Outreach & Dissemination Services Office
CSIR – Central Building Research Institute, Roorkee
Skill Development Training Programme on
‘Seismic Retrofitting and DPR Preparation’
July 28-Aug 01, 2025
Organized under the aegis of CSIR Integrated Skill Initiative

A five-day Training Program on “Seismic Retrofitting and DPR Preparation” commenced at the CSIR–Central Building Research Institute (CSIR-CBRI), Roorkee, under the aegis of the CSIR Integrated Skill Initiative Program. Scheduled from July 28 to August 1, 2025, the program is being conducted in collaboration with the Himachal Pradesh State Disaster Management Authority (HPSDMA) and coordinated by Er. Ashish Pippal, Senior Scientist, CSIR-CBRI. The program is aimed at enhancing the technical competencies of engineers and professionals working in the domain of structural safety and disaster risk reduction, with a particular focus on seismic retrofitting and the preparation of Detailed Project Reports (DPRs).

The inaugural session of the training program was graced by Chief Guest Prof. R. Pradeep Kumar, Director, CSIR–CBRI, and attended by dignitaries including Ar. S.K. Negi, Dr. Ajay Chourasia, Sh. Nadeem Ahmad (Chief Scientists), Dr. Leena Chourasia, Dr. C.S. Meena, and Dr. Naveen Nishant. Support was extended by Sh. Rajnish Kumar, Ms. Sanskriti Sharma, Sh. Amzad, Sh. Mahesh, and other members of the Outreach and Dissemination Services (ODS) Division. Dr. Ajay Chourasia outlined the program's objectives and emphasized the importance of bridging theoretical knowledge with practical application, especially in seismic risk zones. Ar. S.K. Negi acknowledged the continued collaboration with the Himachal Pradesh Government and its role in advancing disaster resilience and sustainable development.

In his address, Prof. R. Pradeep Kumar stressed the need for field-based learning and scientific application in vulnerable hilly regions, highlighting CSIR–CBRI's role in earthquake-resistant research and retrofitting. The session concluded with a vote of thanks by Sh. Nadeem Ahmad, who welcomed participants and appreciated the efforts of the organizing team and experts. He emphasized the value of knowledge-sharing in strengthening disaster-resilient infrastructure. The program combines expert lectures, technical sessions, and live demonstrations aimed at equipping participants with practical tools for enhancing structural performance under seismic loads. It is expected to significantly benefit professionals involved in retrofitting and disaster mitigation.

Key Learning Sessions & Activities

Day 1 (July 28, 2025)

The session began by Dr. Ajay Chourasia, Chief Scientist, CSIR–CBRI, commenced with an overview of earthquake (EQ) risks, hazards, and the objectives of seismic assessment. He elaborated on various seismic zones (II, III, IV, V) in India and illustrated the impacts of past earthquakes through maps and graphical data. The session addressed key Geo hazards like liquefaction, landslides, and heavy rainfall, and emphasized how they compound structural vulnerability. Dr. Chourasia discussed retrofitting methods for important public and government buildings, citing the example of Karsogghat. He highlighted confined masonry as a resilient construction technique. Additionally, he underlined the importance of IS Codes and the challenges in practical implementation during rapid assessments. The session emphasized the socio-technical aspects of retrofitting and advocated for inclusive disaster risk reduction strategies. Dr. Ajay Chourasia presentation laid a strong foundation for understanding the scope and importance of Rapid Visual Assessment
(RVA) in seismically vulnerable regions.

Afterwards, Er. Ashish Kapoor delivered an insightful session on Non-Destructive Testing (NDT) methods, emphasizing their role in quality control and fast-track testing of structures. He introduced key concepts related to IS 1893, and discussed the significance of peak ground acceleration in understanding the impact of earthquakes on structures. The session elaborated on the procedures for structural evaluation and the importance of conducting assessments without causing damage to existing infrastructure. He outlined the purpose, objectives, advantages, and limitations of NDT, and stressed the need for reliable deliverables. A major highlight of the session was the Rebound Hammer Test, referring to IS 516 (Part 5): 2020, which is used to assess the surface hardness and estimate the compressive strength of concrete. He explained the sampling strategy using a grid with 10 reading points, and the need to maintain proper center-to-center spacing between test locations. The practical relevance of NDT methods in structural retrofitting, maintenance, and seismic risk assessment was strongly emphasized, making it a valuable tool in modern civil engineering practices.

Laboratory Visit

Visit to Geotechnical Hazard Laboratory

Visit to 3-D Printing Structural Eng. Laboratory

Day 2 (July 29, 2025)

The day began with an interesting session by Er. Sugam Prajapati on the “Use of Non-Destructive Testing Methods in Structural Assessment”, where he elaborated on modern techniques to evaluate structural integrity without causing any damage. This was followed by Er. I.A. Siddiqui, who spoke on “Construction Cost Management and Recent Trends in DPR Preparation”, highlighting strategies for effective budgeting and the evolving landscape of project reporting. Afterwards, Dr. Anindya Pain, Principal Scientist, delivered a comprehensive lecture on “Design and Construction of Foundations in Hills,” highlighting the unique geotechnical challenges and essential design adaptations required for hilly terrains. The day concluded with an educational visit to the ACSC Lab, FSE Group, and the Rural Development Park. Participants explored cutting-edge research facilities, structural testing setups, and innovative solutions for rural infrastructure. The visit provided valuable practical exposure to advanced construction methods and safety technologies.

Laboratory visit

Visit to FSE Group

Visit to FSE Group

Visit to ACSC Lab

Visit to Rural Development Park

Day 3 (July 30, 2025)

Field Visit

Day 4 (July 31, 2025)

The program began with a lecture by Dr. S.S. Randhawa on “Landslide Susceptibility of Himachal Pradesh”, where he discussed the key factors responsible for landslides in the region and methods to identify high-risk zones. This was followed by a session by Er. H.K. Jain on “Quality Assurance and Control”, highlighting the importance of maintaining construction quality through proper checks and procedures. After the lunch break, Er. Ashish Kapoor delivered a lecture on “Repair, Rehabilitation, and Retrofitting”, focusing on techniques to restore and strengthen old or damaged structures to extend their service life.

Day 5 (Aug 01, 2025)

The final day of the event, the lecture session was started by Dr. Chanchal Sonkar on “Building Analysis and Designing of Retrofitting Measures”, where he explained various techniques for evaluating existing structures and planning suitable retrofitting solutions. This was followed by a valuable session on “Building Planning and Designing” by Respected Ar. S.K. Negi, Chief Scientist, who shared his rich experience and practical insights on effective architectural planning. The day concluded with the distribution of feedback forms, where Er. Ashish Kapoor thanked all the participants for their active involvement and invited them to share their suggestions, thoughts, or any positive or negative feedback regarding the training program.

Valedictory ceremony

The day concluded with the distribution of feedback forms, where Er. Ashish Pippal, Sr. Scientist thanked all the participants for their active involvement and invited them to share their suggestions, thoughts, or any positive or negative feedback regarding the training program. Chief Scientist Dr. D.P. Kanungo, who presided over the valedictory session, praised the training as highly relevant and insightful for addressing structural safety and disaster resilience. Guest of Honour, Ar. S.K. Negi, emphasized integrating structural innovations into academic and field practices. Special thanks were extended to Prof. R. Pradeep Kumar, Director, CSIR–CBRI, for his visionary leadership in promoting practical, skill-based learning. Sh. Nadeem Ahmad, Chief Scientist, delivered the vote of thanks, appreciated the participants' engagement, and encouraged continued collaboration and feedback. The program concluded with certificate distribution, leaving participants enriched with technical expertise and a commitment toward innovation in disaster risk reduction.

List of Participants

S. No.	Name of Participants,	Designation	Address
1	Nagender Thakur	Junior Engineer	HPPWD Bharmour Division
2	Amit Thakur	Junior Engineer	HPPWD Tissa Division
5	Om Prakash	Junior Engineer	Development Block Pangi
6	Raj Kumar	Junior Engineer	Development Block Pangi
7	Sh. Divesh Thakur	Assistant Engineer	Sub-division Junga HPPWD
8	Tarsem Bhauta	Assistant Engineer	HPPWD Sub Division Hatkoti
9	Sh. Neeraj Singh	Junior Engineer	HPPWD Rural Division Dhami Shimla
10	Er. Harsh Guleria	Junior Engineer (Civil)	SE (Op) circle HPSEBL, Shimla-9
12	Er. Ravinder Kumar	Executive Engineer (D)	SRFMP Circle Una
13	Sh. Rakesh Chauhan	Technical Assistant	DRDA Shimla
14	Er. Parbhat Sharma	Junior Engineer	Urban Development
15	Er. Pranshul	Assistant Engineer	Jal Shakti Division Rajgarh
16	Er. Ajay Kumar Verma	Executive Engineer	Jal Shakti Division Nohradhar
17	Er. Anil Kumar Verma	Assistant Engineer	JS Sub Division Sangrah
18	Er. Chiranjeev Jhamb	Junior Engineer	JS Division Paonta Sahib
19	Er. Yogesh Verma	Assistant Engineer	HPPWD Paonta Sahib
20	Sh. Shivam Sundriyal	Junior Engineer	HPPWD Paonta Sahib
21	Sh. Sumit Sohal	Junior Engineer	Sarahan Division
22	Mukesh Kumar	Junior Engineer	Municipal Council Paonta Sahib
23	Gaurav Saini	Work Supervisor	Municipal Council Paonta Sahib
24	Sh. Abhishek Malhotra	Assistant Engineer	HPPWD (B&R) Division Kaza
25	Sh. Aman Thakur	Junior Engineer	HPPWD (B&R) Division Kaza
26	Sh. Ajeet Kumar	Junior Engineer	HPPWD
27	Sh. Tashi Palzor	Junior Engineer	HPPWD
28	Tek Chand Sharma	Assistant Engineer	Zila Parishad, Kullu
29	Pushap Raj	Assistant Engineer	Jal Shakti Vibhag Sub. Division Anni
30	Pawan Kumar Kaith	Assistant Engineer	HPPWD, Division Manali
31	Sachin Thakur	Junior Engineer	MC Kullu
32	Er.Sahil Kashyap	Assistant Engineer	HPPWD
33	Sh. Rakesh Rana	Junior Engineer	DDO

34	Er. Rajender Singh Chaudhary	Executive Engineer	Jal Shakti Vibhag
35	Er. Ravinder Kumar	Executive Engineer (D)	SRFMP Circle Una
36	Sh. Rakesh Kumar	Assistant Engineer	Zila Parishad, Una
37	Er. Parbhat Sharma	Junior Engineer	Urban Development
38	Sh.Lakhwinder Singh	Plumber	ITI,SOLAN
39	Mr.Nitin Thakur	Junior Engineer	MC Baddi