Background

Disasters, can strike at any moment, posing significant threats to the safety of office occupants, the continuity of business operations, and the integrity of assets. The nature of disaster risk is changing. This is due to rapid urbanization, increased digitalization, interconnection of economies and decline in biodiversity. We are learning to recognize how risks that we thought we understood are interlinked and influenced by emerging and new threats. These present compound challenges to our familiar approaches to disaster risk reduction (DRR). Risks are more systemic and more complex than ever before, contributing to greater losses, and an increased number of people displaced and lives lost.

Gujarat is highly prone to a wide range of natural and human-induced hazards, including cyclones, floods, earthquakes, droughts and industrial accident which often disrupts the normal life of people and affect the development gain during all these years. As a result, disaster management, is not just a matter of emergency response but also involves proactive measures for risk reduction, preparedness, and resilience building

UNDRR defines Infrastructure Resilience is *the timely and efficient prevention, absorption, recovery, adaptation and transformation of national infrastructure's essential structures and functions, which have been exposed to current and potential future hazards. Implementing resilience across all disruption phases should be done through collaborative risk and uncertainty management, multi-hazard assessment, and methods that embrace the systemic nature of national infrastructure*

Infrastructure development has been instrumental in strengthening economic growth. There is strong evidence that economic growth is closely connected with infrastructure investments, and with the improvements in productivity, market access, and ability to crowd in private investment they bring about. Insufficiently risk-informed development, unplanned urbanization, and population growth, resulting in an increase in the number of people and the value of economic activity in hazard-exposed areas, heighten the risks from disasters.

Roads & Buildings Department is entrusted with the responsibility pertaining to planning, Construction and maintenance of all categories of Roads and all Government owned Buildings in the State of Gujarat. R&B Dept. can play a crucial role in developing resilient infrastructure, particularly in ensuring that transportation networks and physical structures can withstand and recover from various hazards.

Resilient infrastructure can greatly reduce the impact of disasters on economies and communities. By prioritizing resilience in its planning, design, construction, and maintenance

activities, the R&B Dept. can help create infrastructure that not only withstands disaster and climate risks but also contributes to the long-term sustainability and well-being of communities.

Objective

The programme has following objectives:

- Develop understanding on Risk, Hazards, Exposure, Vulnerability and Capacity
- Raise awareness about potential risks to public infrastructure
- Enhance the ability of Engineers to develop plan of action of infrastructure resilience (Roads, Bridges and Buildings)
- Encourage quality control in construction management
- Provide understanding on green infrastructure.

Pre-requisite

There are no pre-requisites for this training course, but prior knowledge on basics of Disaster Risk Management may be beneficial.

Expected Learning Outcome

- Participants understand the basics of disaster risk management
- Participants can develop action plan on resilience of infrastructure for their respective districts

Targeted Participants

The course is targeted for the Assistant Engineer, Additional Assistant Engineer, Dy. Engineer, Executive Engineer and Superintending Engineer.

Training Pedagogy

The training will be held at Seminar Hall, GIDM, facilitated by Subject Matter Experts (SME). The training will include active learning techniques such as presentations, group discussions, interactive exercises, case studies, simulations, exposure visits and hands on experience which will encourage participants to engage actively with the training content

Further, quizzes, tests and skill demonstration will also be included in the program for monitoring learners' progress, identifying areas for improvement, and reinforcing learning outcomes.

Training Certificate

Certificate of participation will be given to participants who attend all the sessions during the 2-days training program

Tentative Schedule

Day – 1: 6th June 2024			
Time	**Session**	**Session Details/ Objectives**	**Resource**
8.30-9.30	**Breakfast**		
9.30-10.00	**Registration**	• Online registration of participants • Training kit distribution • Facility briefing • Safety briefing	**GIDM**
10.00 – 10.30	**Pre-Test & Introduction of Participants**	• 15 Question online Test on DRR • Establishment of Ground rules • Introduction of participants	**GIDM**
10.30-10.45	**About GIDM**	At the end of the session participants would be able to understand: • History & Establishment of GIDM • Governance mechanism • Core areas of GIDM • Programs and Achievements	**GIDM**
10.45-11.00	**Tea break**		
10.45-11.45	**Basic of Disaster Risk Management**	At the end of the session participants would be able to understand: • Understanding 'Disaster Risk' through Hazards, Exposure, Vulnerability and Capacity components • Explain that disasters are NOT natural and need for intervention and planning • Early Warning System for Disasters (EWS) • Conceptual framework of Disaster Risk Reduction	**GIDM**
11.45-12.00	**Tea break**		
12.00 – 13.00	**Understanding on Disaster Resilient Infrastructure**	At the end of the session participants would be able to understand: • Resilient Infrastructure-Concepts & trends • Identifying potential hazards and risks to public infrastructure • Assessing vulnerabilities in existing infrastructure	**GIDM**
13.00-14.00	**Lunch break**		
14.00-15.30	**Sharing of Good Practices: Next-Generation Roadways for**	At the end of the session participants would be able to understand: • Effects of hazards on Roads • Design & Construction of resilient roads (Seismic, floods, cyclone and weathering)	**NHAI/GSRDC**