Concept note

A 4-days Residential Training programme on **Seismic Risk Assessment and Rehabilitation of School Buildings** is scheduled from **3rd Aug – 6th Aug 2022**.

Subject	Seismic Risk Assessment and Rehabilitation of School Buildings		
Target Participants	District Project Engineers (DPE), Technical Resource Person (TRP)		
Date of Training Programme	3rd -6th Aug 2022	**Location**	GIDM, Gandhinagar
Time	10.30hrs – 18.00hrs	**Coordinator**	Piyush Ramteke, Programme Manager, GIDM
Expected no. of Participants	33	**Contact**	+91-9662007130 rspm1-gidm@gujarat.gov.in

1. Aim

To develop the capacities of target participants by linking their roles in DRM activities with field level actions using appropriate technologies considering global perspectives and action at local level

2. Background

Gujarat is located in the Himalayan Collision Zone where Indo-Australian tectonic plate slides under Eurasian Plate causing active fault lines beneath. The Vulnerability Atlas of India (BMTPC, 2019) classifies Gujarat into four classes based on a base of 15.08 million buildings recorded in the 2011 Census and BIS standard (IS: 1893 1984). As per the classification 18.3% of the total area in Gujarat is at a very high risk for earthquake, i.e. seismic zone V, 13.4% area of the state is at a high risk for earthquake, i.e. seismic zone IV, another 67.4% area of the state is at a moderate risk for earthquake, i.e. seismic zone III and only 0.9% area of the state is at a low risk for earthquake, i.e. seismic zone II.

As per the Vulnerability Atlas, the area in Gujarat that falls into seismic (MSK Intensity Scale) zones is as below:

- Very High Risk: >MSK IX (18.3 percent)
- High: MSK VIII (13.4 percent)
- Moderate MSK VII (67.4 percent)
- Low Damage: less than or equal to MSK VI (0.9 percent)

The 2001 Bhuj Earthquake caused large scale damage and destruction to residential buildings. In addition to the buildings that collapsed, over a million buildings were damaged. Large scale recovery programme was launched after the earthquake to rebuild the city with the philosophy of risk informed sustainable development and build back better.

However, in recent times rapid urbanization coupled with economic growth has fueled the possibility of negligence in risk informed construction practices. To address the issue, it

is essential that the built environment is assessed. Seismic risk assessment of buildings is required to understand the risk that a community, town or city is faced with, from the standpoint of collapse of houses during the expected earthquake shaking in the region of the site.

Rapid Visual Screening (RVS) is a quick method of seismic risk assessment of buildings. The idea behind the development of this method is to minimize (and thereby save) the time, money and technical human resources required for assessment of large stock of existing buildings. This method can be used before and after the earthquake. Before the earthquake, the buildings can be assessed for addressing the need to strengthen it from seismic risk. After the earthquake, buildings can be assessed to perform necessary repair, restoration and retrofitting.

Priority-1 of SFDRR focuses on Understanding Disaster Risk. The understanding of seismic risks in buildings is an essential part of overall Disaster Risk Management framework.

SDG-11: Sustainable Cities and Communities lay emphasis on building resilient communities through sustainable development.

Agenda-1, 6 and 8 of Hon. PM 10 Point Agenda focuses on disaster risk management in all sectors and building local capacities and learning from the past disasters.

3. Objectives

i. To develop a sound understanding about Earthquake Risk and Governance
ii. To enhance the knowledge of engineers in damages caused to buildings in seismic risk prone areas.
iii. To encourage seismic risk assessment of buildings in hazard prone areas
iv. To promote identification of unsafe buildings in hazard prone areas
v. To encourage strengthening of existing buildings to earthquake resistant buildings through retrofitting

4. Why Training on Seismic Risk Assessment and Rehabilitation of Buildings ?

i. Around 31.7% of area in Gujarat falls in seismic Zone- V and IV, which comes under Very High Risk Zone.
ii. Lack of estimation of seismic risks in buildings
iii. Lack of awareness among various stakeholders about the seismic risk
iv. Inadequate provision for seismic risk assessment of buildings
v. Inadequate monitoring and enforcement of earthquake-resistant building codes and town planning bye-laws
vi. Absence of understanding about earthquake resistant features in suburban and rural areas
vii. Lack of formal training among professional in seismic risk assessment
viii. Lack of understanding about application of retrofitting techniques

5. Target Departments

i. Samagra Shiksha, Education Department, GoG

Target Participants		
S.No.	**Target Group**	**Level of Participants**
1	Dy. Executive Engineer/District Project Engineer	L-2
2	Assistant Engineers/Additional Assistant Engineers/Technical Resource Persons	L-3