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ECHO/ISDR good practices for resilient communities

Preparing for a major Earthquake: Experiences of Nepal (Case Studies for Good Practice Exhibit at WCDR)

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Despite being located in a highly seismic region, earthquake risk management (ERM) in Nepal started only after the massive destruction and loss of 721 human lives due to an earthquake in 1988. Several innovative initiatives on ERM were implemented in the country since then. Out of those, the initiatives implemented by the National Society for Earthquake Technology – Nepal (NSET) has been very effective especially due to their contribution toward raising the earthquake awareness of the general population as well as the awareness of the authorities. The following text aims to highlight some of the effective programs and activities on earthquake vulnerability reduction and preparedness.

1.1.1. School Earthquake Safety Program (SESP)

A study carried out by NSET in Kathmandu Valley in 1998 showed as much as 60% of the public school buildings in the valley being highly vulnerable to earthquakes not safe to use even in normal conditions. This situation urged NSET to implement vulnerability reduction programs in schools, which led to a pilot program for retrofitting one of the public schools in a rural area of Kathmandu valley in 1999. Since then SESP has become very popular, and so far implemented in more than 20 schools in different parts of the country. The objectives of the programs are: a) Identify and implement measures to reduce the vulnerability through retrofitting of existing buildings or construction of new buildings; b) Raise awareness on earthquake risks and preparedness for teachers, students, local and central government officials and the local communities; and c) Train local masons on earthquake-resistant building construction technology. This program is very successful in involving community participation in the activities and to raise the earthquake awareness of communities significantly. This community-based School Earthquake Safety Program (SESP) is now gradually turning into a national program.

1.1.2. Municipal Earthquake Risk Management Program (MERMP)

As a replication of the successes of past ERM efforts, especially the Kathmandu Valley Earthquake Risk Management Project (KVERMP) implemented during 1996 –2000, NSET has been implementing Municipal

Earthquake Risk Management Program (MERMP) in urban areas of Nepal which aims at reducing the earthquake risk of Nepalese cities. Program activities consists in developing earthquake damage scenarios of the cities including building inventory surveys, preparing action plan for earthquake risk management, construction or retrofitting of school or other public structure as demonstration of feasible mitigation measures, awareness-raising, training, capacity building and institutionalization. The program was started with a cooperation agreement between NSET and a few municipalities, and now the program is being implemented in partnership with local government and line agencies.

1.1.3. Seismic Vulnerability Assessment of Critical Facilities and Lifeline Structures

For the first time in the region, NSET conducted a seismic vulnerability assessment of all major hospitals of Nepal during 2000-2003. Structural and non-structural vulnerabilities of 14 major hospitals of Nepal were assessed and mitigation and intervention options have been identified and planned for implementation. The methodology developed during the study is now published as “Guidelines for Seismic Vulnerability Assessment of Hospitals”.

A study for the assessment of seismic vulnerability of drinking water supply system of Kathmandu City was undertaken in 2002. The assessment was carried with a practical methodology developed during the study and the results are presented in the form of network system damage scenario. Optimum routes for the most expedient restoration and possible emergency evacuation points in view of the water demand are suggested.

1.1.4. Public Awareness Program

Public awareness component is inherently incorporated in all the activities and programs of NSET. Almost all the activities are shaped into awareness-raising opportunity. As a great awareness-raising event, Nepal observes annually the Earthquake Safety Day on 16 January as commemorating day of the Great Nepal-Bihar Earthquake of 1934. This day is observed with a host of activities such as school children essay, art and poetry competitions, national meeting and rally, symposium, earthquake safety exhibitions and the popular **shake table demonstration**. Apart from this, NSET conducts orientation lectures to various local and international institutions upon their request, free consultations in the form of workshops and mobile earthquake clinics are provided to the potential house owners who are planning to construct new house.

All these programs have significantly contributed to raising earthquake awareness, enhancing local capacities and preparing the communities to cope with earthquake emergencies. A large cross-section of the country, starting from communities at the bottom to the authorities at the top is being successfully drawn into these efforts on earthquake risk management. Wide collaboration with several national and regional institutions helped in effectively implementing the programs and many international agencies such as USAID/OFDA, SEARO/WHO, and WHO Nepal provided financial support for the implementation of the programs.