

Implementing Capacity Building of Resource Persons and Teachers for Earthquake Preparedness in Schools in Nepal

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SUMMARY:

Schools not only provide opportunities for formal education, but also for social development and personal growth. They also provide shelters to surrounding community members. The question then arises, are all of these schools safe? It's a big challenge for country like Nepal. Government of Nepal, UNICEF and National Society for Earthquake Technology conceptualized the program for Earthquake Preparedness in Schools to improve the seismic performance of both school buildings and the management system of schools in Nepal. The idea was on one hand to explore replicable potential of the methodologies and experience to the entire country by piloting the program in Kathmandu valley by developing methodology to institutionalize Earthquake Preparedness in Schools. This paper describes the lack of earthquake preparedness in Nepalese schools, past and need for action as well as on-going efforts and activities that are institutionalizing of the earthquake preparedness programs in the schools of Nepal.

Keywords: Earthquake preparedness in schools, Institutionalization, Training Strategy

1. INTRODUCTION

Most of the public schools of Nepal have inadequate physical facilities and are vulnerable to even a medium level of seismic shaking (NSDRM,2009). A study done by National society for Earthquake Technology (NSET) in 1997-98 revealed that the majority of the school buildings within Kathmandu Valley did not comply with the requirements of the building code. 33% of them were structurally dilapidated and needed immediate replacement, and another 60% of the public school buildings were found to be highly vulnerable to even a moderate shaking of earthquake making their use risky.

Tremendous of efforts have been made through School Earthquake Safety Program (SESP) not only because the school buildings are vulnerable but also in consideration of the multiplier effect on the school community, using the schools as a base to spread the program further afield. Obviously it cannot be successful unless the government takes the lead in institutionalizing the concept of school earthquake safety. All the 33,000 schools of Nepal should be covered within SESP. NSET has been implementing School Earthquake Safety Program since 1997. During this period of 14 years SESP has reached to about 300 schools of different parts of the country with earthquake preparedness message and trained 200 teachers in Kathmandu Valley and about 1,500 teachers all over the country on School Earthquake Safety (SES). SESP has not been a priority of even these trained teachers as it has not yet been institutionalized.

NSET along with UNICEF Nepal under the coordination of Department of Education (DOE) are working to enhance the institutional capacity of Department of the Education, Regional Education Directorate (RED) and District Education Offices (DEO) to institutionalize "Earthquake Preparedness in Schools". The ultimate goal of the proposed program is to disseminate earthquake safety message to all the 33,000 schools of Nepal with preparedness for emergencies through a defined mechanism.

2. RATIONALE

It is assumed that a large single earthquake could severely affect around 1/3rd area of the country. It could have an intensity of up to IX on 25% of the affected area. Should this shaking occur during school hours then, it may cause more than 110,000 deaths of school children alone, and about 600,000 serious to moderate injuries (NSET/GFDRR, 2012). Potential casualties of school children in the different intensity affecting areas, has been calculated by NSET as presented in the following table.

Table 1: Estimated casualty at schools during earthquake scenario (NSET/GFDRR, 2012)

Earthquake Affected Areas	Death		Seriously Injured		Slight to Moderately injured		Uninjured		Total
	Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage	
MMI IX Area	54272	8.30%	42452	6.50%	158168	24.08%	560119	61.12%	656843
MMI VIII Area	34925	5.30%	27258	4.10%	171764	26.15%	594660	64.45%	656843
MMI VII Area	22613	3.40%	17650	2.70%	181748	27.67%	616580	66.23%	656843
Total	111,809	5.70%	87,361	4.40%	511681	25.97%	1,771,360	63.93%	1,970,530

The scenario present here will be increased if there is lack of awareness among the students and teachers about earthquake safety. Even in low intensity earthquake the casualties increases due to rush during the shaking because with lack of knowledge, what to do during earthquake.

The conventional practice of post disaster response activities do not alone work to reduce the vulnerability. There has been a rather slow shift from post disaster response to disaster preparedness and risk reduction initiatives in the recent years. This needs to be accelerated to its maximum possible extent. Destruction of school buildings is not merely a physical loss. Though the loss is primarily associated with the life of school children and teachers, it also adversely affects all sectors of society starting from immediate and effective disaster rescue and relief. This is because the schools are largely considered emergency “safe?” shelters during disasters by default (UNCRD,2009). Education in Emergencies is yet another aspect of social life returning to normalcy. There is a great necessity of educating our school teachers and children to act safely during disasters, even in the present, highly vulnerable school buildings. Even in the current vulnerable scenario, we could reduce loss of life and property through safe procedures during disasters. Preparing a school earthquake response plan and conducting periodic drills will make the students and teachers safe during disasters. SESP covers all these aspects in a holistic approach.

3. RELATION TO NSDRM

This National Strategy for Improving Seismic Safety of Schools in Nepal (SSS) is a part of this program which serves to fulfill the directives set by the National Strategy for Disaster Risk Management (NSDRM) – the guiding policy of Nepal on disaster risk reduction. NSDRM reflects the concept of all the five priority actions of Hyogo Framework for Actions 2005-2015. It is a part of the education sector Strategy for addressing earthquake hazard as directed by the NSDRM.

4. OPPORTUNITY

Many of the seismically prone countries in the region have recently suffered from big earthquakes, but Nepal has remained untouched by major earthquakes since 1988 (NSET/GFDRR, 2012). It is the golden time for acting towards earthquake risk reduction before the next one hits because there will be nothing to do after the huge devastation and casualties.

Experiences have shown that there are many opportunities in awareness raising activities; many formal and informal occasions can be shaped into awareness-raising events. Direct tools of awareness-raising such as awareness campaigns, orientation and training programs, earthquake drills, seminars and other formal awareness activities are found to be effective.

5. THE PROJECT

This program “Earthquake Preparedness in Schools” was developed based on the series of meetings and interactions between UNICEF, DOE, RED and NSET to disseminate earthquake safety message among students, teachers and parents in a wider scale so as to cover all the schools (about 2100 schools) of entire Kathmandu Valley. In the context of similar nature programs being implemented by the DoE, NSET and UNICEF, the collaborative and coordinated approach to supplement each other’s activities combining the strengths, experiences and resources and implementing jointly will be a milestone in achieving common goal of school safety in the country. Resource centres shall be the main responsible agency for implementation of the program under the leadership of the Department of Education, and guidance of RED, and District Education Offices with technical and financial support from other potential institutions as required and available. DoE/RED/ and DEOs will be guiding, monitoring and evaluating the activities implemented at the resource centres as well as school level to ensure effectiveness and sustainability of earthquake preparedness activities.

During 2011, about 360 schools were covered in this program. The outcome of the program was to develop 24 Resource Persons as master trainers (instructor) through 5 days training for trainers who in turn using the same curriculum trained 720 teachers of 360 schools by organizing 3 day, 24 numbers of training programs. The trained teachers, in turn, organized earthquake awareness training /orientation programs and earthquake drills in each of the 360 schools bringing the message to 72,000 students and 3600 teachers.

6. COLLABORATION AND SUSTAINABILITY

Based on the present need of school safety and the experiences and lessons learnt during previous program implementation, the following process and capacity development strategies have been developed for the successful implementation of the program promoting the institutionalization and sustainability of earthquake preparedness in schools across all of Nepal. Resource persons shall be the main actors to conduct both resource centre level trainings to teachers and monitoring of the earthquake preparedness works conducted at the schools through the trained teachers.

For the sustainability of the results, the following institutional arrangements to be made by the DoE/RED: a) Nominate one focal and another alternate focal teacher in each school for disaster education; b) All schools must include earthquake drills in the School Improvement Plan (SIP); Earthquake preparedness activities are monitored through resource persons in the resource centre and at school level; c) Mandatory provision of reporting of the school level earthquake preparedness activities to resource persons by the focal teachers, to a District Education Office(DEO) focal person by the resource persons and to the RED/DOE by the DEO focal persons on annual basis; d) Some financial arrangement is also there for continuation of the activities on a regular basis.

7. OBJECTIVES

The main objective of the program is; the institutionalization of earthquake preparedness in schools of Kathmandu valley and develop methodology to cover entire schools of Nepal. Following are the specific objectives of the proposed program.

- a) Develop set of standard training materials for different target groups (Resource persons, Teachers, Students) on earthquake preparedness in schools;
- b) Develop set of master trainers on earthquake preparedness who will be capable of conducting training to teachers;
- c) Support DoE/RED for the implementation awareness raising among students, teachers and staff members of the schools on earthquake safety through simulation exercise;
- d) Facilitate on preparing training plans for the targeted schools in participation of concerned education personnel of the districts;
- e) Technically monitor Earthquake preparedness program in schools and prepare an evaluation report

8. METHODOLOGY

8.1 Coordination

The coordination mechanism proposed for the implementation of the earthquake preparedness and institutionalization of the earthquake drills in schools has been presented in the following diagram. From the diagram below, it is clear that the responsibility of the District Education Office and the Resource Centre is extensively important for the sustainability of the program. Likewise, a technical committee comprising of the Department of Education (DoE), National Centre for Education Directorate (NCED), Curriculum Development Centre (CDC), UNICEF and NSET has been proposed for the standardization and authentication of the training curricula and materials.

The proposed technical committee will be guiding the curricula development team through 3 meetings, one to define the content and process, another during the course of development of the materials and finally, after completion of the draft materials, for review and feedback. The DoE will be providing overall guidance and monitoring for the program.

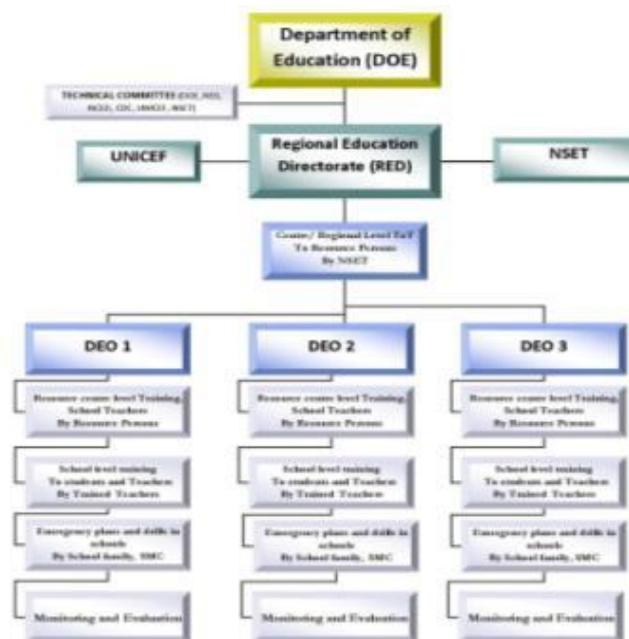


Figure 1. Flowchart for Implementation Earthquake Preparedness in Schools

8.2 Curriculum development

Standard curricula on Earthquake preparedness and drills for 5 days TOT and 3 days training has been developed by NSET and the draft as been sent to curriculum experts and to various organization works in related field. Feedback and comments gathered from concerned agencies that analyzed and filled the gaps if present. Developed curricula is indorsed by department of education for institutionalize that curricula as handbook for earthquake preparedness in schools.

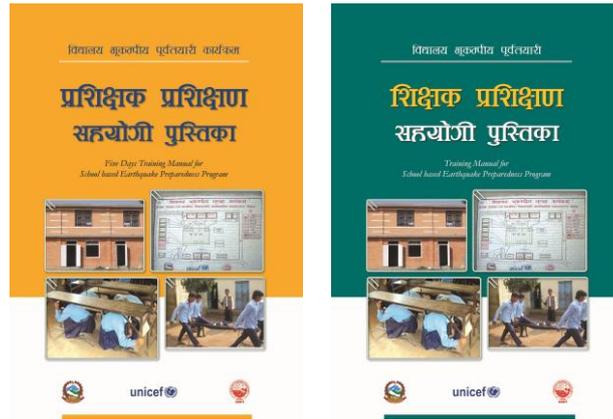


Figure.2 Trainer’s handbook and teacher handbook developed for program GON /UNICEF/NSET (2011).

8.2.1 Five days training for trainers on earthquake safety

The capacity of every individual is not enhanced without proper training. To enhance the capacity of the frontiers i.e. resource persons, NSET along with Government of Nepal and UNICEF conduct series of trainings to resource persons from Department of Education to institutionalize earthquake preparedness in schools. This program consists of first organizing training of trainers (TOT) in each development region of the country. The TOT would train 30 selected senior Resource Persons, 2 from each district of the Development Region. Five such TOT would create 150 Regional level Instructors. As the second step, the Regional Instructors so trained would organize 5- day District Level training programs, drawing all Resource Persons and School Inspectors as well as all technical staff with the DEO. Such training will be conducted in all 75 districts of the country. After the completion of the district level training, all Resource persons and other trained personnel of DEOs of the country would have been trained as instructors (NSET/GFDRR 2012). Realizing the fact that resource persons are the front liners who are in direct contact with the school and community. Knowledge dissemination takes place through them to the school teachers and from teachers transferred to the students. The trainings highlight the existing earthquake risk of Nepal and school vulnerability, need of Education in Emergencies, preparedness planning in schools and evacuation drill.



Figure 3. Participants of TOT during session GON/UNICEF/NSET (2011).

8.2.2 Three days training on earthquake safety

The teachers are considered as change agents in the school and the society hence they were asked to be involved in every activity. These trained instructors would provide 3-day training courses at the Resource Centre’s drawing 2 teachers from each school under the Resource Centres jurisdictions (NSET/GFDRR 2012). To make a class of 30 trainees, schools from under adjacent resource centres could be combined for the purpose of training. At the completion of this step, at least two teachers from each of the 33,000 schools of Nepal would have been trained in earthquake preparedness. The content of teachers training was earthquake risk, risk reduction measures, earthquake preparedness, and response planning of schools including earthquake drills and its procedures.



Figure 4. Participants of three days training during practical sessions GON /UNICEF/NSET (2011)

8.3 Orientation to students and teachers on earthquake safety

Lack of children’s knowledge and understanding on disaster risk will lead to very low level of disaster preparedness and increase casualties. In all societies, children represent hope for better future through formal and/or informal education. Schools, as one of the approaches for children’s education, are an educational institution to introduce knowledge, skills and attitude and positive change in behavior in disaster preparedness. Response to a disaster often depends on the strength of society as a whole. Only the whole community together with established common values can overcome the difficulties. So, in the event of a disaster, we always encounter the level of moral character, which often become an important factor influencing the early recovery. Through disaster education, we can help students to foster high moral sentiments: discipline, responsibility, compassion, pleasure in helping people and so on. All the students should be targeted in disaster education. Many disasters are consequences of the damage resulting from ignorance, which should be the content of disaster education.



Figure 5. Participants of teachers training on resource centre level GON /UNICEF/NSET

The students and rest of the school teachers who didn’t participate in teachers training will be oriented on earthquake safety in their respective schools from the trained teachers. The orientation programs will cover cause and effects of earthquake, earthquake preparedness (personal, school and family level), procedure of duck, cover and hold and drill procedures.

8.4 Emergency Evacuation Plans and drills in School

The trained teachers along with students, school management committee and some parents prepared Emergency evacuation plans of all the schools. Resource persons will provide necessary support and feedback towards preparation and finalization of the plans. After the finalization of the evacuation plan the plan is then indorsed by school management committee and signage describing the evacuation plan will be established on the front wall of the school. Student safety clubs in all school will be formulated. The schools will support the clubs for planning future activities. The club has

some facilities such as boards, chairs and tables to run the office. To conduct drill minimum required first aid items will be placed in all schools. The students club should take responsibility of maintaining the items and will use during further drills and in case of emergency. The drill consisted of keeping safer (Duck Cover and Hold), Safe Evacuation during emergency, Head Count after evacuation and Sharing and de-briefing.



Figure 6. Signage of Emergency Evacuation plan on front wall of school GON /UNICEF/NSET (2011)



Figure 7. Duck, Cover and Hold during Drill in school GON /UNICEF/NSET (2011)



Figure 8. First Aid during Drill in school GON /UNICEF/NSET (2011)

9. LESSONS LEARNED

There have been many initiatives from different institutions focusing on vulnerability reduction and enhancing school preparedness in recent years. From this year, Government of Nepal, Department of Education has been leading in improving seismic performance of school buildings but the coverage is only on 15 schools of the Kathmandu valley.

NSET has been implementing the School Earthquake Safety Program for the past 13 years, covering the entire spectrum of Earthquake preparedness, starting from risk assessment to retrofitting of school buildings, capacity building of students and teachers on earthquake preparedness, orientation to community and parents, training to local masons and conducting drills at schools on a pilot basis. During this period, NSET has trained almost 1,500 teachers over the country and about 200 teachers in the Valley. Since School Earthquake Preparedness has not been institutionalized, it has not become the priority of the trained teachers

In the year 2010, UNICEF supported NSET to carry-out school preparedness works in the schools of Kathmandu Valley. Under this program, refreshers (?) training through 2 sets of 2 days workshop were conducted for approximately 127 education personnel, teachers and resource persons from the Kathmandu Valley and implemented earthquake preparedness activities in 21 schools on a pilot basis. A total of 5,500 girls and boys participated in earthquake safety simulation drills from the selected 21 schools in this project. As a result of this project, all the stakeholders demanded the widening of coverage of such activities to the entire country, focusing more on the valley due to its higher vulnerability. Hence the project was able to raise awareness among stakeholders and create demand for such activities in wider areas.

Although a lot of efforts have been made on school safety, an asset to scaling-up the program, these initiatives need to be institutionalized and formalized and leadership must be taken by the Government. From the past experiences and lessons, earthquake preparedness in schools has been acknowledged as the first step towards making a nation earthquake safer. School preparedness and drills are feasible, and demand has been created. Many schools are now demanding orientation and drill training from NSET. This indicates that there is a huge potential for the success of such initiatives.

There are more than 2,300 schools (including private schools) in Kathmandu valley and 32,000 schools in Nepal. The School Earthquake Safety Program (SESP) must be scaled up to cover gradually all the school in Nepal and the ownership is to be gradually handed over to the Government authorities and schools of Nepal.

The exercise has convinced that establishing earthquake preparedness frameworks in all schools of Nepal is feasible on economic, social and technical grounds and hence needs to be replicated to schools of the country. This process needs to be replicated nation-wide. The following provides a conceptual schema.

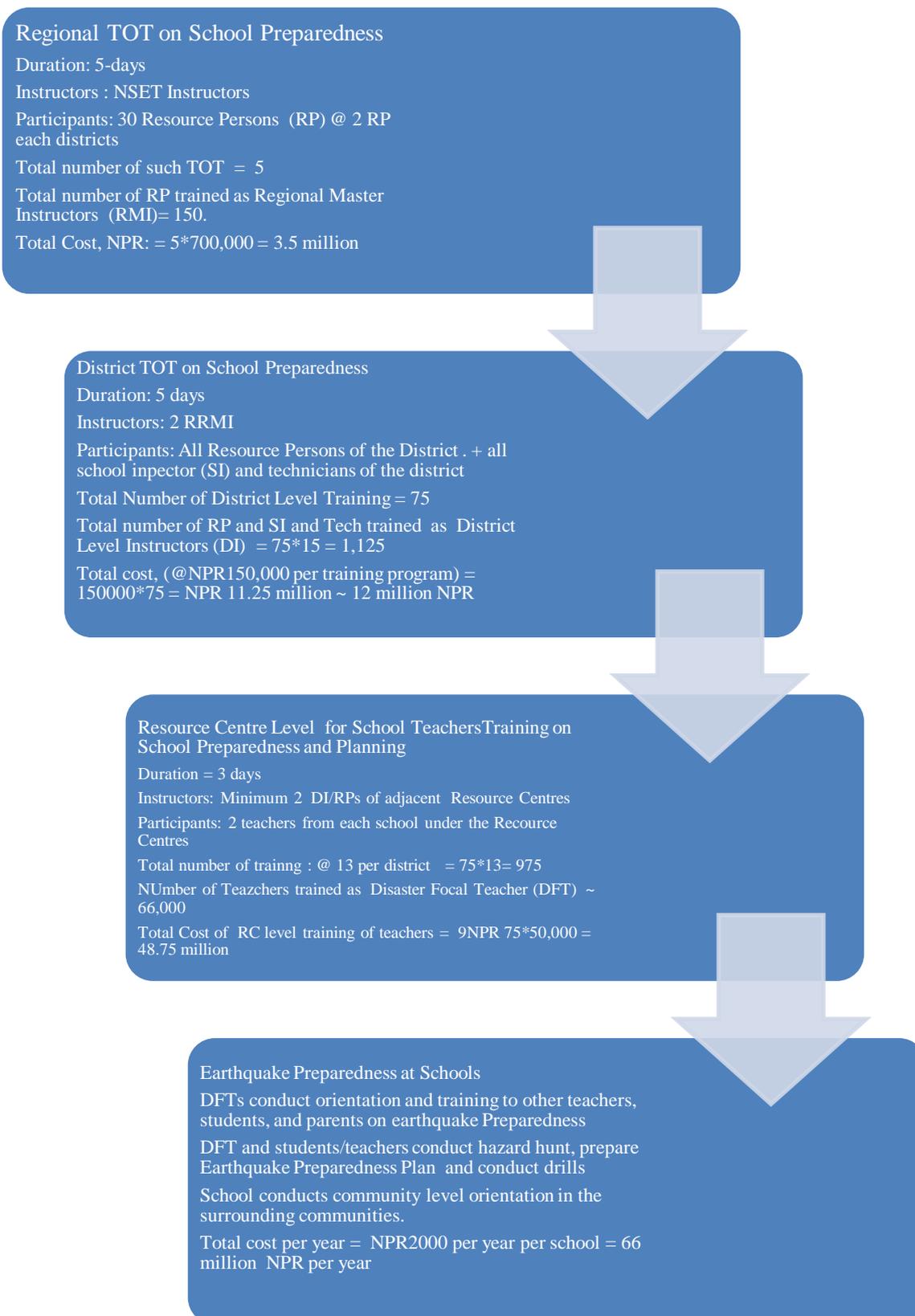


Figure 9. Role and cost calculations for implementing earthquake preparedness in all schools GON/NSET

10. CONCLUSIONS

Despite being prone to Earthquake, awareness is remarkably low in Nepal as indicated by the scarcity of educational materials and lack of proper mechanism for institutionalizes preparedness and mitigation measures. No special attention has been given to earthquake preparedness in school by Department of Education. The production of teaching material and enhance the capacity of resource person and teacher on earthquake preparedness will therefore play an essential part in the implementation of the Earthquake Preparedness in Schools in Nepal. The end beneficiaries are resource persons, school students, teachers, school management committee and community. The target group will benefit from institutionalize and stimulate preparedness activities to reduce the risks of earthquake.

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