (population distribution, building distribution) and natural information (earthquake data, geological information, deep underground structure and surface geology) In collaboration of scientists and engineers
2. Application of disaster prevention research Not only on seismic retrofit but also on earthquake early warning for centralized city Establishing testing laboratory for building structures
3. Education /training for disaster prevention for schools and sub-districts Incorporation of materials based on disaster prevention research Early warning system (due to scientific and engineering collaboration) Introduction of "earthquake shaking table car" Promotion of community-based disaster prevention organizations
4. Determination of Mongolian disaster prevention day
5. Establishment of earthquake disaster prevention committee among government, academic (Scientist and Engineer), utility companies, NGO's and international organizations
6. Taking risk consistent disaster prevention countermeasures
7. Formulation of legal framework for more active involvement of relevant organizations on earthquake DRR activities

(3) Further Promoting ADRC Peer Review

Learning from the pilot project last year, we believe that the project implementation this year had some kind of improvement in terms of the structure of the project implementation. Those changes bring many beneficial effects. For instance, by increasing number of reviewer countries from one to two per a target country and holding of a small workshop on the last day of survey mission among a target country and reviewers, it could promote information exchange and the reviewers could develop survey reports in quick and efficient manners.

Holding a small workshop was one of the most effective revisions we made from the last year's pilot project. At the workshop, reviewers could clarify the information they compiled during the survey and modify it through the information exchange with the target countries. In addition, target countries could learn about the tentative survey results which reviewers

compiled in a prompt manner and discuss the issues which reviewers point out. The ADRC is keen to further improve and promote this project for better utilization by member countries.

5-2-2. Multi-disciplinary Hazard Reduction from Earthquakes and Volcanoes in Indonesia

5-2-2-1. Outline

This project "Multi-disciplinary Hazard Reduction from Earthquake and Volcanoes in Indonesia" officially started in June 2009, as a part of "Science and Technology Research Partnership for Sustainable Development" supported jointly by Japan Science and Technology Agency (JST) and Japan International Cooperation Agency (JICA). The ultimate goal of this project is to reduce disaster from earthquakes and volcanoes by enhancing capability of forecasting hazards, by reducing social vulnerability, and by promoting education and outreach activity of research outcomes. We also plan to provide the platform of collaboration among researchers in natural science, engineering and social sciences, as well as officials in national and local governments.

The research activities consist of six groups. For hazards, natural science approaches are taken for: (1) Evaluation of potential and prediction of earthquakes and tsunami based on geophysical investigations, and (2) Short-term and long-term prediction of volcanic eruptions and development of their evaluation method. For the vulnerability, engineering and social/human science approaches to: (3) Establishment of social infrastructure based on engineering developments and (4) Mitigation of social vulnerability against geo-hazards. On the basis of these, the last research group is (5) Education and outreach for disaster reduction. Each group has several sub-groups, and in total more than 20 subgroups are conducting joint field surveys and workshops. In addition, to coordinate these research activities and to utilize the research results, we conduct: (6) Application of the research and establishment of collaboration mechanism between researchers and the government officials. The Joint Coordinating Committee (JCC), consists of the group leaders and government officials of related agencies in Indonesia, is organized and meets regularly to supervise the project activities. The project not only reports research activities to JCC but also plans to make policy recommendations to utilize the research finding to disaster reduction activities of the governments.

ADRC organizes Group 6 and takes charge of subgroup 5-1-1.

5-2-2-2. Activities

Group 5-1-1(G5-1-1**): Research on the effective disaster education at school**

G5-1-1 develops a disaster awareness education material, by which the risks or disaster preventive resources will be easily understood in schools and communities. An education material will be produced based on the results of discussion on the state of present disaster education in Indonesia.

In 2010, ADRC carried out following activities;

1. Training of teachers and students was held in Banda-Aceh in August 2010. Teachers and students from elementary schools, junior high schools and religion schools joined this workshop. In this meeting, LIPI(Indonesian Institute of Science) and the ADRC reported latest education programs in Indonesia and participants exchanged opinions about disaster education for future activities.

Group 6: Application of the research and establishment of collaboration mechanism between researchers and the government officials

The Group 6 aims to propose a system to apply the research results to policy making by building up synergy among governmental organizations, universities and research institutes. To this end, a platform composed of researchers, government officials at different levels and practitioners should be established.

The Asian Disaster Reduction Center (ADRC) joins for the Group 6 as a group leader and organizes workshops to strengthen the linkage between research activities and policy making. Indonesian and Japanese participants enhanced their understanding about the roles and activities of the both countries' institutions such as the Japan's Central Disaster Management Council (CDMC), the Headquarters for Earthquake Research Promotion (HERM) and the Indonesian National Disaster Management Agency (BNPB) through these workshops.

As the next step, the Joint Coordinating Committee (JCC) Meeting will be held in Jakarta, Indonesia in May 2011. In this meeting, the latest activities from each group will be reported and exchanged opinions to establish a platform composed of researchers, government officials at different levels and practitioners.