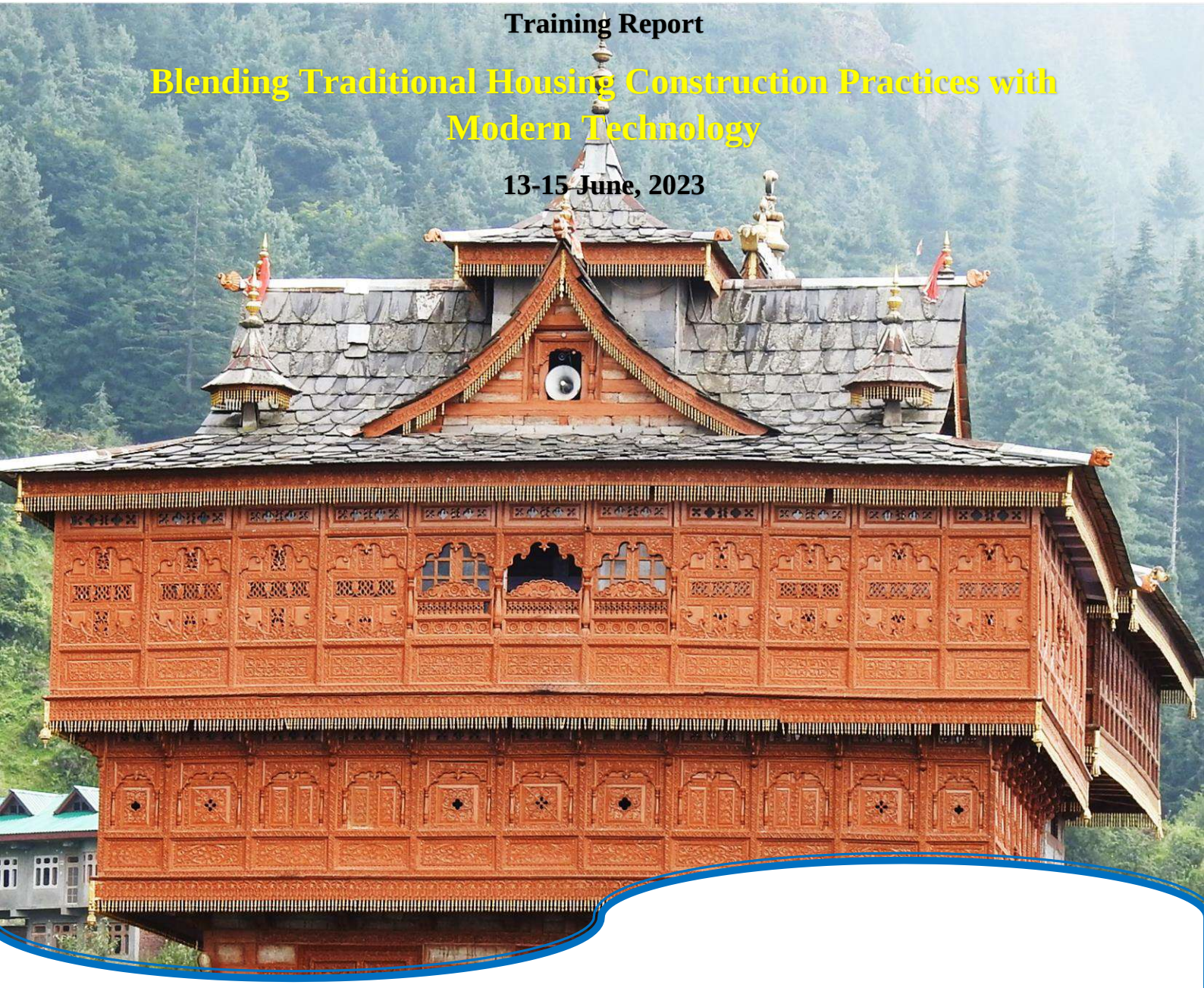
सत्यमेव जयते

Resilient India - Disaster Free India

Training Report

Blending Traditional Housing Construction Practices with Modern Technology

13-15 June, 2023



Organized by

H.P. Council for Science, Technology & Environment, (HIMCOSTE), Shimla, Himachal Pradesh

In collaboration with

National Institute of Disaster Management (NIDM), Ministry of Home Affairs, Govt. of India, New Delhi

&

Himachal Pradesh State Disaster Management Authority (HPSDMA), Shimla, Himachal Pradesh

Contents

PROGRAM TEAM

DAY ONE (13TH JUNE, 2023)

Chief Guest

Sh. Satpal Dhiman

Addi. Secretary, EST, GoHP & Joint Member Secretary (HIMCOSTE), Shimla, Himachal Pradesh

Conveners

Dr. Amir Ali Khan
Associate Professor, NIDM, Delhi

Dr. S.S. Randhawa
Principal Scientific Officer (HIMCOSTE), Shimla HP

Program Coordinator

Ms. Yogita Garbyal, Young Professional, NIDM

HIMCOSTE Team

Mr. Harish Bharti, Ms, Aditi Panatu (Scientific Professional) and Mr. Mohit Verma (Project Assistant)

DAY ONE (13TH JUNE 2023)

Guest Lectures

Dr. Amir Ali Khan
Associate Professor, NIDM, Delhi

Sh. K.K. Nanta
State Town Planner Department of Town & Country Planning, Shimla H.P

SECOND DAY (14TH JUNE 2023)

Program Chair

Dr. Amir Ali Khan,
Associate Professor, NIDM, Delhi

Guest Speaker

Dr. S.K. Negi
Chief Scientist, CBRI Roorkee, Uttarakhand

Dr. Ajay Chaurasia
Chief Scientist, CSIR-CBRI Roorkee, Uttarakhand

THIRD DAY (15TH JUNE 2023)

Speaker

Dr. Daniel C
Assistant Professor, Department of Civil Engineering & Science
(HITS), Chennai

Sh. Nitin Sharma
Capacity Building & Documentation Coordinator CB&DC, HPSDMA, Shimla

Chief Guest for the Valedictory Session

Sh. Praveen Kumar Taak, HPAS
Joint Secretary, GAD, GoHP

ABOUT NATIONAL INSTITUTE OF DISASTER MANAGEMENT (NIDM), DELHI

The National Institute of Disaster Management (NIDM) was constituted under an Act of Parliament to play the role of a premier institute for capacity development in India with the vision to create a Disaster Resilient India by building the capacity at all levels for disaster prevention and preparedness. The efforts in this direction that began with the formation of the National Centre for Disaster Management (NCDM) in 1995 gained impetus with its redesignation as the National Institute of Disaster Management (NIDM) for training and capacity development. Under the Disaster Management Act 2005, NIDM has been assigned nodal responsibilities for human resource development, capacity building, training, research, documentation, and policy advocacy in the field of disaster management. Both as a national Centre and then as the national Institute, NIDM has performed a crucial role in bringing disaster risk reduction to the forefront of the national agenda. The Institute believes that disaster risk reduction is possible only through promotion of a "Culture of Prevention" involving all stakeholders. The Institute works through strategic partnerships with various ministries and departments of the central, State, and local governments, academic, research and technical organizations in India and abroad and other bi-lateral and multi-lateral international agencies.

ABOUT HIMACHAL PRADESH COUNCIL FOR SCIENCE, TECHNOLOGY & ENVIRONMENT (HIMCOSTE), SHIMLA

The Himachal Pradesh Council for Science, Technology & Environment, is the nodal agency for the promotion of Science & Technology and creation of Environment Awareness in the State. The Council was established at Shimla by Govt. of Himachal Pradesh on January 3, 1986 under the country wide programme of the Department of Science & Technology, Govt. of India to promote Science & Technology in the State. Some of its main objective includes advising State Govt. on Science, Technology & Environment related issues & interventions; to develop, demonstrate & transfer appropriate technologies for the State and exchange scientific knowledge from National & International scientific institutions/organisations for the development of the State; to create and strengthen science & technology facilities in the State; to establish linkages with Universities and R&D Institutions and to provide consultancy services in successfully demonstrated/developed technologies.

ABOUT HIMACHAL PRADESH STATE DISASTER MANAGEMENT AUTHORITY (HPSDMA), SHIMLA

On 23rd December, 2005, the Government of India took a defining step by enacting the Disaster Management Act, 2005, which envisaged creation of the National Disaster Management Authority (NDMA) headed by the Prime Minister, State Disaster Management Authorities (SDMA) headed by the Chief Ministers, and District Disaster Management Authorities (DDMA) headed by the District Magistrates or Deputy Commissioners as the case may be, to spearhead and adopt a holistic and integrated approach to disaster management (DM). There will be a paradigm shift, from the erstwhile relief-centric response to a proactive prevention, mitigation and preparedness-driven approach for conserving development gains and to minimize loss of life, livelihood and property. Section 18 and 19 of the Disaster Management Act, 2005 mandates the State Disaster Management Authority (SDMA) with certain powers and functions. For ready reference, the relevant sections of the Act are reproduced and provided below:

Section 18. Powers and functions of State Authority: Subject to the provisions of this Act, a State Authority shall have the responsibility for laying down policies and plans for disaster management in the State. Without prejudice to the generality of provisions contained in sub-section (1), the State Authority may-

- lay down the State disaster management policy.
- approve the State Plan in accordance with the guidelines laid down by the National Authority.
- approve the disaster management plans prepared by the departments of the Government of the State.
- lay down guidelines to be followed by the departments of the Government of the State for the purposes of integration of measures for prevention of disasters and mitigation in their development plans and projects and provide necessary technical assistance therefore.
- coordinate the implementation of the State Plan.
- recommend provision of funds for mitigation and preparedness measures.
- review the development plans of the different departments of the State and ensure that prevention and mitigation measures are integrated therein.

- review the measures being taken for mitigation, capacity building and preparedness by the departments of the Government of the State and issue such guidelines as may be necessary.

The Chairperson of the State Authority shall, in the case of emergency, have power to exercise all or any of the powers of the State Authority but the exercise of such powers shall be subject to ex post facto ratification of the State Authority".

Section 19. Guidelines for minimum standard of relief by State Authority: The State Authority shall lay down detailed guidelines for providing standards of relief to persons affected by disaster in the State, provided that such standards shall in no case be less than the minimum standards in the guidelines laid down by the National Authority in this regard. The Act also provides for State Executive Committee (SEC) for the State. The SEC was also notified on 1.6.2007 headed by the Chief Secretary and others as members to assist the SDMA in performing the functions prescribed by the Act. SEC is the executive arm of the SDMA.

INTRODUCTION

Training programme on ***"Blending Traditional Housing Construction Practices with Modern Technology"*** is organized by Himachal Pradesh Council for Science, Technology & Environment (HIMCOSTE), Shimla in collaboration with National Institute of Disaster Management (NIDM), Ministry of Home Affairs, Govt. of India, New Delhi and H.P. State Disaster Management Authority (HPSDMA), Shimla. This training program was organized at State Agriculture Management & Extension Training Institute (SAMETI), Mashobra, Shimla from 13 to 15 June, 2023 from 11:00 am to 5:00 pm for a total duration of six hours. This training programme had 39 participants from various departments. The sessions generated highly interactive, easily understandable points of action and implementation by individuals having responsible role in ULB, as Govt. stakeholder or as any responsible citizen. The course highlighted the importance of building resilience, preparedness, and mitigation measures to achieve the resilient urban environment through city disaster management planning.

Objectives of the Program

The training programme would help to provide:

• To increase awareness of the key stakeholders on the need for adoption of traditional housing, building bye-laws, codes and earthquake resistant construction and planning standards with use of modern technology.

• To identify solutions to the challenges faced by planners, architects and engineers and showcase examples of ongoing faulty construction practices in Himanchal Pradesh.

• To promote retrofitting technique and understand the concept of build back better through past events, lessons and experience sharing of hilly areas with emphasis to Himachal Pradesh.

• Sensitization at state level by sharing and disseminate experiences, knowledge, information, innovations and ideas on safety of structures to create a safe built environment for hilly region.

SCOPE

This training programme aims to provide opportunities to local administrators to enhance safety preparedness actions and bring resilience to their built environment against disasters for hilly regions. Hill regions are usually seemed to have large rural built environment with booming population and increasing tourist pressure having limited land resources with fragile geology and environment makes it highly susceptible to hazards. This also makes the

awareness and capacity building as the main areas to stay focused on, to reduce the risk and vulnerability of such area. The training programme will help generate detailed discussion on hazards vulnerability and risk profile of Himachal Pradesh State, seismic safety mitigation measures followed by good construction practices, debate on retrofitting techniques, experiences gained from HP State Govt. initiatives. These three days training programme intends to sensitize, institutionalize, and promote traditional constructional information, knowledge, and innovation for seismic stability of the built environment comprising of residential and commercial buildings and critical infrastructure like hospitals and schools etc.

BACKGROUND

Disasters and human survival have a long history of rivalry and co-existence. However, the occurrences were not as frequent and with fanatic regularity as it is now. The impact of disasters on economic well-being and human suffering has increased alarmingly. Disasters not only disrupt normal life but also play havoc on lives and livelihoods of the people. Haphazard developmental works, rapid industrialization, increase in population, lack of adequate policy measures, etc., has all contributed towards increased occurrences of disasters. Natural and manmade disasters often result in loss of lives, cause injury to people, and lead to loss of livelihoods and damage and destruction of property, assets, and infrastructure.

Himachal Pradesh is exposed to several kinds of disasters regularly. Frequent disasters hamper development of the State. Earthquakes, landslides, cloud-bursts, floods, avalanches, forest-fires, droughts etc. caused tremendous loss to the State. Landslides and flash floods ate the most common disasters in Himachal Pradesh which cause immense loss of life and property. Frequent flash floods in the last few years have baffled both meteorologists and common man equally. Himachal Pradesh been hit by a series of massive natural calamities like the earthquake in 1905 (Kangra), 1955 (Lauhal-Spiti) & 1975 (Kinnaur), landslides in 1968 (Kaliasaur), 1982 (Solan Nala) & 1995 (Kullu) and the disastrous cloudburst in Kullu in August 2003, Prominent among the Satluj and Beas basin's calamities are massive and violent flash flood in river Satluj during the night on July 31, 2000, cloudburst and flash flood in the Beas in September, 1995, and cloudbursts that wreaked havoc in the Rohru and Wangtu areas in Kinnaur district in 1997.

Earthquake, quite devastating and sudden in nature, is one of the most common types of disasters that hit the State. Seismologists have categorised Himachal Pradesh in Seismic Zones IV and V, highly prone to earthquakes. Statistically, more than 250 earthquakes of magnitude above 4.0 on the Richter scale, including 51 with magnitude above 5.0 have rocked the State

during past century. As far as geographic area of occurrence of earthquake is concerned, Chamba, Kullu and Manali fall in the highest seismic Zone i.e., Zone-V and are most prone to disastrous earthquakes. Block-wise, Kangra is most sensitive to earthquakes. Cloudbursts are common to all hilly areas but the States of Himachal Pradesh and Uttarakhand are most affected due to topographical conditions. Most of the damages to properties, communication system and human casualties are a result of flash floods. The topography enhances the devastation.

The unplanned construction of hydel power projects, roads and large-scale mining/quarrying have put a severe strain on the delicate and fragile ecology of Himalayas gifted with lush green landscape and fascinating environment. Nathpa Jhakri Hydel project and some other projects have already experienced such events. With removal of forest and vegetative cover, the destructive action of water gets further pronounced. The barren steep rocky slopes that absorb little water facilitate quick runoff. The excavated materials disposed of carelessly on hill slopes besides damaging the green cover, trees, and agricultural land, are carried down during heavy rains causing siltation and consequent reduction in the storage capacity of the reservoirs.

HIMCOSTE in collaboration with NIDM and HPSDMA, conducted 3 days training on "*Blending Traditional Housing Construction Practices with Modern Technology"* from 13 to 15 June 2023 as per schedule attached. In this training, the sessions were majorly taken by faculties of both organizations with other external resource persons.

TARGET GROUP

This programme is primarily designed for HP State Government officials of the departments that are directly responsible for development of buildings/infrastructures of the State, such as Planners, architects and engineers, administrators, etc. The target group for this programme would be senior and middle level functionaries of the central/State governments, PSUs, Municipal Corporations involved in planning, design, construction, and maintenance of buildings and representing various departments including CPWD, PWD, Rural Development, Municipalities, Town Planning, Faculties at Universities/IITs/NITs, and Industries/R&D facilities dealing in upcoming innovation in sustainable constructions.

PROGRAM AGENDA

Following are the detailed agenda of the training workshop:

Training Programme on

"Blending Traditional Housing Construction Practices with Modern Technology"

Organized by

H.P. Council for Science, Technology & Environment, (HIMCOSTE), Shimla, Himachal Pradesh

In collaboration with

National Institute of Disaster Management (NIDM), Ministry of Home Affairs,Govt. of India, New Delhi

&

Himachal Pradesh State Disaster Management Authority (HPSDMA), Shimla, Himachal Pradesh

(June 13-15, 2023)

Venue– State Agriculture Management & Extension Training Institute (SAMETI), Mashobra, Shimla H.P.

DAY 1: 13 JUNE 2023	
10:00AM-11:00AM	**Registration of Participants**
11:00AM: 11:05AM	**Welcome Address** Dr. S.S. Randhawa, Principal Scientific Officer (HIMCOSTE), Shimla, Himachal Pradesh
11:05AM: 11:20AM	**Overview of the Programme** Dr. Amir Ali Khan, Associate Professor (NIDM), New Delhi
11:20AM: 11:35AM	**Address by Chief Guest** Sh. Satpal Dhiman, Addi. Secretary, EST, GoHP & Joint Member Secretary (HIMCOSTE), Shimla, Himachal Pradesh
11:35AM: 11:40AM	**Vote of Thanks** Ms. Aditi Panatu, Scientific Professional, HIMCOSTE, Shimla, Himachal Pradesh
11:40AM: 11:55AM	**Tea Break**
11:55AM: 12:35PM	**Pre-Training Assessment-Expectations, Experience Sharing & Ground Rules** Dr. Amir Ali Khan, Associate Professor, NIDM, New Delhi
12:35PM: 01:20PM	**Basic Concept of DRR for Safe Hill Area development using Indigenous knowledge** Dr. Amir Ali Khan, Associate Professor, NIDM, New Delhi
01:20PM: 02:15PM	**Lunch Break**
02:15PM: 03:15PM	**Local Hazard Profile and Recent Initiatives for resilient infrastructures in Himachal Pradesh** Dr. S.S. Randhawa, PSO (HIMCOSTE), Shimla, Himachal Pradesh
03:15PM: 03:30PM	**Tea Break**
03:30PM: 04:30PM	**Safeguarding Traditional practices for sustainable Hill Area Development in Himachal Pradesh-Recent Initiatives** Sh. K.K. Nanta, State Town Planner, Department of Town & Country Planning, Shimla, Himachal Pradesh
04:30PM-05:00PM	Introduce Group Activity/ Open Discussion

Training Programme on

"Blending Traditional Housing Construction Practices with Modern Technology"

(June 13-15, 2023)

Venue– State Agriculture Management & Extension Training Institute (SAMETI), Mashobra, Shimla H.P.

DAY 2: 14 JUNE 2023	
10:00AM-10:30AM	Recapitulation –1st Day
10:30AM-11:10PM	**Local indigenous construction practices in Himachal Pradesh and other Hilly areas** Dr. S. K. Negi, Chief Scientist, CBRI Roorkee, Uttrakhand
11:10AM-11:30PM	**Tea Break**
11:30PM-01:00PM	**Local indigenous construction practices in Himachal Pradesh and other Hilly areas** Dr. S. K. Negi, Chief Scientist, CBRI Roorkee, Uttrakhand
01:00PM-02:00PM	**Lunch Break**
02:00PM-02:45PM	**Modern technology and use of dampers** Daniel C, Assistant Professor, Department of Civil Engineering & Science (HITS), Chennai
02:45PM-03:45PM	**Need and challenges for mainstreaming resilient indigenous construction practices using modern technology** Dr. Ajay Chaurasia, Chief Scientist, CBRI Roorkee, Uttarakhand
03:45PM-04:00PM	**Tea Break**
04:00PM-05:00PM	**Building earthquake resilience through indigenous construction practices in Himachal Pradesh** Dr. Ajay Chaurasia and Dr. S.K. Negi – A discussion

Training Programme on

"Blending Traditional Housing Construction Practices with Modern Technology"

(June 13-15, 2023)

Venue– State Agriculture Management & Extension Training Institute (SAMETI), Mashobra, Shimla H.P.

DAY 3: 15 JUNE 2023	
10:00AM-10:30AM	Recapitulation –2nd Day
10:30AM- 11:30AM	**State initiatives and current development schemes of Himachal Government** SPO, HPSDMA, Shimla, Himachal Pradesh
11:30AM-2:00 PM	**Field visit to study the traditional sustainable housing construction practices in Himachal Pradesh** Organizing Team (NIDM and HIMCOSTE)
02:00PM-03:00PM	**Lunch Break**
03:00PM-04:00PM	Group work presentation based on field survey
04:00PM-04:15PM	**Tea Break**
04:15PM-04:30PM	Feedback
04:30PM: 04:40PM	Address by Chief Guest Sh. Praveen Kumar Taak. HPAS, Joint Secretary, GAD, GoHP
04:40PM: 05:00PM	Distribution of certificates to the participants
05:00PM: 05:05PM	**Vote of Thanks** Dr. S.S. Randhawa, PSO (HIMCOSTE), Shimla, Himachal Pradesh

SUMMARY OF THE SESSIONS

DAY-1 (13TH JUNE, 2023)

Inaugural Session

The program was started by welcoming all the participants and dignitaries by Dr. S.S. Randhawa, Principal Scientific Officer (HIMCOSTE), Shimla. He welcomed and honoured the chief guest of the training program Address by Chief Guest Sh. Satpal Dhiman, Addi. Secretary, EST, GoHP & Joint Member Secretary (HIMCOSTE), Shimla, Himachal Pradesh with a flower bunch, Himachali Cap and Shawl. He also honoured the Program Convener Dr. Amir Ali Khan, Associate Professor, NIDM, New Delhi, with Shawl and Topi. Additionally, representatives from several departments received a briefing from Dr. SS Randhawa on the goals and plans of action for the next three days. Additionally, Dr. Amir Alin Khan, Associate Professor, given the overview of the three days training programme and the activities. Ms. Aditi Panatu, Scientific Professional SCCC, Shimla, handled the stage compering and overall management of the three-day training programme.

Sh. Satpal Dhiman, HPFS, Addi. Secretary, EST, GoHP & Joint Member Secretary (HIMCOSTE), Shimla emphasised the urgent necessity for the State to hold such training workshops so that the residents may be informed about catastrophe preparedness and its management. He also discussed the main difficulties encountered during the State's development operations and the best ways to resolve them. Following his welcome address, he

used the opportunity to introduce each participant, detailing to the intended audience how they had handled similar duties relating to crisis management in the past. He used instances of many disastrous events that occurred in the State's history to illustrate his past experiences and disaster management success stories.

Dr. Amir Ali Khan, Associate Professor, NIDM, New Delhi, in his lecture explained pre-training assessment-expectations, experience Sharing & Ground Rule. He explained the fundamentals of DRR and the necessity of developing safe hill areas. He discussed the role of NIDM, as well as its goals, objectives, and duties. The most prevalent urban problems that the participants were dealing with in their districts were then brought up, and he stated that the only way to find a long-term solution was through risk mitigation. Dr. Amir Ali Khan discussed the goals of the government as well as dangers and weaknesses on a global scale. He claimed that recent years had seen a sharp rise in disasters, leading to huge economic losses.

In addition to discussing disaster risk reduction and management, disaster safe construction, and the causes of several disasters, such as population increase, uncontrolled or poorly planned urban expansion, the development of exposed steep terrain, inexperience, and overexploitation. He stressed the importance of taking care to prevent fires in both household settings and major buildings like hospitals and schools.

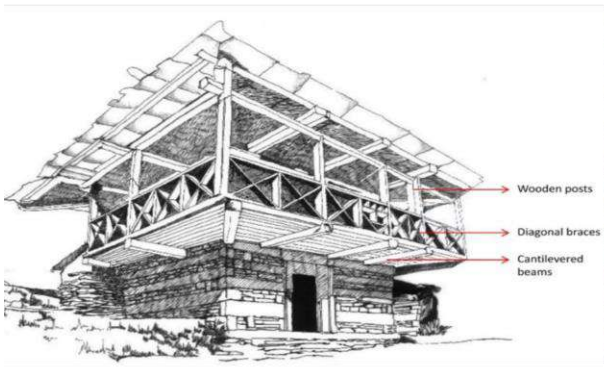
He also recommended everyone to be knowledgeable about the use of fire extinguishers, the different types of extinguishers, evacuation plans, and protocols, among other things, as a basic safety measure. Dr. Khan covered resilience, ability, coping mechanisms, and acceptable risk in his session. He continued by talking about the different kinds and levels of disasters, as well as our current position. He explained the disaster management cycle and its elements, such as search and rescue, relief, rehabilitation, reconstruction, and the idea of building back better,

using a variety of examples and case studies. He cited preparedness, mitigation, and prevention as the three key strategies for lowering susceptibility. He talked on hazard mapping, early warning systems, and structural and non-structural mitigating measures. Dr. Khan answered numerous questions that were raised during his lecture, which was also quite interactive. He gave a brief explanation of how combining contemporary technology with traditional wisdom may be used to utilise the materials found in the mountainous area to build a strong structure. He gave numerous instances of buildings in Himachal Pradesh and other hilly areas that are stable and earthquake-resistant. He also emphasised the scientific basis for conventional structures, which remain solid even during seismic shaking. Overall, via his presentation, he described and discussed every component of the training workshops. Along with his presentation, he engaged in face-to-face discussion with attendees about a variety of topics and offered suggestions on how to improve the blending practises in Himachal Pradesh.

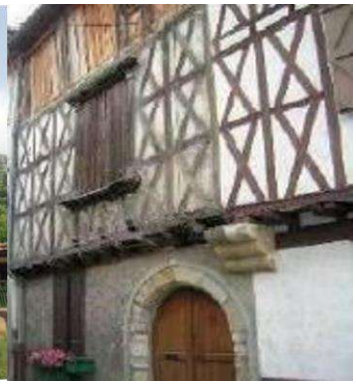
Sh. K.K. Nanta, State Town Planner, Himachal Pradesh

After his brief introduction, he speaks on the topic " Blending Traditional Housing Construction Practices with Modern Technologies". He shared the current scenario of the State with respect to the vulnerabilities and issues related to the development activities in the State. Traditional construction techniques vary from region to region depending on weather, material efficiency and seismic zone:

- Kath-Kuni construction
- Dhajji –Diwari construction
- Dry stone construction
- Mud construction



Kath-Kuni construction



Dhajji –Diwari construction

Dry stone construction

Mud construction

The audience members actively participated in the presentation because the majority of them had questions about various topics, which were addressed and welcomed as well. He also made reference of how the State's developmental efforts have improved by citing numerous instances and success stories. He also stated that humans should be made more tech-aware, particularly when building a structure from the foundation level. He also emphasised that modern technology and skilled masons may be used to improve any construction that may have issues, such as risks of any kind. There were numerous questions and responses, sort of like a brainstorming session. He also gives emphasis on the innovation for future constructions by explaining the following points:

- Blending modern construction technologies or using alternate materials for the construction. Kath-Kuni – RCC beams instead of Wood.
- The cost and time required for constructing Kath kuni houses can be reduced by replacing wood with other sustainable and cheap materials like bamboo (compressed bamboo beam) and stone with hempcrete.

- **Bamboo and hemp** are both abundant in parts of Himachal, which makes them indigenous, cheap, and easily accessible raw materials.
- In case of Dhajji wall, to increase the strength, **galvanized wire mesh** can be nailed both side of the wall to secure the stones against falling out.

DAY-2 (14TH JUNE, 2023)

Dr. S.K. Negi, Chief Scientist, CSIR-CBRI, Roorkee

The second day 1st guest lecture was delivered by Dr. S.K. Negi, Chief Scientist, CSIR-CBRI, Roorkee, Uttarakhand. His presentation was on *Blending Traditional Housing Construction Practices with Modern Technology in Hilly Regions-Case Studies*. He started his presentation by explaining the contribution of CSIR-CBRI in habitat planning in different area in India. Using local resources and indigenous methods, he outlined the numerous vernacular practises and styles that have emerged in response to these difficult development conditions in order to meet human needs sustainably and with little harm to the environment. The lecture offered details on the factors that influence building on steep terrain. He provided a quick review of the architectural design and building techniques used in Himachal Pradesh. He gave various examples of traditional building in Himachal Pradesh to show how we may use these ancient construction methods to develop contemporary constructions. He gives numerous examples of different parts of India where CSIR-CBRI has done various interventions and the people have adopted in construction practices. Dr. Negi had highlighted the importance of blending traditional techniques with modern in the hilly regions as:

"By blending traditional construction practices with modern advancements, we can create structures that are not only resilient and durable but also culturally and aesthetically relevant to the local communities. This approach ensures that the unique characteristics of hilly regions are preserved while meeting the evolving needs of the inhabitants."

- **Adaptation to local conditions:** Traditional construction practices in hilly regions have evolved over generations to suit the specific needs and environmental challenges of these areas. By integrating modern technology, we can enhance the adaptability of these traditional practices to the changing climate and geological conditions, ensuring long-term sustainability.
- **Structural integrity and safety:** Construction in hilly regions requires accounting for the complex topography and potential geological hazards such as landslides or earthquakes. Traditional practices often possess inherent stability and resilience that have been refined over time. Integrating modern technologies like advanced structural analysis, reinforcement materials, and monitoring systems can further enhance the structural integrity and safety of the buildings, ensuring the well-being of the residents.
- **Improved efficiency and functionality:** Modern technology offers a range of innovative solutions that can significantly improve the efficiency and functionality of houses in hilly regions. This includes energy-efficient designs, smart home technologies, water management systems, and sustainable infrastructure. By blending these advancements with traditional practices, we can create homes that are comfortable, efficient, and promote a high quality of life.
- **Sustainable development:** Blending traditional practices with modern technology in hilly regions promotes sustainable development. By utilizing local materials and traditional building techniques, we can reduce the carbon footprint associated with construction. Additionally, integrating renewable energy systems and environmentally friendly practices further contributes to a greener and more sustainable approach to housing construction in these regions.

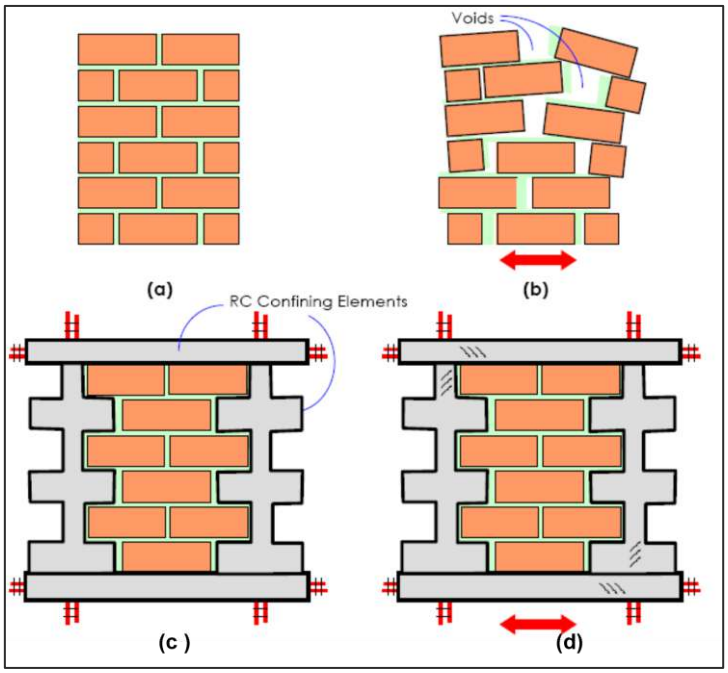
In addition to this, he also suggested a few goals that ought to be included in the sustainable development of hilly terrain. He also discussed a number of issues that came up during the hill settlements, and the participants discussed the solution as a result. The conversation also discussed how such alternative materials can be employed in modern buildings, with a focus on the traditional architecture of Himachal Pradesh and the materials that were used in the structure.

Dr. Ajay Chaurasia, Chief Scientist, CBRI Roorkee, Uttarakhand. He presented on "Need and challenges for mainstreaming resilient indigenous construction practises using modern technology". The presentation began with an overview of Himachal Pradesh's traditional architecture, which was followed by an explanation of several building techniques, such as dry-stone construction, mud construction, Kath-Kuni construction, and Dhajji-Diwari construction. He also discussed the modern hill houses, including their building style, material, and tech-eco features. The following are some of the topics he covered through questioning about the methods used in hilly areas for construction:

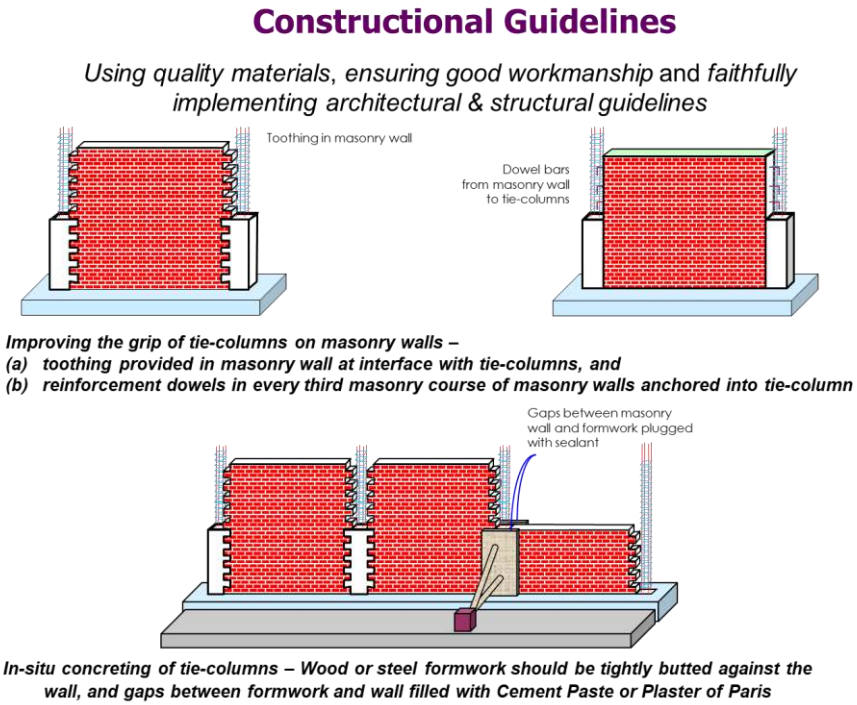
- If a house is designed in accordance to NBC 2016, will it be damaged during earthquakes?
- How to ascertain if a hill slope will suffer a landslide?
- What is the acceptable sequence of construction on hill slopes?
- How to know if the site is suitable for resting the foundation of a building on a hill slope?
- What precautions should be taken to protect a building during earthquake shaking, if it is resting on sloping ground?
- What is the preferred shape of an earthquake resistant building?
- What should be the minimum height of the plinth of a house from natural ground level?
- What are the precautions to be taken in the foundation of earthquake resistant buildings?
- How to choose a structural system for a building to be constructed in earthquake prone areas?
- How Masonry Buildings made capable of withstanding earthquake shaking?
- How many types of Earthquake Bands are used to reinforce the masonry buildings?
- What should be the thickness of masonry walls in masonry wall buildings?
- What are the minimum sizes of the structural members of an earthquake resistant RC building?
- What is the role of Quality Assurance personnel in the making of a building?
- Should a Structural Engineer be appointed for designing a building, or can an Architect, do it?
- Who should be contacted to know the status of earthquake safety of an existing house?

Dr. Chaurasia answers the attendees' queries about the aforementioned points. In addition, Dr. Chaurasia discussed with the participants and clarified the concepts of Confined Masonry and

Masonry Walls. The novel characteristics of the confined masonry were also discussed, including its ability to withstand earthquakes, cost effectiveness, use of locally accessible building materials and labour, low design effort, 25% reduction in the amount of natural resources used in building construction, and 25% reduction in carbon footprint. It also helps the common man by providing affordable, disaster-resistant housing. As seen in the following figures, he also provided guidelines that should be observed when building is being accomplished:



(a) URM wall panel, (b) dilation of URM wall panel during earthquake shaking, (c) CM wall panel contained from all sides by vertical and horizontal confining elements, and (d) minor distress in confining elements during earthquake shaking



A field visit for the Building Assessments at SAMETI

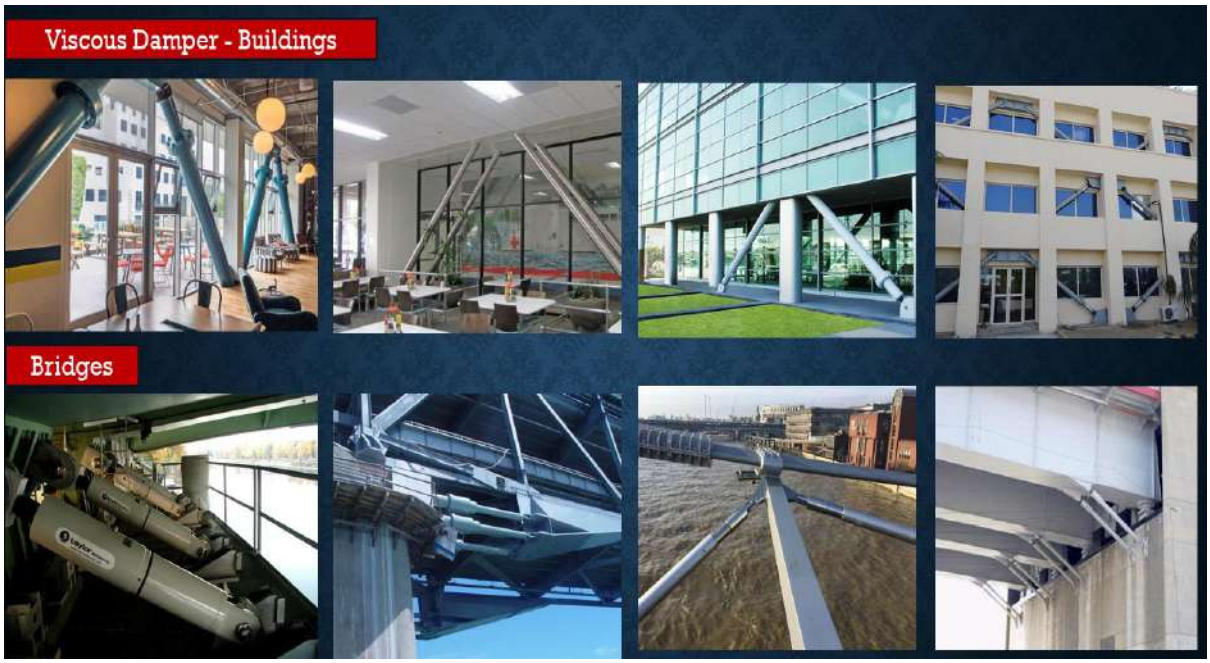
Apart from the guest lectures and group discussions during the presentation, a visit to the SAMETI area was conducted by all the participants for the assessment of buildings. They thoroughly observe the buildings or structures that how much these structures are safe from any disaster like earthquake or fire etc. This was under the separate activity in which two groups were formed and they have to assess the building for any kind of hazards and vulnerabilities. It was a quick activity, in which participants need to observe the structure, architecture and then based on the field observation they need to present this to all along with suggestion and recommendations.

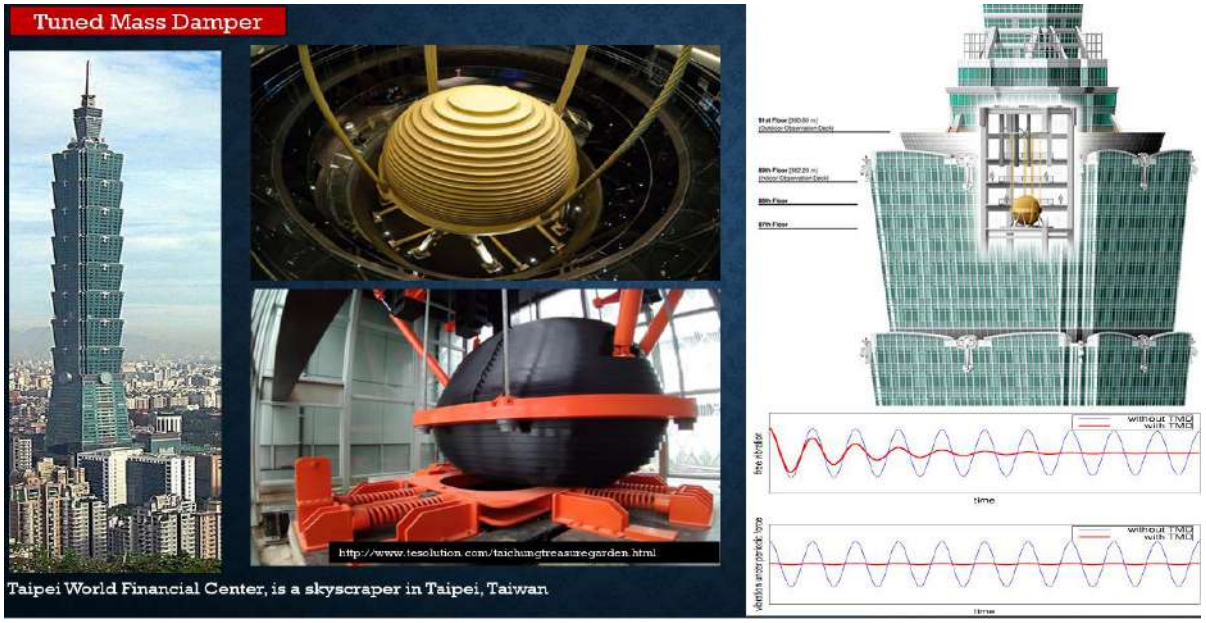
DAY-3 (15TH JUNE, 2023)

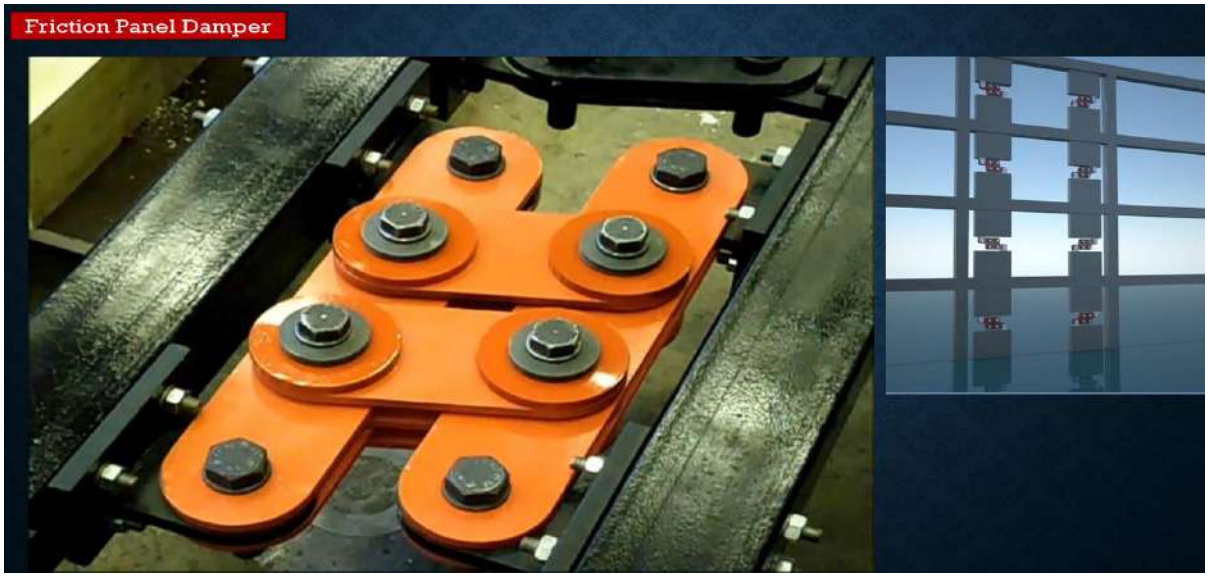
The day 3 was started with the recapitulation of the day 2 activities. After that **Dr. Daniel C, Assistant Professor, Department of Civil Engineering & Science (HITS), Chennai** gave presentation on *Modern Technologies and usage of Damper in Structures*. The presentation was started with the previous earthquakes and its linkage with the technology. He discussed how technological interventions will help to prevent a massive disaster. He explained the application of damper like:

- **Viscous Damper-** A viscous damper consists of a housing which comprises an inertia ring. This ring can rotate within the housing. The narrow gap between ring and housing is filled with silicone fluid. During uniform vibration of the crankshaft (no torsional vibrations), the inertia ring rotates without any slippage.

- **Tuned Mass Damper**, which is positioned at approximately 91 meters high in Indira Gandhi International Airport Air Traffic Control Tower of 50-ton. Statue of Unity in Gujarat, India– two tuned mass dampers of 200 ton each located at the chest level of Sardar Patel statue.
- **Friction dampers** work by generating frictional forces to dissipate vibration energy. They typically consist of two or more surfaces pressed together with a high coefficient of friction.
- Palls Friction Damper.
- Semi active - Magnetorheological Damper
- **Electrorheological damper -** ER fluid: ER fluids are comprised of polarizable or semi-conducting particles suspended in a carrier liquid. In the absence of an electric field, the particles are freely suspended in a liquid medium, and exhibit properties similar to those of Newtonian fluids.







Further, he discussed and explained the active control system. When an earthquake strikes a building, the active control system's sensors determine the direction and weight of the counterbalance force that should be induced in the opposite direction so that the building remains immobile and the structure is safe. Dr. Danial also provides information on the hybrid simulation of a magnetorheological damper for structural earthquake resistance. He discussed the contemporary side of construction techniques and emphasised how such technology advancements may be combined with more conventional techniques. In general, this presentation gives all the attendees a modern understanding of constructional practises and makes them aware that such technology is also available and may be employed in modern construction.

Sh. Nitin Sharma, HPSDMA, Shimla gave a presentation on Himachal Pradesh State Disaster Management Authority "Setup and initiatives". He discussed about the disaster management act, 2005, how further DDMAs was constructed under HPSDMA. Further he explained the various initiatives by the HPSDMA in the state which include:

- Departmental Disaster Management Plans for 39 Departments have been prepared under Section 40 of the DM Act 2005
- First State in the country to prepare the DM Plans for all the Departments.
- Prepared Off-Site Industrial Disaster Management Plan for Sirmour, Solan, Una.
- Scheme for structural safety audit of lifeline buildings
- Working for Safe Construction Practices in HP.
- Scheme for Training of Masons, Carpenters and Bar Binders on Hazard Resistant Construction.
- Scheme for Creation of Task Force of Youth Volunteers for Disaster Preparedness and Response
- School Safety Project
- Scheme for hospital safety
- Policy for Engagement of Interns- at the Himachal Pradesh State Disaster Management Authority (HPSDMA) & District Disaster Management Authority (DDMA).

Furthermore, he briefs about the observational network of Himachal Pradesh in the field of hydro-meteorological early warning system, landslide early warning system and dam safety portal etc. Additionally, he also highlighted the existing EWS for geological & non-hydro meteorological hazards e.g.

- Forest Fire Alerts System 3.0 (FSI)
- DGRE providing Avalanche Advisory to HPSDMA
- CWC providing Flood Advisory to HPSDMA
- Climate Change Centre, HIMCOTE regularly monitoring the GLOF Sites in the State

- Monitoring Cloud Movement across the State through IMD RAPID Portal

He said that the government uses the Common Alert Protocol (CAP), digital, social, and print media to distribute all alerts and advisories. Additionally, he discussed the information-tech initiatives, including the HPSDMA damage and loss reporting portal, revenue management system, school safety management information system, national disaster management information system, and Indian disaster resource network. In addition to this, he provided information on further national and state-level training and capacity-building efforts. He discussed and clarified a number of initiatives, including the Himachal Pradesh Institutionalising Resilience Project, the Risk Reduction & Preparedness Project, and the AFD Bank Externally Aided Project. In a nutshell, he represents the HPSDMA and all of its frameworks, initiatives, and projects that are active in the Himachal Pradesh disaster management sector.

PRESENTATION ON ACTIVITY ON THE ASSESSMENT OF BUILDINGS AT SAMETI, MASHOBRA, SHIMLA

A building assessment exercise determines if the facility on the SAMETI campus is secure from potential dangers or disasters. Two teams of participants were formed to assess the site's and structure's vulnerability in order to meet this goal. Teams made presentations of their work in the chart, reviewed them, and gave presentations to other officers based on the assessments provided by the participants. These findings are based on 15–20 minutes of observations taken on July 14, 2023, by various architects, town planners, engineers, etc. The charts below are those that were on exhibit in the conference room for discussion and advice. When analysing the site, Group One took into account the following factors:

1. Access/ approachability
2. Slope/contours/topography
3. Climatology/sun/wind
4. Natural drainage
5. Oriantation

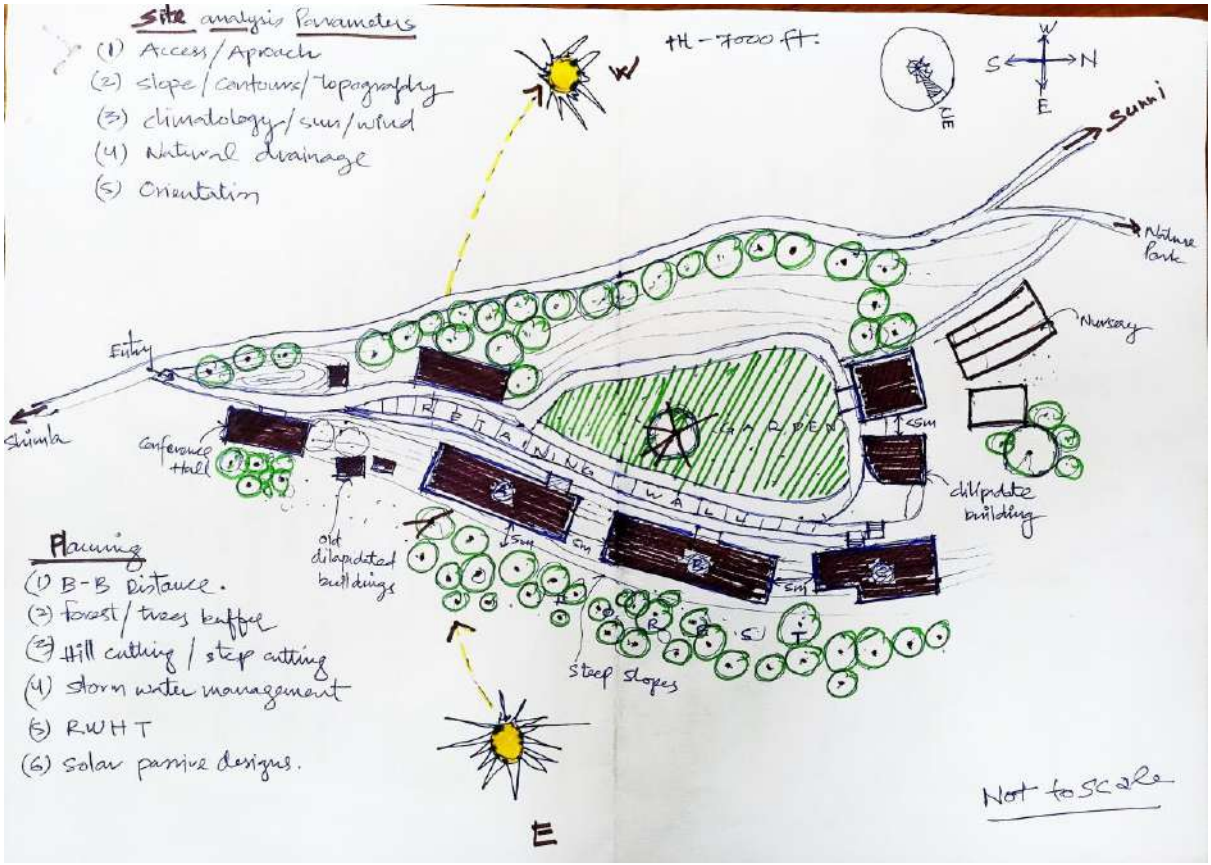


Figure showing the drawing of the SAMETI campus, Mashobra by group 1 for the site assessment.

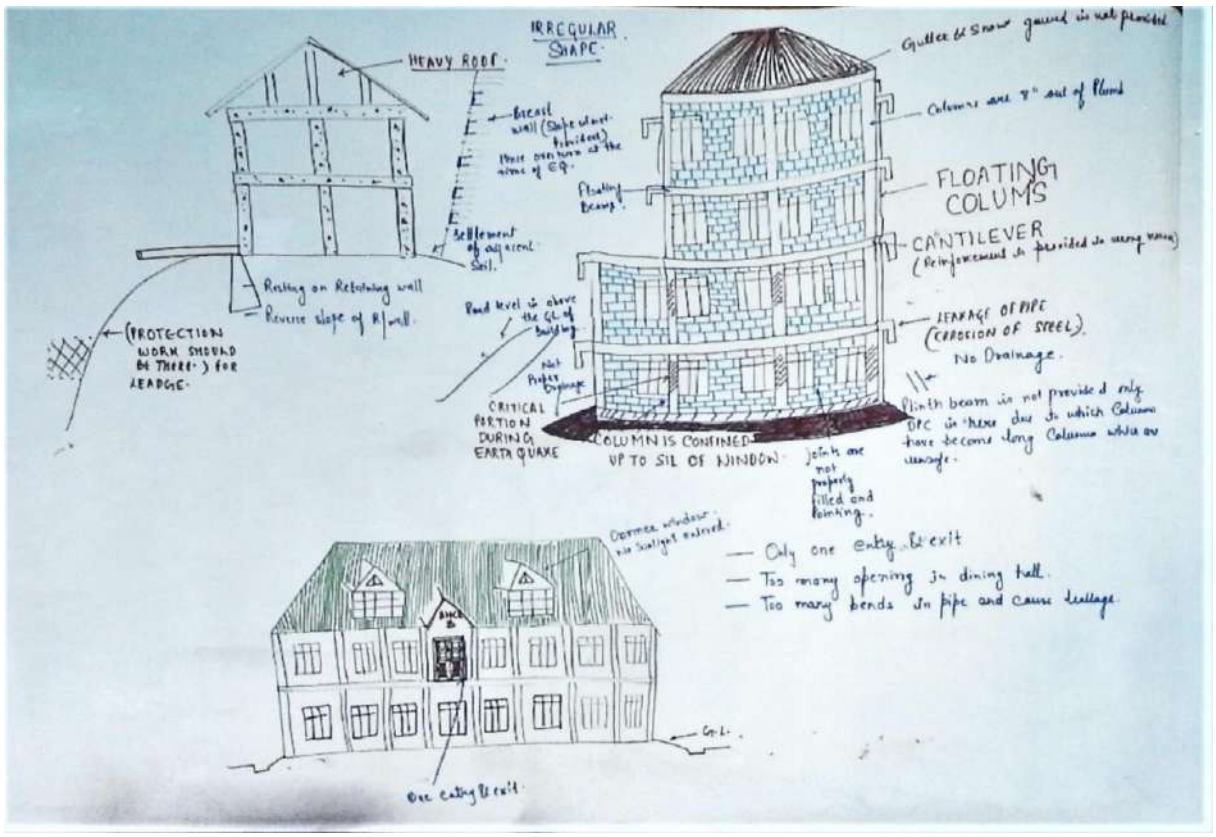


Figure showing the drawing of the existing structures at SAMETI campus, Mashobra by group 2.

While group 2 assessed the existing structures, group 2 examined and evaluated the location. According to the evaluation, the following observations were made:

1. Gutter and snow guard is not provided in the roof
2. Floating columns
3. Heavy Cantilever
4. Lineage of pipes (Corrosion of steel)
5. No drainage
6. Column in confined up to sill of window
7. Only one entry and exit
8. Too many opening in the dining hall
9. Too many bends in pipe and cause leakage

The solution to the aforementioned problems was also discussed with SAMETI's officers. This short assessment of the area and structure was very helpful and fruitful. Beside the presentations by the guest lecturer, such practical exercises related to the topic of the workshop were a new experience for all the participants as well. The participants comments and feedback were also appreciated. The chief guest for the valedictory was Sh. Praveen Kumar Taak, HPAS Joint Secretary, GAD, GoHP. The valedictory programme was started by welcoming the chief guest and honouring him with a Himachali Cap, muffler, and a flower pot. Further, a brief overview of the programme was presented to the chief guest. He also signifies the importance of such training workshops, especially for the stakeholders, who are the builders. Then the certificate was distributed by the chief guest and programme conveners. This is followed by a vote of thanks by Ms. Aditi Panatu, Scientific Professional, SCCC (HIMCOSTE) Shimla. Ms. Yogita Garbyal, Young Professional, NIDM, also gave a vote of thanks to the chief guest, all the participants, the HIMCOSTE team, SAMETI, and HPSDMA for the successful completion of the three-day training programme.

KEY POINTS OF TRAINING PROGRAM

- The town's capabilities, vulnerabilities, and resource availability must be assessed.
- The stakeholder of the state should be updated by conducting such training workshops. However, this training workshop was a state level workshop which also should conducted at the district and block level to more educated the stakeholders.
- In the modern era it is important whether the structure is safe or not beside its appearance and for that every structure should be assessed for every disastrous situation.
- This training workshop provide a new dimension to all the participants regarding the blending techniques because in the current situation such efforts are really very fruitful.
- Climate change affects health, transportation infrastructure, and critical systems in addition to increasing the intensity and frequency of disasters. As a result, the consequences of disasters and climate change must be integrated.
- In a mountainous region, population is fast increasing, resulting in an increase in the number of structures that are sub standardly designed and poorly maintained, resulting in redundant fatalities.
- Like the govt. buildings and other big structure, the small buildings (especially private) should also be under be assessed because that is the ground level step which can help to prevent a small disaster.
- It is critical to promote building regulations and construction processes that comply to the requirements specified by the appropriate authorities in order to develop knowledge.
- The traditional construction techniques of Himachal Pradesh should be conserved and replicated because that is the live example of the earthquake resistant buildings which are still withstand even in the hundred earthquake shaking.
- Risks can be mitigated by adopting disaster risk management approaches such as a fire detection and safety alarm system with automated water sprinklers to douse the flames.
- Promote the use of fire-resistant building materials, interior water-powered fire extinguishers, and public education regarding evacuation methods.
- Automatic smoke and fire alarm systems should be installed in high-rise structures and all school buildings.
- Retrofitting processes for identified old and weak buildings, such as columns and joints, should be done to further protect obsolete important infrastructure from seismic danger.

BROCHURES ON TRAINING PROGRAM

PROGRAMME DETAILS

The programme details apart from the brochure including program schedule, information on resource persons, exercises, study materials, shall be provided separately.

SUGGESTED READINGS

- Simplified Guideline for Earthquake Safety of Building from National Building Code of India 2016, 2021, NDMA
- Landslide Preparedness Guidelines for Safety of Buildings on Slopes, 2019, NIDM
- Indigenous knowledge for disaster risk reduction: good practices and lessons learned from experiences in the Asia-Pacific Region, 2008, ISDR.
- Guidelines on Seismic Retrofitting of Deficient Buildings and Structures, 2014, NDMA
- Village Disaster Management Plan : Training Module 2013, NIDM
- PM 10 Point Agenda on DRR
- Disaster Management Act 2005
- NDMA guidelines on DRR
- DM Act 2005
- SOP for Responding to Disasters (http://ndmindia.nic.in/)

Any other content suitable by respective faculty members will be added here.

EVALUATION OF THE PROGRAMME

The training programme shall have a dedicated session for feedback and valediction. Participants will be requested to fill feedback at NIDM training portal. The participants will be provided with an evaluation proforma on last day, which may be completed and handed over to the organizing staff.

CERTIFICATE

A Certificate will be awarded to the participants on successful completion of the course.

BOARDING, LODGING AND VENUE OF THE PROGRAMME

The boarding and lodging for the outstation participants will be arranged by HIMCOSTE team. Travel expenses of the participants will be borne by respective nominating organizations/departments/institutes.

The programme will be held at Shimla. It will commence at 10:00 AM on Tuesday, May 09, 2023 and will conclude on 5:00 PM on Thursday, May 11, 2023. The deliberations during the training programme will be conducted in English as primary language.

REGISTRATION

Nomination for the Programme will be arranged by HIMCOSTE, Shimla. However, each participant need to register at NIDM training portal i.e. https://training.nidm.gov.in and enroll for the course as well. Program coordinators from organizing team will assist participants in case of any difficulty.

HOW TO REACH AT THE VENUE

Shimla or Dharamshala, Himachal Pradesh is connected via roads to entire nation. The nearest airport is at Shimla and Shimla Railway station is the nearest railhead.

ORGANIZING TEAM

NIDM	HIMCOSTE
Patrons	
Shri Rajendra Ratnoo, IAS Executive Director	**Sh. Lalit Jain, IAS** Member Secretary
Conveners	
Dr. Amir Ali Khan Associate Professor, Resilient Infrastructure Division Email: amir.nidm@nic.in	**Dr. Surjeet Singh Randhawa** Principal Scientific Officer Email: ssrandhawa15@gmail.com
Programme Coordinator	
Ms. Yogita Garbyal Young Professional, NIDM Email: yogita.nidm@govcontractor.in	

For further details or information, please contact:

Dr. Amir Ali Khan,
Associate Professor, Resilient Infrastructure Division,
National Institute of Disaster Management (NIDM)
Ministry of Home Affairs, Government of India
Plot no. 15, Pocket-3, Block-B, Sector-29, Rohini, Delhi -110042
Contact: - 011-20873423
Email: amir.nidm@nic.in
Website: www.nidm.gov.in

Dr. Surjeet Singh Randhawa
Principal Scientific Officer
Himachal Pradesh Council for Science, Technology & Environment
34 SDA Complex, Kasumpti, Shimla-171009
Email: ssrandhawa15@gmail.com
Contact: 94183-82126, 0177-2622490 (O)
Website: https://himcoste.hp.gov.in/

Training Programme on

Blending Traditional Housing Construction Practices with Modern Technology

(June 13 – 15, 2023)

Venue: SAMETI, Shimla
Himachal Pradesh

Organized by

National Institute of Disaster Management
Ministry of Home Affairs, Govt. of India
New Delhi – 110042

in collaboration with

Himachal Pradesh Council for Science, Technology & Environment (HIMCOSTE)
34 SDA Complex, Kasumpti,
Shimla-171009

BACKGROUND

NIDM has been mandated by **Sub-section 8 and 9, Section 42, Chapter 7 of Disaster Management Act 2005** to develop training modules and educational materials, undertake training, research, documentation and publication for capacity development and dissemination of knowledge/ information related to disaster management, **assist in formulation of policies, plans, strategies and frameworks for disaster risk reduction and resilience** as well as promote awareness among different stakeholders for enhancing human capacity to avoid, prevent, mitigate, prepare, respond and recover efficiently in a proactive, holistic and integrated manner.

The Institute has been organizing various training courses and conducting seminars / workshops / conferences covering wide spectrum of themes at the national and international levels besides publishing several training modules and other documents including case studies, templates and disaster reports.

NIDM has been trying to bring various stakeholders at one platform through activities like India Disaster Management Conference, National Platform for Disaster Risk Reduction, South Asia Policy Dialogue, East Asia Summit for Earthquake Risk Reduction and Asia Ministerial Conference for Disaster Risk Reduction for better networking, linkages and coordination. Sendai Framework for Disaster Risk Reduction, Prime Minister's 10 Point Agenda on DRR, Climate Change Action Plans, Urbanization Agenda and Sustainable Development Goals have also emphasized on collective synergized action and integrated approach for Climate and Disaster Resilient Safer Sustainable Development.

SCOPE

This training programme aims to provide opportunities to local administrators to enhance safety preparedness actions and bring resilience to their built environment against disasters for hilly regions. Hill regions are usually seen to have large rural built environment with booming population and increasing tourist pressure having limited land resources with fragile geology and environment makes it highly susceptible to hazards. This also makes the awareness and capacity building as the main areas to stay focused on, to reduce the risk and vulnerability of such area. The training programme will help generate detailed discussion on hazards vulnerability and risk profile of Himachal Pradesh state, seismic safety mitigation measures followed by good construction practices, debate on retrofitting techniques, experiences gained from HP state Govt. initiatives. This three days training programme intends to sensitize, institutionalize and promote traditional constructional information, knowledge, and innovation for seismic stability of the built environment comprising of residential and commercial buildings and critical infrastructure like hospitals and schools etc.

OBJECTIVES

The training programme would help to provide:

- To increase awareness of the key stakeholders on the need for adoption of traditional housing, building bye-laws, codes and earthquake resistant construction and planning standards with use of modern technology.
- To identify solutions to the challenges faced by planners, architects and engineers and showcase examples of ongoing faulty construction practices in Himanchal Pradesh.
- To promote retrofitting technique and understand the concept of build back better through past events, lessons and experience sharing of hilly areas with emphasis to Himachal Pradesh.
- Sensitization at state level by sharing and disseminate experiences, knowledge, information, innovations and ideas on safety of structures to create a safe built environment for hilly region.

BASIC COURSE LEARNING UNITS

Contents of the course would touch upon following aspects, to achieve the objectives:

- Basic Concept of Disaster Management, Risk Reduction and Resilience.
- Understanding Hazard, Vulnerability and Risk Profile of Himachal Pradesh.
- Disaster risk reduction and pre-disaster planning.
- Built Form of Himachal Pradesh-Disaster Perspective Analysis.
- Good practices of traditional housing.
- Planning for Safe Hill area Development using modern technology.
- Building Earthquake Resilience through Indigenous Construction Practices in Himachal Pradesh.
- Techno-legal Regime for Safe Development in Himachal Pradesh.
- Evaluating post reconstruction development, retrofitting for disaster safety- tools and techniques.
- State Government initiatives and good practices.
- Group Exercise/presentation/mock drill.

TARGET GROUP

This programme is primarily designed for HP State Government officials of the departments that are directly responsible for development of buildings/infrastructures of the state, such as Planners, architects and engineers, administrators, etc. The target group for this programme would be senior and middle level functionaries of the central/state governments, PSUs, Municipal Corporations involved in planning, design, construction and maintenance of buildings and representing various departments including CPWD, PWD, Rural Development, Municipalities, Town Planning, Faculties at Universities/IITs/NITs and Industries/R&D facilities dealing in upcoming innovation in sustainable constructions.

ABOUT NIDM

NIDM, Ministry of Home Affairs, is a statutory body responsible for planning and promoting training and research in the area of disaster management, documentation and development of national level information base relating to disaster management policies, prevention mechanisms and mitigation measures. NIDM is thus required to design, develop and implement training programmes, undertake research, formulate and implement a comprehensive human resource development plan, provide assistance in national policy formulation, assist other research and training institutes, state governments and other organizations for successfully discharging their responsibilities, develop educational materials for dissemination and promote awareness among stakeholders in addition to undertake any other function as assigned to it by the Central Government. Thus NIDM is envisioned to be a center of excellence and learning in the field of disaster management.

ABOUT HIMACHAL PRADESH COUNCIL FOR SCIENCE, TECHNOLOGY & ENVIRONMENT (HIMCOSTE)

The Himachal Pradesh Council for Science, Technology & Environment, is the nodal agency for the promotion of Science & Technology and creation of Environment Awareness in the State. The Council was established at Shimla by Govt. of Himachal Pradesh on January 3, 1986 under the country wide programme of the Department of Science & Technology, Govt. of India to promote Science & Technology in the State. Some of its main objective includes advising State Govt. on Science, Technology & Environment related issues & interventions, to develop, demonstrate & transfer appropriate technologies for the State and exchange scientific knowledge from National & International scientific Institutions/organisations for the development of the State.

Training Programme on “Blending Traditional Housing Construction Practices with Modern Technology” held from June 13-15, 2023, organized by H.P. Council for Science, Technology & Environment (HIMCOSTE) Shimla, in collaboration of National Institute of Disaster Management (NIDM), Ministry of Home Affairs, New Delhi and H.P. State Disaster Management Authority (HPSDMA), Shimla H.P.

GALLERY

Day 1: 13th June, 2023

Day 2: 14th June, 2023


with Modern Technology"


ance of blending traditional and modern
ces in hilly regions
onal Housing Construction Practices in Hilly
ns
tages of Traditional Construction Practices
ts of Blending Traditional and Modern
aches.
itudies
nentation Challenges
ision

Day 3: 15th June, 2023


STATE AGRICULTURAL MANAGEMENT & EXTENSION TRAINING INSTITUTE
Three Days Training Program on
"Blending Traditional Housing Construction Practices with Modern Technology"


STATE AGRICULTURAL MANAGEMENT & EXTENSION TRAINING INSTITUTE
Three Days Training Program on
"Blending Traditional Housing Construction Practices with Modern Technology"

LIST OF PARTICIPANTS

List of participants for three days training program on "Blending Traditional Housing Construction Practice with Modern Technologies" w.e.f. 13th-15th June, 2023 at SAMETI, Mashobra, Shimla, H.P.

Sr. No.	Name and Designation of the Officers/Officials	Departments	Email-ID	Mobile Number
1.	Sh. Virender Thakur, Junior Engineer	Panchayat Raj	onsvt1978@gmail.com	70180-86215
2.	Sh. Sher Singh, Junior Engineer	Panchayat Raj	sujalshersingh@gmail.com	94593-86929
3.	Sh. Tek Chand Sharma, Assistant Engineer (Dev.)	Panchayat Raj	tcsharma3900@gmail.com	98160-84439
4.	Sh. Bhagat S. Chauhan, Junior Engineer	Panchayat Raj	chauhanbhagat1@gmail.com	80914-94497
5.	Sh. Ramesh Dutt Sharma, Junior Engineer	Panchayat Raj	rdramesh777@gmail.com	98160-64805
6.	Sh. Pradeep Gupta, Assistant Engineer, M&P	PWD	ppardeepp91@gmail.com	94188-00499
7.	Er. Kanupriya Bhalla, Junior Engineer	PWD	kanupriyabhalla@gmail.com	77839-00008
8.	Sh. Pankaj Thakur, Assistant Engineer (D)	PWD	pankaj.thakur623@gmail.com	97364-93613
9.	Sh. Abhishek Malhotra, Assistant Engineer	PWD	abhishek15malhotra@hotmail.com	94188-77215
10.	Sh. Abhishek, Assistant Engineer	PWD	sharmaabhisharma88@gmail.com	85804-74616
11.	Kumari Megha Sharma, Junior Engineer	PWD	meghanidhi94@gmail.com	82192-34125
12.	Ar. Simmi Butail	PWD	simmijeey65@gmail.com	9816073525
13.	Er. Prem Chand Sharma, Assistant Engineer	RD & PR	premchandsharma71@gmail.com	94180-21981
14.	Er. Rajesh Rana, Assistant Engineer	RD & PR	errprblock@gmail.com	94184-93494
15.	Sh. Rajesh Sharma, Junior Engineer	RD & PR	rajeshwatershed@gmail.com	98170-16003
16.	Er. Anil Ranta, Assistant Engineer	RD & PR	aedevelopmentchopal@gmail.com	85808-29801
17.	Er. Rakesh Thakur, Junior Engineer	RD & PR	rt981618@gmail.com	98161-83575
18.	Sh. Pushpender Kumar, Planning Officer	TCP	pushkashyap27@gmail.com	98055-68638
19.	Sh. Nishant Sharma, Planning Officer	TCP	mail.arch.nish@gmail.com	70182-19488
20.	Sh. Harender Sharma, Planning Officer	TCP	harenderpandit@gmail.com	88949-13333
21.	Dr. Neha Sharma, T&CB Coordinator	DDMA	nehashar05@yahoo.com	98573-79885

22.	Sh. Pradeep Kumar, T&CB Coordinator	DDMA	thakurpradeep09@gmail.com	94183-02496
23.	Er. Kushal Sharma, Executive Engineer (Design)	HIMUDA	kushal1970@yahoo.com	70186-03910
24.	Er. Lalit Thakur, Executive Engineer (Division Mandi)	HIMUDA	lalitkumar9900@gmail.com	94180-92001
25.	Er. Nagender Singh, Assistant Engineer (Division Mandi)	HIMUDA	singhnagender2087@gmail.com	98160-13949, 70184-16685
26.	Er. Anoop Sood, Assistant Engineer (Division Dharamshala)	HIMUDA	soodanu.1972@gmail.com	94597-57791
27.	Er. Vinod Thakur, Junior Engineer (Division Nahan)	HIMUDA	veekay31052010@gmail.com	70182-73462, 94184-59660
28.	Er. Pradeep K. Jaswal, Junior Engineer (Division Dharamshala)	HIMUDA	pardeepjaswal007@gmail.com	94180-44312
29.	Er. Yugender Kumar, Junior Engineer (Elect.) (Division Shimla)	HIMUDA	yugenderkumar555@gmail.com	82196-03833
30.	Sh. Roop Singh, Architectural Head Draughtsman	HIMUDA	roop.suryan@gmail.com	98166-27038
31.	Sh. Varun Sharma, Executive Officer	UD	mctheog@gmail.com	98051-94422
32.	Sh. Piush Chauhan, Secretary	UD	np.jubbal1@gmail.com	88005-25997
33.	Sh. Abhinav Sharma, Secretary	UD	nprajgarh@gmail.com	70185-31137
34.	Sh. Shreyan Kanwar, Junior Engineer	UD	ud-hp@nic.in	78071-96068
35.	Smt. Varsha Sharma, Junior Engineer	UD	np.aani7@gmail.com	70181-27663
36.	Ms. Ishu, Junior Engineer	UD	np.kotkhai@gmail.com	98160-81487
37.	Sh. Nitish Bhardwaj, Computer Operator	UD	ud-hp@nic.in	82191-97160
38.	Dr. Daniel C. Assistant Professor,	Department of Civil Engineering & Science (HITS), Chennai	danielc@hindustansuniv.ac.in	9629497429
39.	Raj Kumar, Junior Engineer	Development Block, Jhandutta, Distt. Bilaspur	kraj50368@gmail.com	7018925904

ATTENDANCE LIST OF PARTICIPANTS

June 13, 2023

Attendance list for three days training program on "Blending Traditional Housing Construction Practice with Modern Technologies" w.e.f. 13th-15th June, 2023 at SAMETI, Mashobra, Shimla, H.P.

Sr. No.	Name and Designation of the Officers / Officials	Departments	Email-ID	Mobile Number	Signature
1	Sh. Virender Thakur, Junior Engineer	Panchayat Raj	onsvt1978@gmail.com	70180-86215	
2	Sh. Sher Singh, Junior Engineer	Panchayat Raj	sujalshersingh@gmail.com	94593-86929	
3	Sh. Tek Chand Sharma, Assistant Engineer (Dev.)	Panchayat Raj	tcsharma3900@gmail.com	98160-84439	
4	Sh. Bhagat S. Chauhan, Junior Engineer	Panchayat Raj	chauhanbhagat1@gmail.com	80914-94497	
5	Sh. Ramesh Dutt Sharma, Junior Engineer	Panchayat Raj	rdramesh777@gmail.com	98160-64805	
6	Sh. Pradeep Gupta, Assistant Engineer, M&P	PWD	ppardeepp91@gmail.com	94188-00499	
7	Miss Kanupriya Bhalla, Junior Engineer	PWD	kanupriyabhalla@gmail.com	77839-00008	
8	Sh. Pankaj Thakur (D), Assistant Engineer	PWD	pankaj.thakur623@gmail.com	97364-93613	
9	Sh. Abhishek Malhotra, Assistant Engineer	PWD	abhishek15malhotra@hotmail.com	94188-77215	
10	Sh. Abhishek, Assistant Engineer	PWD	sharmaabhisharma88@gmail.com	85804-74616	
11	Kumari Megha Sharma, Junior Engineer	PWD	meghanidhi94@gmail.com	82192-34125	
12	Ar. Simmi Butail	PWD	simmijoey65@gmail.com	98160-73525	
13	Er. Prem Chand Sharma, Assistant Engineer	RD & PR	premchandsharma71@gmail.com	94180-21981	
14	Er. Rajesh Rana, Assistant Engineer	RD & PR		94184-93494	
15	Sh. Rajesh Sharma, Junior Engineer	RD & PR		98170-16003	
16	Er. Anil Ranta, Assistant Engineer	RD & PR	aedevelopmentchopal@gmail.com	85808-29801	
17	Er. Rakesh Thakur, Junior Engineer	RD & PR		98161-83575	
18	Sh. Pushpender Kumar, Planning Officer	TCP	pushkashyap27@gmail.com	98055-68638	

19	Sh. Nishant Sharma, Planning Officer	TCP	mail.arch.nish@gmail.com	70182-19488	
20	Sh. Harender Sharma, Planning Officer	TCP	harenderpandit@gmail.com	88949-13333	
21	Sh. Prakash Rajta, SPD	TCP	prakashrajta@gmail.com	94180-76719	
22	Sh. Prashant Deep, T&CB Coordinator	DDMA	pdeep30@gmail.com	82848-25770	
23	Ms. Preeti Negi, T&CB Coordinator	DDMA	negipreeti1994@gmail.com	70187-98201	
24	Sh. Sumit Gupta, T&CB Coordinator	DDMA	ervaidgupta@gmail.com	98165-38980	
25	Dr. Neha Sharma, T&CB Coordinator	DDMA	nehashar05@yahoo.com	98573-79885	
26	Sh. Pradeep Kumar, T&CB Coordinator	DDMA	thakurpradeep09@gmail.com	94183-02496	
27	Er. Kushal Sharma, Executive Engineer (Design)	HIMUDA	kushal1970@yahoo.com	70186-03910	
28	Er. Lalit Thakur, Executive Engineer (Division Mandi)	HIMUDA	lalitkumar9900@gmail.com	94180-92001	
29	Er. Nagender Singh, Assistant Engineer (Division Mandi)	HIMUDA	singhnagender2087@gmail.com	98160-13949, 70184-16685	
30	Er. Anoop Sood, Assistant Engineer (Division Dharamshala)	HIMUDA	soodanu.1972@gmail.com	94597-57791	
31	Er. Vinod Thakur, Junior Engineer (Division Nahan)	HIMUDA		70182-73462, 94184-59660	
32	Er. Pradeep K. Jaswal, Junior Engineer (Division Dharamshala)	HIMUDA	pardeepjaswal007@gmail.com	94180-44312	
33	Er. Yugender Kumar, Junior Engineer (Elect.) (Division Shimla)	HIMUDA	yugenderkumar555@gmail.com	82196-03833	
34	Sh. Roop Singh, Architectural Head Draughtsman	HIMUDA	roop.suryan@gmail.com	98166-27038	
35	Sh. Mohan Thakur, Junior Engineer	MC	mohanthakur.k@gmail.com	94180-64474	
36	Sh. Ateet Mahajan, SDO	HPTDC	er.ateetmahajan.hptourism@gmail.com	98785-43005	

37	Sh. Nikhil, Junior Engineer	HPTDC		98052-52779	
38	Sh. Varun Sharma, Executive Officer	UD	mctheog@gmail.com	98051-94422	
39	Sh. Piush Chauhan, Secretary	UD	np.jubbal1@gmail.com	88005-25997	
40	Sh. Abhinav Sharma, Secretary	UD	nprajgarh@gmail.com	70185-31137	
41	Sh. Shreyan Kanwar, Junior Engineer	UD	ud-hp@nic.in	78071-96068	
42	Smt. Varsha Sharma, Junior Engineer	UD	np.aani7@gmail.com	70181-27663	
43	Ms. Ishu, Junior Engineer	UD	np.kotkhai@gmail.com	98160-81487	
44	Sh. Nitish Bhardwaj, Computer Operator	UD	ud-hp@nic.in	82191-97160	
45	Daniel C, Assistant Professor	Hindustan Institute of Technology and Science (HITS), Bay Range Campus, Padur, Chennai-603 103	danielc@hindustanuniv.ac.in	96294-97429	
46	Raj Kumar JE	Dev. Block Thanedhar	BDO Thanedhar @ yahoo.com	70129 29904	

June 14, 2023

Attendance list for three days training program on "Blending Traditional Housing Construction Practice with Modern Technologies" w.e.f. 13th-15th June, 2023 at SAMETI, Mashobra, Shimla, H.P.

Sr. No.	Name and Designation of the Officers / Officials	Departments	Email-ID	Mobile Number	Signature
1	Sh. Virender Thakur, Junior Engineer	Panchayat Raj	onsvt1978@gmail.com	70180-86215	
2	Sh. Sher Singh, Junior Engineer	Panchayat Raj	sujalshersingh@gmail.com	94593-86929	
3	Sh. Tek Chand Sharma, Assistant Engineer (Dev.)	Panchayat Raj	tcsharma3900@gmail.com	98160-84439	
4	Sh. Bhagat S. Chauhan, Junior Engineer	Panchayat Raj	chauhanbhagat1@gmail.com	80914-94497	
5	Sh. Ramesh Dutt Sharma, Junior Engineer	Panchayat Raj	rdramesh777@gmail.com	98160-64805	
6	Sh. Pradeep Gupta, Assistant Engineer, M&P	PWD	ppardeepp91@gmail.com	94188-00499	
7	Miss Kanupriya Bhalla, Junior Engineer	PWD	kanupriyabhalla@gmail.com	77839-00008	
8	Sh. Pankaj Thakur (D), Assistant Engineer	PWD	pankaj.thakur623@gmail.com	97364-93613	
9	Sh. Abhishek Malhotra, Assistant Engineer	PWD	abhishek15malhotra@hotmail.com	94188-77215	
10	Sh. Abhishek, Assistant Engineer	PWD	sharmaabhisharma88@gmail.com	85804-74616	
11	Kumari Megha Sharma, Junior Engineer	PWD	meghanidhi94@gmail.com	82192-34125	
12	Ar. Simmi Butail	PWD	simmijoey65@gmail.com	98160-73525	
13	Er. Prem Chand Sharma, Assistant Engineer	RD & PR	premchandsharma71@gmail.com	94180-21981	
14	Er. Rajesh Rana, Assistant Engineer	RD & PR	eerkprblock@gmail.com / aezlbilaspur@yahoo.com	94184-93494	
15	Sh. Rajesh Sharma, Junior Engineer	RD & PR	rajeshwatershed@gmail.com	98170-16003	
16	Er. Anil Ranta, Assistant Engineer	RD & PR	aedevelopmentchopal@gmail.com	85808-29801	
17	Er. Rakesh Thakur, Junior Engineer	RD & PR		98161-83575	
18	Sh. Pushpender Kumar, Planning Officer	TCP	pushkashyap27@gmail.com	98055-68638	

19	Sh. Nishant Sharma, Planning Officer	TCP	mail.arch.nish@gmail.com	70182-19488	
20	Sh. Harender Sharma, Planning Officer	TCP	harenderpandit@gmail.com	88949-13333	
21	Sh. Prakash Rajta, SPD	TCP	prakashrajta@gmail.com	94180-76719	
22	Sh. Prashant Deep, T&CB Coordinator	DDMA	pdeep30@gmail.com	82848-25770	
23	Ms. Preeti Negi, T&CB Coordinator	DDMA	negipreeti1994@gmail.com	70187-98201	
24	Sh. Sumit Gupta, T&CB Coordinator	DDMA	ervaidgupta@gmail.com	98165-38980	
25	Dr. Neha Sharma, T&CB Coordinator	DDMA	nehashar05@yahoo.com	98573-79885	
26	Sh. Pradeep Kumar, T&CB Coordinator	DDMA	thakurpradeep09@gmail.com	94183-02496	
27	Er. Kushal Sharma, Executive Engineer (Design)	HIMUDA	kushal1970@yahoo.com	70186-03910	
28	Er. Lalit Thakur, Executive Engineer (Division Mandi)	HIMUDA	lalitkumar9900@gmail.com	94180-92001	
29	Er. Nagender Singh, Assistant Engineer (Division Mandi)	HIMUDA	singhnagender2087@gmail.com	98160-13949, 70184-16685	
30	Er. Anoop Sood, Assistant Engineer (Division Dharamshala)	HIMUDA	soodanu.1972@gmail.com	94597-57791	
31	Er. Vinod Thakur, Junior Engineer (Division Nahan)	HIMUDA		70182-73462, 94184-59660	
32	Er. Pradeep K. Jaswal, Junior Engineer (Division Dharamshala)	HIMUDA	pardeepjaswal007@gmail.com	94180-44312	
33	Er. Yugender Kumar, Junior Engineer (Elect.) (Division Shimla)	HIMUDA	yugenderkumar555@gmail.com	82196-03833	
34	Sh. Roop Singh, Architectural Head Draughtsman	HIMUDA	roop.suryan@gmail.com	98166-27038	
35	Sh. Mohan Thakur, Junior Engineer	MC	mohanthakur.k@gmail.com	94180-64474	
36	Sh. Ateet Mahajan, SDO	HPTDC	er.ateetmahajan.hptourism@gmail.com	98785-43005	

37	Sh. Nikhil, Junior Engineer	HPTDC		98052- 52779	
38	Sh. Varun Sharma, Executive Officer	UD	**mctheog@gmail.com**	98051- 94422	
39	Sh. Piush Chauhan, Secretary	UD	**np.jubbal1@gmail.com**	88005- 25997	
40	Sh. Abhinav Sharma, Secretary	UD	**nprajgarh@gmail.com**	70185- 31137	
41	Sh. Shreyan Kanwar, Junior Engineer	UD	**ud-hp@nic.in**	78071- 96068	
42	Smt. Varsha Sharma, Junior Engineer	UD	**np.aani7@gmail.com**	70181- 27663	
43	Ms. Ishu, Junior Engineer	UD	**np.kotkhai@gmail.com**	98160- 81487	
44	Sh. Nitish Bhardwaj, Computer Operator	UD	**ud-hp@nic.in**	82191- 97160	
45	Daniel C, Assistant Professor	Hindustan Institute of Technology and Science (HITS), Bay Range Campus, Padur, Chennai-603 103	**danielc@hindustanuniv.ac.in**	96294- 97429	
46	Rajkumar J.E	R.D.D	Kraj50318@Gmail.com.	70189 25904	

June 15, 2023

Attendance list for three days training program on "Blending Traditional Housing Construction Practice with Modern Technologies" w.e.f. 13th-15th June, 2023 at SAMETI, Mashobra, Shimla, H.P.

Sr. No.	Name and Designation of the Officers / Officials	Departments	Email-ID	Mobile Number	Signature
1	Sh. Virender Thakur, Junior Engineer	Panchayat Raj	onsvt1978@gmail.com	70180-86215	
2	Sh. Sher Singh, Junior Engineer	Panchayat Raj	sujalshersingh@gmail.com	94593-86929	
3	Sh. Tek Chand Sharma, Assistant Engineer (Dev.)	Panchayat Raj	tcsharma3900@gmail.com	98160-84439	
4	Sh. Bhagat S. Chauhan, Junior Engineer	Panchayat Raj	chauhanbhagat1@gmail.com	80914-94497	
5	Sh. Ramesh Dutt Sharma, Junior Engineer	Panchayat Raj	rdramesh777@gmail.com	98160-64805	
6	Sh. Pradeep Gupta, Assistant Engineer, M&P	PWD	ppardeepp91@gmail.com	94188-00499	
7	~~Miss~~ Kanupriya Bhalla, Junior Engineer	PWD	kanupriyabhalla@gmail.com	77839-00008	
8	Sh. Pankaj Thakur ~~(D)~~, Assistant Engineer (D)	PWD	pankaj.thakur623@gmail.com	97364-93613	
9	Sh. Abhishek Malhotra, Assistant Engineer	PWD	abhishek15malhotra@hotmail.com	94188-77215	
10	Sh. Abhishek, Assistant Engineer	PWD	sharmaabhisharma88@gmail.com	85804-74616	
11	Kumari Megha Sharma, Junior Engineer	PWD	meghanidhi94@gmail.com	82192-34125	
12	Ar. Simmi Butail	PWD	simmijoey65@gmail.com	98160-73525	Simi Butail
13	Er. Prem Chand Sharma, Assistant Engineer	RD & PR	premchandsharma71@gmail.com	94180-21981	
14	Er. Rajesh Rana, Assistant Engineer	RD & PR	errprblock@gmail.com	94184-93494	
15	Sh. Rajesh Sharma, Junior Engineer	RD & PR		98170-16003	

16	Er. Anil Ranta, Assistant Engineer	RD & PR	nedevelopmentchopal@gmail.com	85808-29801	
17	Er. Rakesh Thakur, Junior Engineer	RD & PR		98161-83575	
18	Sh. Pushpender Kumar, Planning Officer	TCP	pushkashyap27@gmail.com	98055-68638	
19	Sh. Nishant Sharma, Planning Officer	TCP	mail.arch.nish@gmail.com	70182-19488	
20	Sh. Harender Sharma, Planning Officer	TCP	harenderpandit@gmail.com	88949-13333	
21	Sh. Prakash Rajta, SPD	TCP	prakashrajta@gmail.com	94180-76719	
22	Sh. Prashant Deep, T&CB Coordinator	DDMA	pdeep30@gmail.com	82848-25770	
23	Ms. Preeti Negi, T&CB Coordinator	DDMA	negipreeti1994@gmail.com	70187-98201	
24	Sh. Sumit Gupta, T&CB Coordinator	DDMA	ervaidgupta@gmail.com	98165-38980	
25	Dr. Neha Sharma, T&CB Coordinator	DDMA	nehashar05@yahoo.com	98573-79885	
26	Sh. Pradeep Kumar, T&CB Coordinator	DDMA	thakurpradeep09@gmail.com	94183-02496	
27	Er. Kushal Sharma, Executive Engineer (Design)	HIMUDA	kushal1970@yahoo.com	70186-03910	
28	Er. Lalit Thakur, Executive Engineer (Division Mandi)	HIMUDA	lalitkumar9900@gmail.com	94180-92001	
29	Er. Nagender Singh, Assistant Engineer (Division Mandi)	HIMUDA	singhnagender2087@gmail.com	98160-13949, 70184-16685	
30	Er. Anoop Sood, Assistant Engineer (Division Dharamshala)	HIMUDA	soodanu.1972@gmail.com	94597-57791	
31	Er. Vinod Thakur, Junior Engineer (Division Nahan)	HIMUDA		70182-73462, 94184-59660	
32	Er. Pradeep K. Jaswal, Junior Engineer (Division Dharamshala)	HIMUDA	pardeepjaswal007@gmail.com	94180-44312	

33	Er. Yugender Kumar, Junior Engineer (Elect.) (Division Shimla)	HIMUDA	yugenderkumar555@gmail.com	82196-03833	[signature]
34	Sh. Roop Singh, Architectural Head Draughtsman	HIMUDA	roop.suryan@gmail.com	98166-27038	[signature]
35	Sh. Mohan Thakur, Junior Engineer	MC	mohanthakur.k@gmail.com	94180-64474	
36	Sh. Ateet Mahajan, SDO	HPTDC	er.ateetmahajan.hptourism@gmail.com	98785-43005	
37	Sh. Nikhil, Junior Engineer	HPTDC		98052-52779	
38	Sh. Varun Sharma, Executive Officer	UD	mctheog@gmail.com	98051-94422	[signature]
39	Sh. Piush Chauhan, Secretary	UD	np.jubbal1@gmail.com	88005-25997	[signature]
40	Sh. Abhinav Sharma, Secretary	UD	nprajgarh@gmail.com	70185-31137	[signature]
41	Sh. Shreyan Kanwar, Junior Engineer	UD	ud-hp@nic.in	78071-96068	[signature]
42	Smt. Varsha Sharma, Junior Engineer	UD	np.aani7@gmail.com	70181-27663	[signature]
43	Ms. Ishu, Junior Engineer	UD	np.kotkhai@gmail.com	98160-81487	[signature]
44	Sh. Nitish Bhardwaj, Computer Operator	UD	ud-hp@nic.in	82191-97160	[signature]
45	Daniel C, Assistant Professor	Hindustan Institute of Technology and Science (HITS), Bay Range Campus, Padur, Chennai-603 103	danielc@hindustanuniv.ac.in	96294-97429	[signature]
46	Raj Kumar JE	DDP Block [illegible]	Kraj50368@Gmail.com	7018925904	[signature]

NEWS AND MEDIA COVERAGE

प्रदेश में काठकुणी भूकंप अवरोधी तकनीक लाभप्रद

शिमला। हिमाचल प्रदेश राज्य विज्ञान, प्रौद्योगिकी एवं पर्यावरण परिषद शिमला द्वारा राष्ट्रीय आपदा प्रबंधन संस्थान और प्रदेश राज्य आपदा प्रबंधन प्राधिकरण के सहयोग से 3 दिवसीय कार्यशाला पारंपरिक आवास निर्माण प्रक्रियाओं को आधुनिक तकनीकों के साथ जोड़कर विषय पर मशोबरा में कार्यशाला आयोजित की गई। इस कार्यशाल का उद्देश्य पुरानी भवन निर्माण तकनीकी को आधुनिक तकनीकी के सामंजस्य से भूकंप अवरोधी निर्माण और ज्ञान को साझा करना था। प्रदेश सरकार के अतिरिक्त सचिव पर्यावरण, विज्ञान एवं प्रौद्योगिकी सतपाल धीमान ने बताया कि हिमाचल प्रदेश जैसे पहाड़ी राज्य में पुरातन तकनीकियों का आधुनिक तकनीकियों से आवास/भवन निर्माण का आपसी सामंजस्य भूकंम्प अवरोधी निर्माण में काफी सहायक होगा, विशेषकर पारंपरिक काठकुणी भूकंप अवरोधी तकनीक लाभप्रद है।

मला/सिरमौर/सोलन

चंडीगढ़, 16 जून, 2023 दैनिक जागरण 3

हिमाचल में बनाए जाएंगे भूकंप रोधी भवन

भूकंप की दृष्टि से अति संवेदनशील जोन चार और पांच में आता है प्रदेश

राज्य ब्यूरो, शिमला : हिमाचल भूकंप की दृष्टि से अति संवेदनशील जोन चार व पांच में आता है। यहां लगातार भूकंप के झटके आते रहते हैं। इसी को देखते हुए प्रदेश में अब भूकंप रोधी भवनों का निर्माण किया जाएगा। इसके लिए प्रशिक्षण के साथ अन्य प्रक्रियाओं को लेकर पूरा खाका तैयार कर लिया गया है। हिमाचल प्रदेश विज्ञान प्रौद्योगिकी एवं पर्यावरण परिषद (हिमकास्ट) द्वारा राष्ट्रीय आपदा प्रबंधन संस्थान भारत सरकार तथा हिमाचल प्रदेश राज्य आपदा प्रबंधन प्राधिकरण के सहयोग से तीन दिवसीय कार्यशाला लगाई गई। इसमें छह विभागों लोक निर्माण, पर्यटन, हिमुडा, नगर एवं ग्राम योजना, शहरी विकास, पंचायती राज के अधिकारियों को प्रशिक्षण दिया गया। 13 से 15 जून तक आयोजित इस कार्यशाला में छह विभागों के 40 प्रतिभागियों ने भाग लिया। इसमें पारंपरिक आवास निर्माण प्रक्रियाओं को आधुनिक तकनीकों के साथ जोड़कर बताया, जिससे आने वाले समय में पूरी तरह से भवनों के निर्माण में भूकंप रोधी तकनीक का इस्तेमाल हो सके। इसका उद्देश्य पुरानी भवन व आवास निर्माण तकनीक को आधुनिक तकनीक के इस्तेमाल से भूकंप रोधी निर्माण तथा ज्ञान को साझा करना था। कार्यशाला का शुभारंभ 13 जून को हिमाचल प्रदेश के अतिरिक्त सचिव पर्यावरण, विज्ञान एवं प्रौद्योगिकी सतपाल धीमान ने किया था।

भूकंप रोधी मकानों की कार्यशाला के दौरान अधिकारी व अन्य • जागरण

सतपाल धीमान ने बताया कि हिमाचल जैसे पहाड़ी राज्य में पुरातन तकनीकों का आधुनिक तकनीकों से आवास व भवन निर्माण का सामंजस्य भूकंप रोधी निर्माण में सहायक होगा। कार्यशाला का समापन 15 जून को संयुक्त सचिव प्रवीन कुमार टाक ने किया। उन्होंने अपने प्रतिभागियों को इस ज्ञान को अपने-अपने विभागों द्वारा जन कल्याण के लिए उपयोग में लाने तथा राज्य के आपदा प्रबंधन प्लान को अपडेट करने के बारे में जोर डाला। कार्यशाला में सीएसआईआर-सीबीआरआई रूड़की के प्रमुख वैज्ञानिक डा. अजय चौरसिया, डा. एसएस रंधावा ने एसोसिएट प्रोफेसर डा. आमीर खान, एसोसिएट प्रोफेसर डा. आमीर खान, रुड़की मुख्य वैज्ञानिक डा. अजय चौरसिया, डा. एसएस रंधावा ने प्रशिक्षित किया।

भवन निर्माण की पारंपरिक काठकुनी तकनीक भूकंपरोधी

By: *divyahimachal* Jun 16th, 2023 12:56 am

हिमकॉस्ट की कार्यशाला में भवन निर्माण की तकनीकों पर हुआ मंथन

स्टाफ रिपोर्टर—शिमला

भवन निर्माण की आधुनिक तकनीकों के पुरानी तकनीकों के साथ सामंजस्य भूकंप अवरोधी निर्माण के लिए काफी ज्यादा लाभप्रद होगी। खासकर पारंपरिक काठ-कुनी भूकंप अवरोधी तकनीक लाभप्रद है। हिमाचल प्रदेश राज्य विज्ञान, प्रौद्योगिकी एवं पर्यावरण परिषद यानी हिमकॉस्ट के शिमला द्वारा राष्ट्रीय आपदा प्रबंधन संस्थान, भारत सरकार तथा हिमाचल प्रदेश राज्य आपदा प्रबंधन प्राधिकरण के सहयोग से तीन दिवसीय कार्यशाला पारंपरिक आवास निर्माण प्रक्रियाओं को आधुनिक तकनीकियों के साथ जोड़कर विषय तीन दिवसीय कार्यशाला का आयोजन हुआ है। यह कार्यशाला मशोबरा, समेटी हॉल में आयोजित की गई, जिसमें राज्य सरकार के विभिन्न विभागों जैसे लोक निर्माण, पर्यटन, हिमुडा, नगर एवं योजना, शहरी विकास, पंचायती राज इत्यादि के 40 प्रतिभागियों ने भाग लिया। इस कार्यशाला का उद्देश्य पुरानी भवन/आवास निर्माण तकनीकी को आधुनिक तकनीकी के सामंजस्य से भूकंप अवरोधी निर्माण तथा ज्ञान को सांझा करना था।

इस प्रशिक्षण कार्यक्रम का उद्घाटन 13 जून, 2023 को हिमाचल प्रदेश सरकार के सतपाल धीमान, अतिरिक्त सचिव पर्यावरण, विज्ञान एवं प्रौद्योगिकी द्वारा किया गया। धीमान ने बताया कि हिमाचल प्रदेश जैसे पहाड़ी राज्य में पुरातन तकनीकियों का आधुनिक तकनीकियों से आवास/भवन निर्माण का आपसी सामंजस्य भूकंप अवरोधी निर्माण में काफी सहायक होगा। इस प्रशिक्षण कार्यक्रम में एसके नेगी, प्रमुख वैज्ञानिक, सीएसआईआर-सीबीआरआई केसी नांटा, स्टेट टाउन प्लानर, हिमाचल प्रदेश डा. आमीर खान, एसोसिएट प्रोफेसर, एनआईडीएम डा. अजय चौरसिया, मुख्य वैज्ञानिक सीबीआरआई रुड़की, उत्तराखंड डा. एसएस रंधावा, प्रमुख वैज्ञानिक अधिकारी, हिमकॉस्ट तथा नितिन शर्मा, एचपीएसडीएमए मुख्य वक्ता थे।

अपडेट होगा आपदा प्रबंधन प्लान

गुरुवार को इस कार्यशाला का समापन मुख्यातिथि प्रवीन कुमार टाक, संयुक्त सचिव हिमाचल प्रदेश सरकार द्वारा किया गया। उन्होंने अपने भाषण में प्रतिभागियों को इस ज्ञान को अपने-अपने विभागों द्वारा जन कल्याण के लिए उपयोग में लाने तथा राज्य के आपदा प्रबंधन प्लान को अपडेट करने के बारे में जोर डाला, ताकि प्रदेश में भूकंप अवरोधी कंस्ट्रक्शन/निर्माण को बढ़ावा मिले और प्रदेश विभिन्न आपदाओं के दुष्प्रभावों से कम से कम प्रभावित हो।

Experts Bat for a Blend of Kaath-Kuni and Modern Housing Tech for a Safer Housing in Himalayan Region

Author: HimbuMail News Service

SHIMLA- The experts from various fields have agreed that the blend of traditional Kaath-Kuni practices and Modern architecture can ensure a safer bet for the housing in the seismic-prone hill region of the Himalaya.

They have gathered here for a three-day training program titled "Blending Traditional Housing Construction Practices with Modern Technology".

It was organized from June 13 to June 15, 2023 at Mashobra.

> The event was jointly conducted by the Himachal Pradesh Council for Science, Technology & Environment (HIMCOSTE), the National Institute of Disaster Management (NIDM) under the Ministry of Home Affairs, Government of India, and the Himachal Pradesh State Disaster Management Authority (HPSDMA).

The objective of the training program was to raise awareness, institutionalize, and promote traditional construction practices, knowledge, and innovation to ensure seismic stability in the built-up environment with the aid of modern technology. The event provided a platform for 40 participants, including state government officers from various development sectors such as Public Works Department (PWD), HIMUDA, TCP, UD, HPTDC, and Panchayati Raj, to enhance safety preparedness and resilience in their built environment against disasters.

The training program was inaugurated on June 13, 2023, by Satpal Dhiman, Additional Secretary (Env. Sci. & Tech.) to the Government of Himachal Pradesh.

Shri Dhiman emphasized the need to combine safe traditional construction practices with modern technology, particularly in hilly areas like Himachal Pradesh, where traditional Kath-Kuni structures, known for their seismic safety, are diminishing.

Throughout the three-day course, expert speakers such as Shri S. K. Negi, Chief Scientist at CSIR-CBRI, Sh. K.C. Narta, State Town Planner from the Department of Town & Country Planning in Shimla, Dr. Ajay Chaurasia, Chief Scientist at CBRI Roorkee, Uttarakhand, Dr. Amir Ali Khan, Associate Professor at NIDM, Dr. S. S. Randhawa, Principal Scientific Officer at HIMCOSTE, Shimla, and Shri Nitin Sharma from HPSDMA, discussed various subjects related to the topic.

The training program facilitated brainstorming sessions on the need to integrate disaster risk reduction strategies into the development sector. Given Himachal Pradesh's vulnerability to multiple hazards, participants discussed understanding the state's hazard, vulnerability, and risk profile.

The importance of preserving and utilizing local indigenous construction practices for earthquake safety and sustainable development in hilly areas was emphasized. The challenges and gaps in mainstreaming resilient indigenous construction practices were addressed, with examples and solutions provided using modern technology implemented at the national level.

The program highlighted the state's initiatives, such as retrofitting critical infrastructures like hospitals and schools, as well as capacity-building initiatives for masons, artisans, and engineers.

"Blending Traditional Housing Construction Practices with Modern Technology" Training Program Concludes

Shimla, June 15 : Three days training programme on "Blending Traditional Housing Construction Practices with Modern Technology" was organized from 13-15 June, 2023 at SAMETI, Mashobra, Himachal Pradesh by Himachal Pradesh Council for Science, Technology & Environment (HIMCOSTE), Shimla in collaboration with National Institute of Disaster Management (NIDM), Ministry of Home Affairs, Govt. of India, New Delhi and Himachal Pradesh State Disaster Management Authority (HPSDMA), Govt. of Himachal Pradesh.

The three days training programme was organized to sensitize, institutionalize and promote traditional construction practices, knowledge, and innovation for seismic stability of the built environment with the help of modern technology. It provided opportunities to 40 participants comprised of state government officers from development sector like PWD, HIMUDA, TCP, UD, HPTDC, Panchayati Raj etc. to enhance safety preparedness actions and bring resilience to their built environment against disasters.

The training programme was inaugurated by Chief Guest, Shri Satpal Dhiman Additional Secretary (Env, Sci.& Tech.) to the Government of Himachal Pradesh on June 13, 2023. Shri Dhiman pointed that amalgamation of safe traditional construction practices with modern technology is need of hour especially for hilly areas like Himachal Pradesh which has examples of traditional Kath-Kuni seismically safe structures which are diminishing in recent times.

During the three day course eminent speakers like Shri S. K. Negi, Chief Scientist, CSIR-CBRI, Sh. K.D. Nanta, State Town Planner, Department of Town & Country Planning, Shimla H.P, Dr. Ajay Chaurasia, Chief Scientist,CBRI Roorkee, Uttrakhand, Dr. Amir Ali Khan, Associate Professor, NIDM, Dr. S. S. Randhawa, Principal Scientific Officer (HIMCOSTE), Shimla, HP and Shri Nitin Sharma, HPSDMA had discussions on various subjects. Training programme generated brainstorming on need of mainstreaming disaster risk reduction strategies in development sector. Himachal Pradesh being prone to multi hazards, understanding of the hazards, vulnerability and risk profile of the state were discussed. Understanding local indigenous construction practices of the

Uncategorized | प्रमुख खबर | धर्म-संस्कृति | शिमला

पारम्परिक काठ-कुनी भूकम्प अवरोधी तकनीक से आवास-भवन निर्माण पर 3 दिवसीय कार्यशाला संपन्न

by Rashmi Himachal @ June 15, 2023 0 136

चिंगस्ता-15 जून (rhnn) : हिमाचल प्रदेश राज्य विज्ञान, प्रौद्योगिकी एवं पर्यावरण परिषद् (हिमकॉस्ट), शिमला द्वारा राष्ट्रीय आपदा प्रबंधन संस्थान (NIDM), भारत सरकार तथा हिमाचल प्रदेश राज्य आपदा प्रबंधन प्राधिकरण (HPSDMA) के सहयोग से 3 दिवसीय कार्यशाला स्थानीयरित आवास निर्माण प्रक्रियाओं को आधुनिक तकनीकियों के साथ जोड़नारण (Blending Traditional Housing Construction Practices with Modern Technology) विषय पर 13-15 जून, 2023 को मशोबरा, समेटी हॉल में आयोजित की गई, जिसमें राज्य सरकार के विभिन्न विभागों (लोकनिर्माण, पर्यटन, हिमुडा, नगर एवं योजना, शहरी विकास, पंचायती राज इत्यादि के 40 प्रतिभागियों ने भाग लिया।

इस कार्यशाला का उद्देश्य पुरानी भवन/आवास निर्माण तकनीकी को आधुनिक तकनीकी के सामंजस्य से भूकम्प अवरोधी निर्माण तथा ज्ञान को संवेदनशील करना था। इस प्रशिक्षण कार्यक्रम का उद्घाटन 13 जून, 2023 को हिमाचल प्रदेश सरकार के श्री सतपाल धीमान, अतिरिक्त सचिव (पर्यावरण, विज्ञान एवं प्रौद्योगिकी) द्वारा किया गया। श्री धीमान ने बताया कि हिमाचल प्रदेश जैसे पहाड़ी राज्य में पुरातन तकनीकियों का आधुनिक तकनीकियों से आवास/भवन निर्माण का आपसी सामंजस्य भूकम्प अवरोधी निर्माण में काफी सहायक होगा, विशेषकर पारम्परिक काठ-कुनी भूकम्प अवरोधी तकनीक लाभप्रद है।

Traditional Kathkuni technique of building earthquake resistant

LOCAL Cristal Local 16 days ago REPORT

Traditional Kathkuni technique of building earthquake resistant

Brainstorming on building construction techniques in Himcost's workshop

Staff Reporter—Shimla

The integration of modern techniques of building construction with the older techniques will be of great benefit for earthquake resistant construction. Especially the traditional Kath-Kuni earthquake resistant technique is beneficial. Himachal Pradesh State Council of Science, Technology and Environment i.e Himcost, Shimla, in collaboration with National Institute of Disaster Management, Government of India and Himachal Pradesh State Disaster Management Authority, organized a three-day workshop on the topic "Combining traditional housing construction processes with modern technologies". Has happened. The workshop was held at Mashobra, Sameti Hall, in which 40 participants from various departments of the state government like Public Works, Tourism, HIMUDA, Town & Planning, Urban Development, Panchayati Raj etc. participated. The objective of this workshop was to share the knowledge of earthquake resistant construction and knowledge of old building/housing construction technology in harmony with modern technology.

This training program was inaugurated on June 13, 2023 by Satpal Dhiman, Additional Secretary Environment, Science and Technology, Government of Himachal Pradesh. Dhiman told that in a hilly state like Himachal Pradesh, mutual coordination of ancient techniques with modern techniques of house/building construction will be very helpful in earthquake resistant construction. SK Negi, Principal Scientist, CSIR-CBRI KC Nanta, State Town Planner, Himachal Pradesh Dr. Amir Khan, Associate Professor, NIDM Dr. Ajay Chaurasia, Chief Scientist, CBRI Roorkee, Uttarakhand Dr. SS Randhawa, Principal Scientific Officer, in this training program , Himcost and Nitin Sharma, HPSDMA were the keynote speakers.

Report Edited and Compiled By

Sh. Harish Bharti
Scientific Professional

STATE CENTRE ON CLIMATE CHANGE (SCCC)
O/o
Himachal Pradesh Council for Science, Technology & Environment (HIMCOSTE), Shimla, Himachal Pradesh, India