



DEVELOPMENT AND ITS DISSEMINATION OF SCHOOL DISASTER AND EMERGENCY MANAGEMENT PLAN IN THE REPUBLIC OF TURKEY

Y. Yamazaki ⁽¹⁾, B. Özmen ⁽²⁾, O. Ergünay ⁽³⁾, F. Kaneko ⁽⁴⁾, R. Miyazaki ⁽⁵⁾

⁽¹⁾ Manager, OYO International Corporation, Japan, yamazaki@oyointer.com

⁽²⁾ Dr., Gazi University, Earthquake Engineering Implementation and Research Center, The Republic of Turkey, buozmen@hotmail.com

⁽³⁾ Advisor, Gazi University, Earthquake Engineering Implementation and Research Center, The Republic of Turkey, oktayergunay@yahoo.com

⁽⁴⁾ Senior Manager, OYO International Corporation, Japan, kaneko@oyointer.com

⁽⁵⁾ Manager, OYO Corporation, Japan, miyazaki-ryo@oyonet.oyo.co.jp

Abstract

Development process, dissemination, and its impact to national disaster management of school disaster and emergency management plan in Turkey is presented. This is one component in the School-Based Disaster Education Project by Japan International Cooperation Agency (JICA) to Ministry of National Education (MEB) in the republic of Turkey, implemented during the period from 2011 to 2014.

Firstly, existing civil defense plan which is prepared for school in Turkey and school disaster management plan in Japan was reviewed comparatively. In Turkey, up to now civil defense experts had been responsible for disaster management, and civil defense plan had been prepared in every school mainly focusing on response to possible war or manmade and other disasters. In Japan, schools are designated as evacuation center during natural disaster, and are required to develop disaster management plan for natural disaster, which emphasize preparation, hazard identification, and adaptation to local context in compliance with disaster management plan of local government.

Secondly, a team composed of MEB, Civil Defense, Disaster and Emergency Management Presidency (AFAD), school masters, and universities was formed in Turkey. Then, weekly lecture was made to the team via video conference for ten weeks, covering topics in school disaster management plan in Japan. Upon completion of the lecture, the team discussed how to adapt Japanese school disaster management plan to Turkish context, then developed a draft guideline for the development of school disaster and emergency management plan in primary and secondary schools.

Then, MEB organized training to in eighty primary school masters and provincial education officers three times, and once to secondary school masters in ten provinces which were affected by the 1999 Marmara earthquake and the 1999 Düzce earthquakes. Trained teachers then developed school disaster management plan, and presented their plan to the contest. The team modified the guideline after each training including lessons learned from training.

JICA project was concluded in 2013. Today, AFAD is implementing a project “Disaster Ready Turkey” targeting schools, families, work place, and youth & volunteers to develop disaster management plan for each level in whole nation, using the experience gained through JICA project. AFAD is also developing a tracking system to monitor disaster management plan development in schools together with MEB.

Finally, lessons from this project are 1) Importance of forming a team at the early stage, not limiting to MEB, but also to include university researchers with a background of earthquake engineering, national disaster management organization, and civil defense responsible for disaster planning, 2) Transferring essential ideas from Japanese similar experience spending sufficient time and demonstrating reference materials, 3) Internal discussion in Turkey side to develop own school disaster management plan including local context, 4) Not showing sample plan to avoid dead copy plan, but showing principles to encourage teachers to develop locally adapted plan considering local context, and 5) Using existing framework of disaster management of AFAD and MEB, and 6) To include annual activity plan to ensure plan sustainability.

Keywords: Disaster Management Plan, School, Education



1. Introduction

1.1 Background

The Republic of Turkey is made of Anatolia peninsula in Asian side and territory in European side. Its major territory in Anatoliya peninsula is made of three tectonic plates and many micro plates, thus it suffers high seismicity. Particularly, the 1999 Marmara earthquake and the 1999 Düzce earthquake caused casualties over twenty thousands and massive damage.

Ministry of National Education in Turkey (MEB) requested government of Japan technical cooperation to develop mechanism to train teachers such as curriculum and training system and to strengthen school disaster management system in schools using knowledge in Japan, introducing a culture of disaster prevention and preparedness through school education.

JICA dispatched a survey mission to develop to design detailed plan for cooperation from July 2009 to May 2010, agreed scope and contents of cooperation with government of Turkey, and signed Minutes of Meetings. Further, both government signed Record of Discussion on October 28, 2010.

This project aimed to designate disaster education in education system, and to establish disaster education as a program trying to expand it nationally starting from pilot provinces for the project.

1.2 About project

This study is part of the technical cooperation project “School-Based Disaster Education Project” implemented by Japan International Cooperation Agency (JICA) to MEB from 2011 to 2014.

The project purpose is to improve disaster education in school in pilot area through knowledge enhancement of school masters and teachers and strengthening disaster management capacity at schools. The overall goal of the project is to improve disaster education capacity in pilot area through improved recognition of disaster management of school masters at elementary and secondary schools.

The project is composed of three outputs; Output 1: Capacity to conduct disaster education training for core trainer and master teachers will be improved, Output 2: A transversal system to implement disaster education in school education will be established, Output 3: School disaster management system will be improved.

Counterpart organization is In-service Training Department at MEB. Three working groups were formed to achieve respective output. Pilot area for the project is ten provinces affected by the 1999 Marmara and Düzce earthquake as shown in Figure 1. Overview of pilot schools is shown in Table 1.

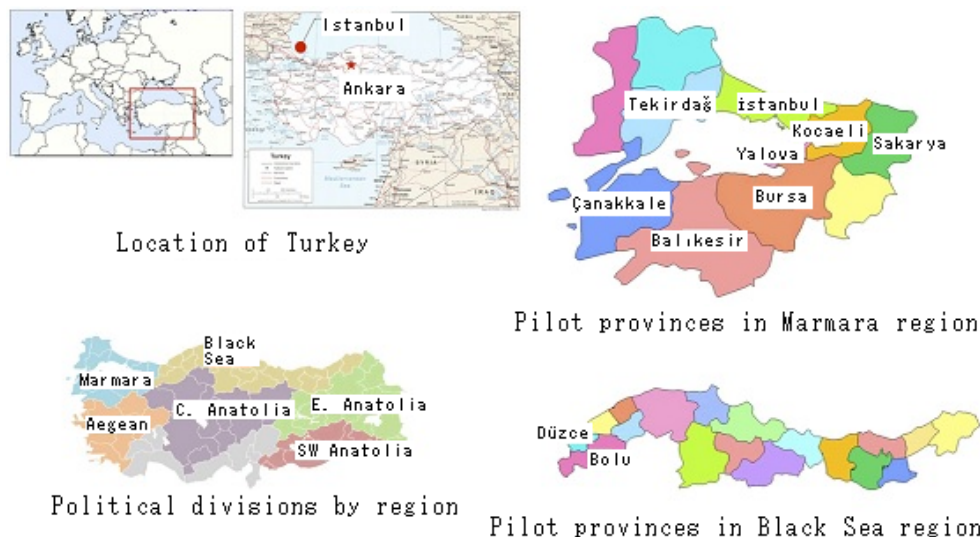


Figure 1 Pilot provinces in this project



Table 1 Overview of pilot schools

Province	Master teachers					Pilot schools			Pilot provinces			
	No. of pilot school	Provincial office	Principal, deputy principals	Teachers	Total	Principal, deputy principals	Teachers	Students	No. of schools	Principal, deputy principals	Teachers	Students
Balıkesir	5	2	5	10	17	15	184	3,712	755	658	6,751	117,017
Bolu	5	2	5	10	17	12	159	2,916	144	144	1,775	28,961
Bursa	11	2	11	22	35	38	527	12,320	1,003	1,256	14,258	318,683
Çanakkale	4	2	4	8	14	10	129	2,561	261	264	2,803	44,169
Istanbul	25	2	25	50	77	95	1,257	35,428	2,436	4,471	54,004	1,671,496
Kocaeli	8	2	8	16	26	19	243	5,994	537	837	8,516	206,717
Sakarya	7	2	7	14	23	26	328	7,933	605	557	4,986	113,151
Tekirdağ	4	2	4	8	14	13	149	3,512	294	394	3,877	98,371
Yalova	5	2	5	10	17	12	125	2,712	121	123	1,262	23,011
Düzce	6	2	6	12	20	15	190	4,529	285	250	2,224	43,798
Total	80	20	80	160	260	255	3,291	81,617	6,441	8,954	100,456	2,665,374

Direct beneficiaries are school masters in elementary and secondary schools in pilot area (about ten thousands), and indirect beneficiaries are elementary school pupils and their parents (about five millions). The project was conducted from December 2010 to June 2014. Activities in Working Group 3 (WG3) related to school disaster management (DM) system is summarized in Table 2.

Table 2 Activities in Working Group 3

Date	Activity	Description in this paper
Oct. 2010	Review Civil defense plan	2
May, 2011	Start activities in WG 3	3-1~3-2
Jun-Sep. 2011	Meetings to develop School DM plan (10 times)	3-3~3-5
Oct. 2011	1 st training for master teachers (Draft guidebook)	4-1
Nov. 2011	Guidebook (1 st edition)	4-1
Jan. 2012	2 nd training for master teachers	4-2
Feb. 2012	Visit to pilot provinces & discussion (demonstration, model class)	5-1
Jun.-Sep. 2012	1 st school DM contest	4-3
Sep. 2012	3 rd training for master teachers, Guidebook (2 nd edition)	4-4
Mar. 2013	Evacuation drill in pilot provinces	5-2
Sep. 2013	Training for secondary schools	4-5
Sep. 2013	Guidebook (3 rd edition) Handbook (part 3)	5-3

2. Review of civil defense plan in pilot schools

Firstly, a comparison was made between existing civil defense plan for schools in Turkey and disaster management plan for schools in Japan.

2.1 Status of civil defense plan at pilot schools

2.1.1 Status of disaster management plans in Turkey

At elementary schools, Prime minister's disaster management agency (AFAD) obligates schools to develop civil defense plan and action plan for twenty four hours. At secondary schools has obligation to develop civil defense plan.



AFAD was established through restructuring of disaster related agencies (Prime Ministry Crisis Management Center, Civil Defense under Interior Ministry, and General Directorate of Disaster Affairs at Ministry of Public Works) by Act No. 5902 issued on May 29, 2009. [1]

2.1.2 Outline of Civil Defense Plan in Turkey

Civil defense plan is a response plan for disaster, incident, accident and etc., and is applied to public organization besides schools, and private companies. The contents of the plan is formal one, and it can be adapted to disaster though it does not specifically mentions disaster.

Civil defense plan for schools is required to update annually through permission of provincial governor upon establishment of new school, and is supervised by civil defense expert at provincial office directed by MEB. The process to permit plan is made by school master, director of provincial education office, and provincial governor.

2.1.3 Outline of School Disaster Management Plan in Japan

In Japan, Disaster Countermeasures Basic Act (Act No. 223, November 15, 1961) is the basic law for disaster management. [2] Law for School Health and Safety (1958) obligates school administrators to prepare safety plan and its implementation to prevent accidents such as accidents, perpetrators act, and disaster and to respond properly when accident happens. Besides, schools are designated as evacuation center in many cases in disaster management plan of local government.

Ministry of education, culture, sports, science and technology (MEXT) in Japan started to prepare school disaster management plan after the 1995 Great Hanshin earthquake. Basic idea to prepare school disaster management plan was formed in November 1995, and concrete analysis was made in September 1996. Then the MEXT then published guidelines; “Guideline to prepare school disaster management plan”, “Guideline to improve disaster education”, and “Guideline to develop response manual for teachers to ensure safety of pupils”. [3] School disaster management plan as developed above is made of six components as shown in Table 3.

Table 3 Outline of school disaster management plan in Japan

Item	Contents
Organization for Disaster Management	• DM organization in school
	• DM organization and system in cooperation with community
	• Gathering system of teachers
Safety inspections	• How to conduct inspections
	• Inspection of DM facilities
	• Inspection of evacuation route
Conducting disaster education	• Plan to promote disaster education
	• Plan to guide DM planning
Conducting disaster drill	• Evacuation route and evacuation center
	• Head counting
	• Plan to guide disaster drill
Emergency communication system	• Contact to teachers
	• Contact to parents (Handover of students)
	• Contact to related organizations
Procedure in case school is used for evacuation center	• Procedure to open school facilities
	• System to support evacuation center

A comparison between civil defense plan for school in Turkey and school disaster management (DM) plan in Japan is shown in Table 4. Principles to develop school disaster management plan in Turkey is 1) to introduce disaster response and 2) to introduce pre disaster preparedness. Disaster education in classroom is handled in WG 2 in the project.



Table 4 Comparison between civil defense plan and school disaster management plan

	Turkey : Civil Defense Plan	Japan : School Disaster Management Plan
Purpose	Mainly to respond technological disaster, accident, nuclear war	To respond natural disaster such as flood or earthquake
Contents	Mainly disaster response procedure	Chronological description of actions before, just before, after disaster and recovery
Disaster response	Grouped by tasks	
Features	Civil defense expert in office takes lead	Respecting autonomy of school
	Define stock items in detail	Includes disaster drill and disaster education in different subjects
	Exercise drills for evacuation, first aid, and traffic accident	

3. Design of training program for school manager

As a next step, a team for school disaster management plan was formed in the project to demonstrate ideas of school disaster management plan and to develop training program for school disaster management.

3.1 Formation of Working Group 3 (WG3)

A team is formed as WG3 to promote school disaster management plan in May 2011, whose members are listed in Table 5.

Table 5 Member list for Working Group 3 (Initial member)

Organization	Position
MEB	General directorate of secondary education
MEB	Directorate of in-service training
MEB	Civil defense expert
MEB Ankara provincial office	Civil defense expert
Ankara city elementary school	School master
AFAD	Director of training center
AFAD	Staff of training center
Gazi university	Advisor (Former director of General Directorate of Disaster Affairs of Ministry of Public Works)
Gazi university	Dr. (Former staff of General Directorate of Disaster Affairs of Ministry of Public Works)

3.2 Presentation at İstanbul province

A session for presentation to demonstrate school disaster management planning was held at teachers' training center in Istanbul on May 2011 inviting 300 audiences from provincial; education officers and school masters of elementary Schools in pilot provinces. Methodology to develop school disaster management plan based on discussion at WG 3 was presented.

3.3 Meeting for school disaster management plan development

A total of ten meetings to develop school disaster management plan was held inviting members from WG 3 at MEB in service training directorate on weekly basis from June 2011 to September, covering topics as listed in Table 6 using video meeting system between Japan and Turkey.



Materials for the meeting was translated to Turkish and distributed to the audience before the meeting. Presentation at the meeting was made by translator in Turkish. Presentation of school disaster management plan in Japan was made in the first half of the meeting, and discussion on possible adaptation to Turkey was made among audience. Home work was given to audience in case discussion was not fully made. All meetings were made using video streaming service on internet, and made available to MEB members as live or recorded video.

Table 6 Topics covered in school disaster management plan development meeting

No	Date	Topic	No. of participants		
			On site attendance	Real time online viewer	Recorded video viewer
1	8-Jun-2011	Preparedness	10	4	41
2	8-Jun-2011	Safety Inspection	13	12	29
3	15-Jun-2011	Disaster Education	11	26	17
4	22-Jun-2011	Emergency Response	6	11	9
5	29-Jun-2011	Evacuation Center	7	4	6
6	6-Jul-2011	Re-opening School	9	1	5
7	13-Jul-2011	Psychological Care	6	2	4
8	20-Jul-2011	Disaster Support	0	0	22
9	27-Jul-2011	Disaster Profiling	0	0	9
10	14-Sep-2011	Discussion	4	--	--

3.4 Naming and system of plan

Naming of school disaster management plan in Turkey was discussed with counterparts in Turkey and it was named as “School Disaster and Emergency Management Plan”, in compliance with national earthquake preparedness strategic action plan publicized on August 12, 2011. Framework of School Disaster and Emergency Management Plan is shown on Table 7 as agreed with WG 3.

Table 7 Framework of school disaster and emergency management plan

Level	Institution	Responsibility
National level	AFAD	Disaster, Emergency and Civil Defense Services Law (Law #7269)
		National earthquake preparedness strategic action plan
All schools in Turkey	MEB	Guidebook to develop School Disaster and Emergency Management Plan for natural disaster
Individual school	School	School Disaster and Emergency Management Plan for natural disaster

3.5 Training program for school masters

Training program for school masters was programmed dealing three topics as shown in Table 8, based on discussion in orientation meeting.

Table 8 Training program for school masters

Topic	Form	Hours	Lecturer
Disaster Preparation (Before, During and After)	Lecture	2	Gazi University Dr.Bülent Özmen
School Disaster Management Plan (Preparation of School Disaster Management Plans)	Lecture	4	Gazi University Advisor Oktay Ergünay
	Workshop	8	Hyogo prefecture



4 Master teacher training for school masters

MEB conducted training to develop school disaster management plan three times for 80 elementary school masters and provincial officers and once for secondary school masters in ten provinces affected by the 1999 Marmara and Düzce earthquake. Trained teachers developed school disaster management plan and presented it at contest. Working group improved guideline according to the lessons learned from every disaster drill.

4.1 First training for master teacher

First training was conducted from October 24, 2011 to October 30, 2011 with following contents by WG3.

4.1.1 Disaster Preparedness

Dr. Bülent Özmen at Gazi University gave lectures on preparedness for disaster to demonstrate the needs for pre disaster preparedness to reduce disaster for Turkey where post disaster response was traditionally dominant. The lecture covers topics such as disaster response organization, disaster in Turkey, disaster management plan, evacuation, disaster response in chronological order.

4.1.2 Preparation of the school disaster management plans

Advisor Oktay Ergünay at Gazi University gave lectures to demonstrate ideas for disaster management plan, and needs to develop disaster management plan which effectively works during disaster. Lecture topic covered terminology for disaster management, basic ideas for school disaster management and its needs, and its development procedure. Special emphasis was made to develop plans on voluntary manner, rather than top down manner, and to implement the plan and to improve it continuously.

4.1.3 School disaster management plan

Short term experts made of teachers from Hyogo prefecture, Japan held workshop to demonstrate school disaster management plan in Japan and conducted exercise as described in Table 9. Drill was conducted at 80 schools each to let trainees recognize different team composition depending situation at school.

Table 9 Scenario for exercise in first training for master teacher

Scenario location	School where trainees work.
Scenario disaster	Major earthquake happens. School buildings did not collapse, however, may collapse if major after shock happen. Students needs to evacuate to safe place immediately. Windows glass is shattered on pre-defined evacuation route, and a fire broke out in school building, leaving one wounded student behind.
Disaster drill	To organize teams for initial response, defining type of team and allocated number of teachers.

4.2 Second training for master teachers

Second training for master teachers was conducted at MEB's teachers' training center in Yalova province from January 23rd to 25th, 2012, targeting master teachers from teachers in general, school masters, and provincial education officers, focusing school disaster and emergency management plan development.

During this training, distribution of guidebook for school disaster and emergency management plan development was announced as part of disaster education handbook. The document was named as a "guidebook" through discussion in WG3, though "manual" development was initially intended.

The contents provided at the training was shown in Table 10. For master teachers in general, course no. 1 and 2 was given. Additional courses no. 3 through 5 were given to school masters and provincial education officers, as they will be leading development and implementation of the plan. In session 1 and 3, first draft of guidebook for school disaster and emergency management plan development and civil defense plan annually made was used to discuss school disaster and emergency management plan.



Table 10 Contents and lecturer at second training for master teachers

No	Contents	Lecturer
1	Introduction of school disaster and emergency management plan and role of master teachers	Gazi university
2	Case study of school disaster management plan in Japan	Hyogo prefecture education board
3	Preparation of school disaster and emergency management plan and group session	Gazi university, Middle east technical university (METU)
4	Current laws and regulations regarding implementation of school disaster and emergency management plan	Directorate of in-service training, MEB
5	Status of disaster and emergency situations and corresponding response actions	Ankara provincial education office, MEB

WG 3 evaluated the training as follows.

- Trainees understood that school disaster and emergency management plan focus on preparedness and localization.
- Working group confirmed the structure and contents of the guidebook, and its improvement.
- Each pilot schools will develop school disaster and emergency management plan, using check sheet as shown in Table 11.
- Evaluation and feedback of plan to be developed by 80 pilot schools is necessary for the school disaster and emergency management plan. Institutional arrangement is necessary as well.

Table 11 Items in check sheet

Item	Questions	Item	Questions
Hazard identification	Natural disaster history around school	Preparedness	Evacuation route in school
	Definition of natural disaster for plan		Annual plan for disaster education
	Hazard map around school		Annual plan for disaster drill
Preparedness			Training plan for teachers
	Safety and risk location map in school facility	Response plan	Disaster scenario
	Daily check list		Initial response
	Emergency stock list		Emergency response
	Fixing facilities		Student hand over
	Disaster response team formation		Contact method
		Recovery plan	School reopening plan
			Psychological care

4. 3 Contest on school disaster management

Working group planned to program contest, which was not initially planned in the project, on school disaster management for following purposes.

- To raise awareness for disaster education and to promote incentives of master teachers.
- To include good practices into handbook.
- To select candidate teachers who receive training in Japan with objective criteria.



- To check behavior change after training.

Pilot schools prepared each output for the contest from June to September 2012. Presentation from each output for the contest was planned to be during the period of the third master teacher training in September 2012. From output 3, school disaster management plan developed by pilot schools was the subject for the contest.

Working groups defined evaluation criteria and selection procedure of good practice for the contest. A total of 45 schools out of 80 pilot schools submitted the plan, and they were evaluated according to the defined criteria.

4. 4 Third master teacher training

Third master teacher training was made from September 10th to 13th, 2012 targeting school masters.

A total of 100 master teachers from school master and provincial education offices were divided into three groups to discuss their efforts and issues during their plan development. Members from WG3 worked as facilitator of discussion group. The results were presented at the end of the workshop and discussed in WG 3. Following issues were raised as feedback as a result of the training.

- Action plan and annual activity plan
- Participation of parents and students
- Dissemination to teachers in pilot school and other schools
- Seismic retrofitting of school buildings
- Needs for smaller volume or summary version of plan

4. 5 Secondary school teachers' training

Trainings was conducted from September 12th to 14th, 2013 at MEB's training center in İstanbul targeting twenty school masters and teachers in total from ten pilot provinces, selected by directorate of secondary education with a program as shown in Table 12. Schools in the center of province and close to pilot elementary school were selected. Questionnaire to trainee showed that most of them understood the lecture and were satisfied because of practical contents which can be used afterwards.

Table 12 Training program for secondary school teachers'

Date	Time	Contents	Lecturer
Sept. 12, 2013	09:00-09:50	Opening, orientation	MEB
	10:00-11:30	Basic knowledge of disaster management 1 & 2	Gazi university
	12:30-14:00	Basic knowledge of disaster management 3 & 4	Gazi university
	14:20-15:10	School disaster and emergency management plan	Gazi university
Sept. 13, 2013	09:00-10:30	School disaster and emergency management plan guidebook and examples	Gazi university
	10:40-11:30	Discussion on school disaster and emergency management plan examples and future activities	Gazi university
	11:40-12:30	Disaster education at high schools in Japan	JICA project team
	14:00-15:30	Disaster education at school and its theory	Boğaziçi university
Sept. 14, 2013	09:00-09:50	Lecture on town watching	METU
	10:00-11:00	Exercise on town watching	METU
	11:10-12:00	Presentation & discussion	METU
	12:00-12:30	Evaluation, closing	MEB



5. Development and improvement of school disaster and emergency management plan at pilot schools through disaster drill

5.1 Demonstration class and visiting provinces for model class

Just after the second master teacher training, during the period from February 6th to February 9th, 2012, project members visited pilot provinces for demonstration class and model class. At the same time, project members made discussion between school administrators, master teachers, and some teachers of demonstration schools, basically recommended per province and were regarded as the most active schools among eighty pilot schools.

From the WG 3, civil defense experts from MEB and MEB Ankara provincial office, school master from Ankara elementary school and a Japanese expert joined the discussion. Discussion was made with eleven schools for demonstration, covering feedback issues to the guidebook for school disaster and emergency management plan, and confirmation of philosophy regarding plan development.

5.2 Visiting pilot provinces to monitor disaster management activities

Pilot schools conduct disaster management activities according the school disaster and emergency management plan. Visit to pilot schools was made with staffs from provincial education office in March 2013 to confirm development status of school disaster and emergency management plan and to monitor its related activities.

Disaster management activities such as evacuation drills for earthquake and fire, firefighting drill, student handover drill with parents, and emergency response drill by teachers were conducted in pilot schools. Drills were conducted not only by student and teachers, but also by parents, AFAD provincial office, police, and fire fighters during visit and during normal time. Some schools make discussion with PTA or related organizations, and neighborhood schools during planning stage of disaster management activities, and even conduct questionnaire to evaluate disaster management activities.

Disaster management drills such as students' hand over drill was conducted in schools, where teachers received training in Japan in January 2013, referring similar practice in Japan. It is regarded as an example of results of training conducted in Japan.

At schools visited, master teachers developed school disaster and emergency management plan using guidebook, sometimes through consultation with neighborhood schools parents, or related institutions. Plan in some school describes responsibility of parents in plan or deals with two levels of disaster. Some schools conduct non-structural measures to improve seismic safety. Annual activities plan was prepared as well.

Interviews to teachers shows that guidebook was effective to develop plan, understanding local situation. Points to improve guidebook are the needs of annual activity plan and evaluation, and addition of examples for school disaster management activities. These points were reflected in the final version of guidebook through discussion with working group.

5.3 Development and improvement of school disaster management and emergency plan guidebook

Guidebook had been revised through activities in pilot provinces, feedback from schools, and discussion in working group 3. Table of contents of final version of guidebook is shown in Table 13. Guidebook emphasizes preparedness, adaptation to local situation, annual activity planning, and improvement via evaluation after implementation. The experience and lessons gained during development of plan and guidebook will be used for further dissemination in other provinces.



Table 13 Table of contents of guidebook

Section	Topic	Page
1	INTRODUCTION	1
1.1	Purpose and Definitions	2
1.2	Fundamentals of Planning	3
1.3	Institutional Organisation	6
1.4	Duties, Authorities and Responsibilities	10
1.5	Use of budget and other Resources	12
1.6	Cooperation and Coordination	12
1.6.1	with government institutions and organisations	12
1.6.2	with private sector and voluntary organisations	13
2	BEFORE A DISASTER	14
2.1	Prevention and Risk Reduction	14
2.1.1	Purpose and scope	14
2.1.2	Identifying all hazards and risks in and around the school	14
2.1.3	Identifying shortcomings and priorities with available means and resources	15
2.1.4	Verifying school disaster preparedness	15
2.1.4.1	Daily preparations and inspections	15
2.1.4.2	Periodical safety inspections	16
2.1.4.3	Checking installations like fire extinguishers, fire hydrants, fire detectors and electrical infrastructure	16
2.1.5	Preparation and implementation of prevention and risk reduction strategy and action plans	16
2.1.6	Updating activities in the light of lessons learned from implementation, drills and actual experiences	16
2.2	Preparation	17
2.2.1	Purpose and scope	17
2.2.2	Preparing, promoting and proliferating disaster preparedness and response plans, and personnel education, briefing and awareness-raising	17
2.2.3	Preparing sub-plans like early warning, evacuation, shelter organisation, rescue and first aid	18
2.2.4	Developing and improving training programmes and materials for students, parents and remaining staff without active roles	18
2.2.5	Cooperation with headmen and municipalities, coordination with district or provincial disaster and emergency plans	18
3	DURING A DISASTER	20
3.1	Response	20
3.1.1	Purpose and scope	20
3.1.2	Gaining information about the extent and impact of the event/incident..	20
3.1.3	Dispatching response teams	20
3.1.4	Deciding on evacuation or shelter-in-place depending on the disaster	20
3.1.5	Asking the assistance of responsible institutions and organisations	21
3.1.6	Notifying authorities and parents	21
3.1.7	Protecting and providing emergency needs of students, teachers and staff	21
3.2	What to do in response to Various Disasters	22
3.2.1	General	22
3.2.2	During an earthquake	22
3.2.3	During a fire	23
3.2.4	During floods, landslides, storms, tornados, avalanches and tsunamis	24
3.2.4.1	Floods	25
3.2.4.2	Landslides	28
4	AFTER A DISASTER	28
4.1	Recovery	28
4.1.1	Purpose and scope	28
4.1.2	Administrative recovery	28
4.1.3	Educational recovery	28
4.1.4	Psychosocial recovery	28
4.1.4.1	Parent support	28
4.1.4.2	Student support	28
4.1.4.3	Teacher support	28
4.1.5	Physical/structural recovery of building and facilities	29
4.1.6	Reopening the school	29
4.1.7	Founding disaster museums	29
5	ANNUAL PLAN FOR DISASTER MANAGEMENT ACTIVITIES	32
5.1	Evaluating and Improving Disaster Management Education and Drills	33
5.2	Planning and Conducting Trainings as well as Drills	34
6	EVALUATION OF THE PLAN	36
7	CONCLUSIONS AND ASSESSMENT	38
8	ANNEXES	39
Ann.1	Structural and Non-Structural Activities	40
Ann.2	List Of Government Institutions And Organisations In The Event Of Disasters And Emergencies That Exceed Capacity	42
Ann.3	All Hazards And Risks In And Around The School.	43
Ann.4	Risk Assessment And Priority Identification Table	48
Ann.5	Course Of Action Depending On Disaster And Emergency	48
Ann.6	Maps That Should Be Included In The Plan	49
Ann.7	Sample Form Of Annual Plan For Disaster Management Activities	50
9	GLOSSARY	51
10	REFERENCES	73

6 Dissemination of the products of project

JICA project was concluded in 2014. Today, AFAD is implementing a project “Disaster Ready Turkey” targeting schools, families, work place, and youth & volunteers to develop disaster management plan for each level in whole nation, using the experience gained through JICA project. [4]

7 Lessons from project

Lessons learned from the project are as follows.

1) Forming a multisector team and establishing communication means at initial stage.

As disaster management is cross a cutting issue, participation of various organizations was a key to success. It is important to find appropriate persons and to form a team at the early stage including university researchers with good knowledge of earthquake disaster, national disaster management agency, civil defense responsible for disaster management plan, besides official counterpart MEB.

Besides, establishment of communication means between team member and counterparts at the early stage during the absence of Japanese members was an important factor that enabled effective communication. Plus, local assistant played an important role as a translator and a coordinator.

2) Demonstrating essential ideas of examples in Japan with sufficient time and reference materials.



Due to the difference of society and culture between two countries, good practices in Japan cannot be transferred directly to Turkey. Instead, it was necessary to extract essential ideas from examples in Japan and demonstrate them to Turkish side. A series of lectures taking up one topic at a time were delivered via video conference with assistance of knowledgeable translator and providing translated handouts and reference materials in advance. This way of knowledge transfer was effective to overcome distance, language, and cultural difference.

3) Internal discussion in Turkish side to develop disaster management plan adapted to local context.

During initial lectures, expression of opinion from all audience was encouraged to produce an organized output to proceed discussion smoothly. As sufficient input was given through lectures to the counterpart team, the team started discussion internally as how to adapt local context in Turkey. This way of knowledge transfer promoted self-confidence of counterparts and led them to the development of guidebook by themselves.

This process of internal discussion helped grow project ownership among Turkish counterparts. As the team recognized the importance of adaptation to local context, they stressed it during the training in pilot provinces.

4) Showing only principles to encourage teachers to develop locally adapted plan to avoid dead copy plan.

To develop locally adapted plan, it was necessary to encourage teachers to think themselves adaptation. For this purpose, working group decided that guidebook includes only principles avoiding to include explicit sample of school disaster management plan to avoid dead copy plan.

5) Understanding and utilizing of existing disaster management framework under AFAD and MEB.

As Turkey had a long tradition of civil defense framework, plan, and stuffs, development of school disaster management plan was made using existing framework at a minimum change. In the beginning of the project, AFAD was created recently merging civil defense, and new law on disaster management was under preparation. This situation was favorable to the project to cooperate from both side. On the other hand, in service training department in MEB has been working for civil defense plan. Making best use of existing civil defense framework, i.e., budget, human resources, and hierarchy, had led to the smooth acceptance of school disaster and emergency management plan. To transfer and institutionalize the product of the project, it is effective to study, understand, and utilize existing framework of disaster management, rather than build it from the scratch.

At the end of the project, it was necessary to study dissemination mechanism with MEB and AFAD, which requires institutional, legal, budgetary, and organizational arrangement together with training program, implementation, and evaluation. In order to achieve project purpose and overall goal, it is necessary through survey of existing system, and good communication with stakeholders at the early stage of the project.

6) To include annual activity plan to ensure sustainability.

During the training, many teachers pointed out the needs to guarantee sustainability of the plan. To meet this demand, annual activity plan was included in school disaster and emergency management plan.

8. Acknowledgements

This activity was implemented as a part of JICA project “School-based disaster education project”.

9. References

- [1] Kuterdem K, (2010): A new disaster management structure in Turkey. *1st Meeting of the European Forum for Disaster Risk Reduction (EFDRR)*, 6-8 October 2010, Stenungsund, Gothenburg, Sweden.
- [2] Cabinet administration office: Disaster management in Japan. www.bousai.go.jp/1info/pdf/saigaipanf_e.pdf
- [3] Ministry of education, culture, sports, science and technology, Japan (1996): On enhancement of disaster prevention system of school. http://www.mext.go.jp/a_menu/shisetu/bousai/06051221.htm (In Japanese)
- [4] AFAD: <https://www.afad.gov.tr>