



DEVELOPMENT OF INTER-ORGANIZATIONAL COOPERATION AGREEMENT FOR EARTHQUAKE DISASTER IN MONGOLIA

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Abstract

This paper presents the development of inter-organizational cooperation agreement in the Mongolia through “Project for Strengthening the national capacity of earthquake disaster protection and prevention in Mongolia” implemented from 2016 to 2019 as a technical assistance funded by Japan International Cooperation Agency (JICA).

The project aims to improve the capacity of the National Emergency Management Agency (NEMA) through strengthening prevention measures against earthquake risks. Activities in capacity building include disaster prevention planning and strengthening coordination among institutions.

In the project, firstly, various cooperation agreement examples in Japan related to earthquake disaster prevention were collected and examined by sectors.

Simultaneously, status of disaster prevention plans and agreements in Mongolia was studied and compared with those in Japan. In Mongolia, agreements exist mainly between administrative organizations in different forms, mostly considering normal time. As such, concrete response method during disaster is not specified and inter-institutional cooperation is not fully considered.

However, it was found that the cooperation between the Ministry of Food Agriculture Light Industry and the private sector is carried out to respond frequent cold weather disaster (Dzud), which is a good practice applicable to earthquake disasters as well. Besides, “National Policy on Public-Private Partnerships” in Mongolia mentions to “Increase the participation of the private sector in infrastructure and basic social services.

Secondly, lectures to demonstrate cases in Japan were given, showing possible situation during earthquake disaster, relations with disaster prevention plan, necessary disaster response for sectors, and agreement examples. With this knowledge, draft agreement for organizations based on the current system in Mongolia was prepared.

Thirdly, the Mongolian side discussed drafts within Working Group of the Project in NEMA and related organizations.

Fourthly, table top exercise using cooperation agreements for health sector was conducted to promote the conclusion of an agreement with the Ministry of Health, and to promote the conclusion of an agreement with other organizations.

Lastly, drafts were revised after consultation with each ministry. In Mongolia, as superior plan to support agreement is yet to be strengthened, the agreement was made to work by itself. To date, seven agreements have been concluded, and remaining two draft agreement will be concluded through NEMA’s coordination.

In conclusion, adjusting with the current legal framework and following existing good practice for disaster response mechanism, the agreement was developed in bottom up manner. It is hoped that agreement among multiple stakeholders, agreement between local governments and private organizations will be developed in the future. This bottom up approach to develop inter-organizational partnership via cooperation agreement can be applied to other countries as well.

Keywords: agreement, planning, inter-institutional cooperation



1. Introduction

In Mongolia, many earthquakes of magnitude 8 class have occurred frequently in the western region. In recent years, there are three activities in the suburbs of the capital city of Ulaanbaatar, where about half of the total population lives. There are concerns that faults (Hostai fault: about 30 km southwest of the city, Emilt fault: about 15 km southwest, Gunjin fault: about 5 km northeast) have increased the earthquakes risk. Under such circumstances, from February 2012 to October 2013, Japan International Cooperation Agency (JICA) implemented the “Ulaanbaatar City Earthquake Disaster Prevention Capacity Development Project” with the Ulaanbaatar City Emergency Management Department as the implementing agency. [1]

In 2013, the National Emergency Management Agency (NEMA), a disaster prevention agency of the government of Mongolia, submitted a request for a technical cooperation project of the “Ulaanbaatar City Earthquake Disaster Reduction Project 2”. As a result of coordination between Japan and Mongolia, it was adopted that it will be implemented mainly by strengthening the capacity of NEMA in May 2016. In addition, after the detailed plan formulation survey made in June 2016, the project name was changed to the “Project for Strengthening the national capacity of earthquake disaster protection and prevention in Mongolia”.

In 2011, the Mongolian government established an “Earthquake Disaster Prevention Standing Committee” chaired by the Deputy Prime Minister and NEMA as the secretariat, strengthening earthquake disaster prevention measures nationwide and coordinating and coordinating among related organizations. This project is positioned as a project to materialize earthquake countermeasures promoted by the committee.

The capacity building of the National Emergency Management Agency implemented in this project will contribute to “strengthening disaster prevention governance” which is one of the priority actions of the Sendai Framework for Disaster Risk Reduction 2015-2030 adopted at the 3rd United Nations World Conference on Disaster Reduction in March 2015.

Outline of the project is summarized as Table 1. Three working groups were formed to implement corresponding output. Working group is further divided into sub working groups as shown in Table 2. This paper describes activities and its achievement made in sub working group 3 in working group 1. Project dispatches experts from Japan, also provide equipment and trainings in Japan for counterpart staffs. [2]

Table 1 Outline of the project

Project name	Project for Strengthening the national capacity of earthquake disaster protection and prevention in Mongolia
Project period	From November 2016 to November 2019
Counterpart organization	The National Emergency Management Agency of Mongolia (NEMA)
Output	<ol style="list-style-type: none"> 1. Ability to develop disaster / disaster prevention related planning, data collection, and coordination coordination among institutions is improved. 2. The capacity of administrative agencies related to seismic evaluation and building earthquake resistance is improved. 3. An implementation plan for disaster prevention education and awareness of disaster prevention is formulated.

Table 2 Working Groups and Sub Working Groups in the Project

Working Group	Sub Working Groups in Working Group 1
1. Disaster prevention planning	1 Risk assessment
	2 Disaster prevention planning
2. Seismic inspection & retrofitting	3 Disaster agreement
	4 White paper on disaster prevention
3. Disaster education	5 Disaster prevention information



2. Activities in the Project

2.1 Step1 Survey on agreements in Japan and in Mongolia

In the beginning of project, existing examples of cooperation agreement in Japan was surveyed. Reviews were made on disaster management plan for National, Prefecture and Municipal government. Survey includes legal background, relationship with disaster prevention plan, current status, and category of agreement. In parallel, existing disaster management plan and agreement in Mongolia was surveyed.

Table 3 and outline of cooperation agreement in Japan, in comparison with that in Mongolia. It is found that cooperation agreements are made for disaster response and recovery in Japan, while they are made mainly for preparedness in normal time in Mongolia. While cooperation agreements are made between local government and private sector or other local government in Japan to support local disaster management plan, they are made between national government level in Mongolia.

Table 3 Outline of cooperation agreement in Japan and that in Mongolia

Aspects	Japan	Mongolia	Activity in this project
Contents	Disaster response & recovery	Mainly for preparedness	Add cooperation agreement for disaster response & recovery.
Stakeholders for agreement	Local government and private companies or NGOs	NEMA and National government	Take private companies into account.
Law on disaster	Basic act for disaster prevention 1961-	Law on disaster protection 2003 (Revised in 2017)	Focus to develop cooperation agreement, improve laws later.
Plans for disaster	Basic plan for disaster preventions 1961- stipulates prevention. Local government and Ministries has own plan.	National disaster management plan 2015 has limited contents on prevention. Most of ministries and local governments have no plan yet.	Develop cooperation agreement within project period, then improve or develop plans later.
Fund for disaster	Disaster reserve fund & government budget	Government spending in case of disaster	Use reserve fund, donation, and external fund.
Disaster work plan in Ministry	No cooperation agreement for ministry, because of ministry has own work plan.	Ministry of Health, Ministry of Agriculture has work plan.	Develop Ministry's work plan later.
Relationship between cooperation agreement with disaster management law and plan	Cooperation agreement is attached in appendix in plan for local government.	Not clearly related.	Develop local government plan later.

Figure 1 shows structure of cooperation agreement in Japan in comparison with that in Mongolia as identified during initial survey. In Japan, disaster management plan is prepared for national government, each ministry, and local government level based on Basic act for disaster prevention plan in 1961.

In Mongolia, though National plan for disaster management plan is prepared, that for most of ministry or local government are yet in place. Nevertheless, it is also found that potential resources that can support disaster response and recovery does exist in Mongolia as well.

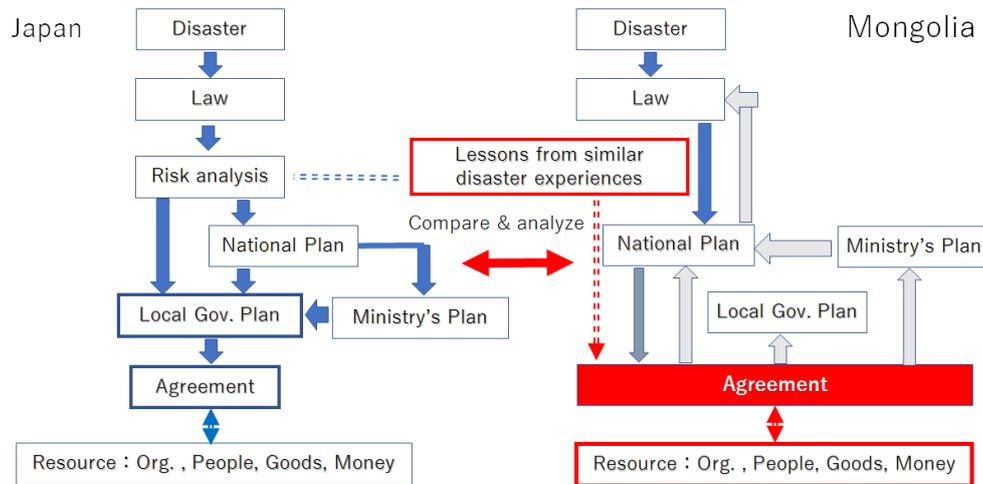


Figure 1 Structure of cooperation agreement in Japan and that in Mongolia

(Blue: Existing system, Red: Activities in this Project, Light blue: To be strengthened later)

Table 4 shows number of prefecture and local government having cooperation agreement in Japan as of 2018, as classified to scope of cooperation agreement. All of 47 prefecture government has cooperation agreement and majority of local government has cooperation agreement in different scope. [3]

Table 5 shows scope, contents, and stakeholders of cooperation agreement in Japan. Since the 1995 Great Hanshin-Awaji Earthquake, there has been progress in concluding cooperation agreements between local governments and between local governments and the private sector, and many local governments have now concluded numbers of agreement in Japan. It is found that popular category of cooperation agreement is for the provision of relief goods, health service, and emergency transportation. They are made between local government and private companies in corresponding category.

Table 6 shows type of current cooperation agreement in Mongolia as identified in the survey. They are mostly aimed to work for preparedness to work during normal period.

Therefore, the project tried to develop cooperation agreement using available resources in Mongolia within project period, hoping that agreement made in bottom up manner will stimulate to improve or develop superior plans afterwards.

Table 4 Number of prefecture and local government having cooperation agreement in Japan [3]

Scope on cooperation agreement	Prefecture government (N=47)		Local government (N=1741)		
	# of prefecture government with cooperation agreement	# of organizations signed for cooperation agreement	# of local government with cooperation agreement	% of local government with cooperation agreement	# of cooperation realized
Recovery	47	3392	1478	84.9	213
Relief goods	47	1850	1561	89.7	56
First aid	47	1272	981	56.3	31
Transport	47	514	925	53.1	10
Press report	41	457	117	6.7	0
Broadcasting	47	349	708	40.7	140
Others			826	47.4	276



Table 5 Category, Scope, and Stakeholders of Cooperation Agreement in Japan

Category	Scope for cooperation	Stakeholders
Relief goods	Supply of food, supply of drinking water	Food supplier, soft drink distributor
	Installation of disaster-response vending machines	
	Supply of daily necessities, supply of construction materials	Retailers, construction and civil engineering companies
	Gas supply and cooking	Branch office of LP Gas Association etc.
Health	Provision of first aid and medical relief activities for injured persons	Prefectural Medical Associations, Prefectural Dental Associations
	Pharmaceutical supply	Each prefectural pharmacist association, etc.
Emergency transportation	Supply of goods and provision of transportation vehicles	All Japan Truck Association branches
		National Red Hat Light Vehicle Transportation Cooperative Federation, etc.
Disaster public relation	Broadcast disaster information, evacuation orders, etc.	Local cable TV company, local radio station, etc.
Emergency Shelter	Evacuation for those who have difficulty returning home	Large retail store, gas station
	Evacuation and containment of people requiring assistance during a disaster	Social welfare facilities, etc.
Restoration of lifelines	Recovery of gas facilities and water facilities	Pipe construction cooperatives, power companies
	Electrical facility restoration	Gas company, etc.
Waste management	Collecting and transporting human waste	Human waste processing company

Table 6 Type of current cooperation agreement in Mongolia

Type of agreement	Category	Stakeholder
Contract cooperation	of To provide services during normal period, such as broadcasting information.	Government institution
Memorandum cooperation	of To support inclusion of NGOs through training of instructors and by supporting supporting participatory approaches.	NGO, private sector

(Source: JICA project team)

Figure 2 shows typical structure in cooperation agreement document in Japan. They are simple documents made of a few pages with forms, attached to disaster management plan for local government.

Figure 3 shows how cooperation agreement in Japan works to provide relief goods, as an example [4]. Agreement stipulates protocols and role of goods supplier and transport companies to provide and to transport relief goods to evacuation shelters, based on situation information reported from shelters to emergency response operation center for local government.

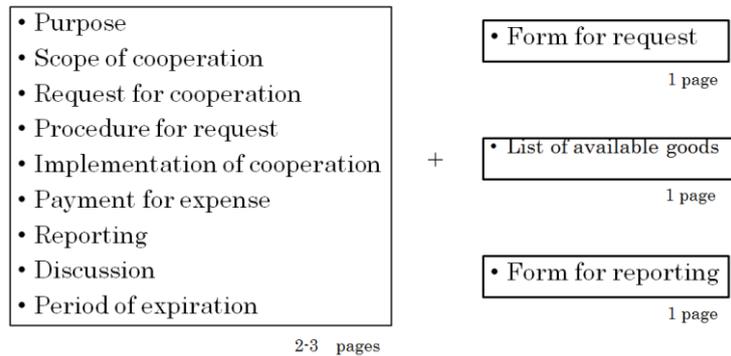


Figure 2 Typical structure in cooperation agreement document in Japan

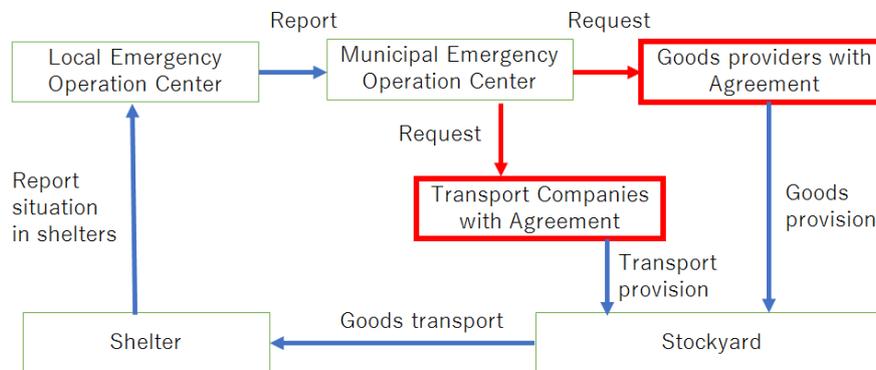


Figure 3 Flow of relief goods provision according to cooperation agreement in Japan [4]

2.2 Step 2 Delivering lectures on cooperation agreements in Japan

Based on collected information, analysis, and principles set, a series of lectures on cooperation agreements in Japan was delivered to counterparts periodically in a form of distant learning and classroom style. Titles and contents of each lecture are listed in Table 7. Lecture covers example of cooperation agreements in Japan in different sectors. Each session takes up possible situations in earthquake disaster in corresponding sector, contents of agreement, a flowchart showing how agreement works, legal background, and possible application to Mongolia.

Because the project aims to develop agreement for earthquake disaster, possible situation though qualitative manner and probable needs specific to earthquake disaster based on similar experience in Japan was stressed. Plus, variation of demands according to the time laps after earthquake disaster was also mentioned.

With these lectures, counterparts understood the essential concept of cooperation agreement in Japan, difference between situation in Mongolia and in Japan, and principles to adapt situation in Mongolia to draft cooperation agreement on their own.



Table 7 Titles and contents of each lecture in the project

No.	Date	Title	Contents
1	Feb. 8, 2017	Agreements for disaster in Japan	Background, stakeholders, current status, classification, possible application to Mongolia
2	Feb. 13, 2017	Development of agreements for disaster in Mongolia, Issues and policy	Example of agreements in Japan, comparison between Japan & Mongolia, necessary steps in the project
3	Mar. 10, 2017	Agreements for disaster #1 Relief goods and water distribution sectors	Possible situation under earthquake disaster, goods of special necessity, flow of relief goods supply & agreement in Japan, issues in relief goods supply, analysis of related documents in Mongolia, possible application in Mongolia
4	Mar. 30, 2017	Agreements for disaster #2 Energy sector	Legal background, lessons from the 2011 earthquake in Japan, flow of fuel supply during disaster in Japan, public education in Japan, possible application to Mongolia
5	Sep. 4, 2017	Agreements for disaster #3 Health sector	Health care during earthquake disaster, preparedness and response in health sector, time line and needs during earthquake disaster, tasks defined in plan, examples of agreements in Japan, flow of medicine supply, medicines for emergency stock,
6	Sep. 6, 2017	Agreements for disaster #4 Foods sector	Foods during disaster, disaster prevention plan and agreement in Japan, food stock in different levels, recipients for food stock, description of food stock in disaster prevention plan & work plan for ministry of agriculture, examples of agreements in Japan, possible application to Mongolia
7	Sep. 11, 2017	Agreements for disaster #5 Construction sector	Earthquake disaster and housing, Legal background, Stakeholders, Operation of evacuation place & emergency shelter, Temporally housing, Examples in Japan
8	Sep. 14, 2017	Agreements for disaster #6 Sewage sector	Impacts of earthquake on sewage and society, description of sewage in disaster prevention plan in Japan, example of preparedness, flow of emergency recovery, external assistance during disaster, contents of agreement by stakeholders, information sharing during normal period
9	Apr. 9, 2018	Good practice in preparedness planning & coordination for earthquake disaster in Japan	Earthquake disaster and disaster drill using cooperation agreement, Mechanism of agreement in Japan, Examples of agreement in Japan
10	Apr. 9, 2018	Japanese experience of table top earthquake disaster exercise	Reasons to do drill, possible situation after earthquake disaster, difference in medicine between emergency and normal time, information flow according to agreement
11	Apr. 9, 2018	Practice of disaster drill in Ulaanbaatar	Scenario for drill, scope for time period, use of map, tasks for each group, group members



2.3 Step 3 Drafting cooperation agreements in Mongolia

With an understanding concept of cooperation agreement, counterparts in Mongolia side started to draft cooperation agreement.

Existing emergency disaster management plan was reviewed to identify roles of disaster responsible agencies, then scopes for necessary cooperation agreement and appropriate stakeholders was identified. Table 8 shows initial scopes for cooperation agreement in Mongolia, as classified by stage of disaster. Table 9 shows standard outline of draft cooperation agreement.

As existing disaster plan does not include preventive activities very much, scope of agreement was defined according to role of ministry. Agreement included items described in new disaster law revised in 2017.

As a result, Table 10 lists up drafted cooperation agreement and its contents by sector in Mongolia. A total of nine cooperation agreement was drafted between NEMA and Ministry or Ulaanbaatar Municipality, capital in Mongolia or between Ministry and private sector.

Table 8 Initial scopes for cooperation agreement in Mongolia

Stage	Activity	Stakeholders
Preparation	Training and exercise	International organizations, NGO, Private companies etc.
	Stockpile	Ministry of Food, Agriculture and Light Industry, Private companies
Response	Securing staffs	Ministry of Construction and Urban Development, Ministry of Road & Transport, Ministry of Nature, Environment and Tourism
	Equipment procurement	Ministry of Construction and Urban Development, Ministry of Road & Transport, Ministry of Nature, Environment and Tourism, Private companies
	Emergency transport, Fuel procurement	Ministry of Road & Transport
	Life saving, Emergency medicine	Ministry of Health
	Securing communication	Ministry of Information and Communication
	Traffic control	Ministry of Road & Transport
	Provision of water & heating	Ministry of Nature, Environment and Tourism, Ministry of Energy, Ulaanbaatar Municipality Water and Sewage Corporation, Ulaanbaatar Municipality Heating Network Corporation
	Body treatment	Ministry of Health
Recovery	Provision of shelters	Ministry of Construction and Urban Development

Table 9 Outline of draft cooperation agreement in Mongolia

1	General
2	Objectives
3	Relationship for cooperation
4	Obligation for NEMA
5	Obligation for stakeholder
6	Miscellaneous



Table 10 Drafted cooperation agreement and its contents by sector in Mongolia

No.	Scope	Stakeholders		Contents of cooperation agreement	Status
1	Food and water	Ministry of agriculture and livestock	NEMA	Ensure stable supply of drinking water and food necessary for emergency food assistance for victims, people staying in evacuation shelters, and people in temporary housing	Signed on October 16, 2018.
2	Medicine	Ministry of Health	Medicine and Medical instruments company	Ensuring a stable supply of medicines necessary for emergency medical care and emergency services in the affected areas of the earthquake	Signed on November 12, 2018.
3-1	Building engineers	Ministry of construction & urban development	Association for construction	Secure a stable supply of building engineers for emergency inspection and restoration of buildings, debris clearance in areas affected by the earthquake	Signed on September 28, 2019.
3-2	Building material	Ministry of construction & urban development	Association for construction materials	Secure a stable supply of building materials to facilitate the restoration of buildings in areas affected by the earthquake	Signed on September 28, 2019.
4	Road and transportation	Ministry of road and transport	NEMA	Secure stable transportation and road traffic for smooth search, rescue, damage removal, and recovery measures in the affected areas of the earthquake	Signed on October 29, 2019.
5	Evacuation shelter	Ulaanbaatar municipality	NEMA	Promptly implement work related to provision of use of evacuation shelters and temporary meeting places as part of emergency support measures for earthquake victims and residents affected by the earthquake	Signed on October 30, 2019.
6	Sewage	Emergency Management Department of the Capital City	Facility Service Office of Ulaanbaatar City	Collect demands for public lavatory in temporarily shelter during disaster period, and to provide public lavatory. Collect demands for repair or disinfection of damaged sewage and to repair or disinfect damaged sewage.	Signed on October 30, 2019.
7	Water	Ulaanbaatar water authority	NEMA	Stable supply of water from cities in disaster-stricken areas Elimination of sewage from cities and removal and restoration of wastewater treatment in areas affected by the earthquake	To be signed on December 2019.
8	Fuel	Ministry of mining and petroleum	NEMA	Ensuring stable fuel supply for smooth search, rescue, damage removal, and recovery measures in areas affected by the earthquake	Agreement drafted.
9	Communication	Mobile phone company	NEMA	Implement mobile phone call restrictions and disaster priority telephone calls, cancel them, number of disaster priority telephone lines, call restrictions	Agreement drafted.



2.4 Step 4 Exercise using cooperation agreements in Mongolia

During the project, Ministry of Health was the most active and has drafted agreements with private hospital associations and pharmaceutical associations.

A half-day disaster prevention drill was held on April 9, 2018 for the purpose of concluding an agreement with the Ministry of Health, promoting the conclusion of an agreement with an organization other than the Ministry of Health, and implementing disaster prevention drills based on the agreement.

Preparation for training started in January, and discussions will be made with NEMA officials many times in the preparation of the scenario for two weeks, and how to secure the shortage of doctors and medicines using cooperation agreements in the event of an earthquake disaster was discussed with many stakeholders.

On the day of the training, the opening remarks were made by the Deputy Minister of Health and the Deputy Secretary General of NEMA. A total of 38 people participated from the Disaster Prevention Division.

In the training, NEMA counterparts first introduced JICA project and reported on the progress of the agreement field, and Japanese expert introduced cooperation agreement in Japan. The expert then showed the status of the proposed agreement between the Ministry of Health, the Private Hospital Association, and the Pharmaceutical Association within the existing framework, and introduced the proposed agreement.

In the following, exercises were conducted by four groups. NEMA, the Ministry of Health, and the city of Ulaanbaatar led the discussions of each group. It was assumed that an earthquake occurred in Ulaanbaatar during the winter night and 30% of the staff were damaged. During the time period up to the third day when assistance started, counterparts discussed how to conduct disaster medical care after earthquake disaster among different organizations using a map of Ulaanbaatar in 1/20,000 scale.

According to the questionnaire results for the participants about the training, Ministry of Health stated that they "recognized the importance of collaboration among different organizations". Ministry of Agriculture stated that "it can be understood well through training and training. Currently, cooperation with other organizations is underway without cooperation agreement, however, documentation of cooperation agreement will be necessary. The concept of the agreement can be applied to other disaster responses". NEMA stated that "it is not enough for each organization only to have a disaster prevention plan, but it is necessary to consider joint work".



Photo 1 Table-top exercise (left), Presentation of the results (right)



2.5 Step 5 Consultation, revision, and signing of agreement

After drafting cooperation agreement, a series of discussion and revision in consultation with stakeholders had been made. It was necessary to demonstrate basic idea of cooperation agreement to higher authorities in stakeholder organization to persuade the necessity and effectiveness of cooperation agreement.

Common revision of draft was that scope for cooperation agreement excluded related items of ministries as well as necessity for budget reserve, but responsibility for stakeholder was described.

Further, lengthy consultation with NEMA and stakeholder organization, as well as among or within stakeholder organizations was made. This process was time consuming yet indispensable process to reach agreement to cooperate between multiple stakeholders.

As Sendai Framework for Disaster Risk Reduction 2015-2030 mentions that “There is a need for the public and private sectors and civil society organizations, as well as academia and scientific and research institutions, to work more closely together and to create opportunities for collaboration, and for businesses to integrate disaster risk into their management practices”[5], and National policy on public-private partnership in Mongolia mentions to “Enhance the private sector's involvement in infrastructure and basic social services to enhance partnerships, trust and cooperation while improving quality and penetration”, these sentences were put in the beginning of the cooperation agreement in common. At the end of the project, seven agreements out of nine drafts had been signed.

3. Discussion

3.1 Lessons from project activities

Despite difference in laws and system between Japan and Mongolia, common issues in the event of earthquake disaster and basic idea of cooperation the agreement was well understood by Mongolian side.

As prevention activities in national disaster plan is not fully in place in Mongolia, cooperation agreement was prepared in bottom-up manner not to conflict with existing system. In this project, agreement was made in stand-alone manner, however, it would be desirable to develop cooperation agreement along with development of disaster prevention plan.

Once the cooperation agreement was drafted, gathering of relevant organizations and conducting tabletop exercise helped stakeholders to imagine possible earthquake disaster situations and to promote understanding of the necessity of the agreement.

Although this project focused on earthquake disaster prevention, the purpose of the agreement is to improve the efficiency of disaster response, and same mechanism can be used for other types of disaster. Based on the experience of responding to frequent cold damage in Mongolia, the Ministry of Agriculture and Food already had a framework similar to the agreement, thus the Ministry agreement easily accepted the agreement.

3.2 Further steps in Mongolia

Cooperation agreement was developed in bottom up manner without interfering superior plans in this project. Hopefully, adding more preventive and concrete activities to strengthen superior disaster management plans would be desirable, so that the signed agreement could be used effectively.

One-to-one cooperation agreement between NEMA and stakeholder was developed in this project. Agreement among multiple stakeholders, and agreement between local governments and private organizations would be developed in the future, as local government is the first responder to disaster.



3.3 Applicability to other countries

At present, many countries have prepared disaster management plans in the following order: firstly establishing disaster management policy, secondly making the disaster management law, then developing disaster management plan at national level. Still, the contents of national plan are mainly on disaster response, with limited prevention activities and concrete procedures. Further, disaster management plan for local government is not prepared in many cases.

If above mentioned procedure is followed, it would take long time to prepare disaster prevention plan at local government, though local government can be the first responder to disaster. For this reason, developing cooperation agreement using available resources in a bottom up manner can be feasible and practical short cut to strengthen disaster management system.

Besides, ministries and agencies other than disaster management agency with resources and daily activities also do have activities regarding disaster management on their own in most countries, though disaster management agency is primarily responsible for disaster management. In order to carry out more efficient and organized disaster response, having a cooperation agreements between disaster management agency and government organization, private companies, and NGOs would be another practical short cut.

4. Acknowledgements

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