



Training Workshop on Rapid Structural & Non-Structural Risk Assessment of School Buildings

21st – 24th January, 2020

Program Note

Background

The South Asian Region is highly vulnerable to the impacts of hazardous events. The region frequently suffers from natural hazards including earthquakes, cyclones, floods, landslides, and droughts. This region is also considered to be one of the most seismically active regions in the world. The Himalayan belt extending across Afghanistan, Pakistan, India, Nepal, and Bhutan is identified as a "very high seismic hazard area" in the region. In addition to the Himalayan seismic belt, a large part of Mid-Western Pakistan, some parts of Western India, isolated pockets in Central India, and the Chittagong Hill Tract district of Bangladesh are also considered to be at high risk due to earthquakes. Also, the most vulnerable population lives in the Ganges–Brahmaputra–Meghna (GBM) river basin, which is the world's largest river basin and is shared by four South Asian countries Bangladesh, Nepal, India and Bhutan.

At global level, Sendai Framework for Disaster Risk Reduction identifies "Substantial reduction of disaster damage to critical infrastructure and disruption of basic services, among them health and educational facilities, through developing resilience" as among its main targets by 2030.

Schools are critical infrastructure where children are expected to spend majority of their time. Natural hazards and climate change events have a devastating effect on children's education. These events can cause direct harm to children, teachers, and the school community, damaging or destroying school infrastructure. A safe and secure environment is a prerequisite for effective teaching and learning. Thus, ensuring safety of children, teachers and staff members during disasters is necessary.

A hazard poses different types of damages to the school buildings. These damages can be structural and non-structural. Structural components of the building are the load bearing system (i.e. vertical and lateral force resisting systems) like walls and building frame. The non-structural components are the architectural elements and building contents which do not affect the integrity of the structural support system like false ceiling, windows, fixture, shelves, etc. During disaster, damage to structural components can render whole building inoperable but in case the structure is intact and the non-structural components are damaged (falling hazards), the building cannot function when it is most needed. In case of a school building, safety of children during disaster and education continuity post



disaster is important. Also, many times schools act as temporary emergency shelters. Thus, as a preparedness measure, assessment and mitigation of structural and non-structural hazards play a key role in maintaining the functionality of school building during any disaster.

Developing structural and implementing non-structural risk mitigation strategy for school also addresses the component of local DRR strategies of the target E of the SFDRR “Substantially increase the number of countries with national and local disaster risk reduction strategies”

The training aims to highlight the need for robust school infrastructure and understand how different hazards can affect the infrastructure and hamper education.

Objectives

At the end of the training the participants would be able to:

- List structural and non-structural elements and its hazardous impact on the building
- Assess structural and non-structural vulnerabilities in the school building
- Acquire skill to conduct non-structural risk mitigation of the components
- Understand skill to reduce impact of non-structural elements (i.e. falling hazard) that can cause personal injury or loss of function, if damaged.

Expected Outcomes

The programme would be able to develop capacity of regional stakeholders towards understanding of structural and non-structural elements and acquire skill to develop resilient school infrastructure.

Target Audience

Senior administrative officers from education ministry & department, disaster management authorities and engineers from education ministry & department.

Organizers

- SAARC Disaster Management Centre (IU); and
- GeoHazards Society, India