







# **Report**

# 03-day training program on

# Disaster Risk Management and Technological Innovations

22-24 November, 2023

# Organised by

DST-Centre for policy research (CPR) Panjab University, Chandigarh-160014 <u>https://cpr.puchd.ac.in/</u>



## Contents

| Poster                             | 3  |
|------------------------------------|----|
| Objectives                         | 5  |
| DAY 1- 22 Nov., 2023               | 6  |
| DAY 2- 23 Nov., 2023               | 11 |
| DAY 3- 24 Nov., 2023               | 13 |
| Valedictory Session                | 17 |
| Quiz & Distribution of Certificate | 18 |
| Key Takeaways                      | 19 |
| Program Schedule                   | 20 |
| Participants Profile               | 23 |
| Annexure-I                         | 25 |
| Annexure-II                        | 26 |
|                                    |    |

#### Poster



On The Path of Skill Management in DRM under

Environment Education Programme

22<sup>nd</sup> – 24<sup>th</sup> November 2023

Patrons



Prof. Renu Vig Vice Chancellor Panjab University Dr. Akhilesh Gupta

Head DST-PCPM Div. Secretary, SERB, New Delhi

#### Objective

To provide practical skills for Humanitarian/Relief practitioners who are involved in the Risk Reduction, Emergency Response and/or Recovery Initiatives in Disaster Risk Management (DRM) situations.

Registration https://forms.gle/MUEe78hvMqBjwu616

#### Funded by

State Nodal Agency Punjab State Council for Science & Technology

#### 9:30 AM - 5:00 PM (IST)

Chief Guest & Keynote speaker



Dr. Ashish Kumar Panda Deputy Secretary NITI Aayog, New Delhi **Guest of honour** 



Dr K. S. Bath Joint Director PSCST, Chandigarh

#### **Our Speakers**

Eminent experts from reputed institutes like PGIMER Chandigarh, CSIR-CSIO, MGSIPA and PU will talk about Disaster Risk Management and give hands-on training on activities related to it.

*Total No. of Participants: 50* No participation fee, and selection will be based on merit.

Supported By Ministry of Environment, Forest & Climate Change Government of India

Organized By DST- Centre for Policy Research, Panjab University, Chandigarh www.cpr.puchd.ac.in

Contact us : 0172-2534124 dstprc2014@pu.ac.in





#### **Overview**

DST-Centre for Policy Research (CPR) at Panjab University, Chandigarh organized a 3-day training program on "Disaster Risk Management and Technological Innovations" from 22nd to 24th November-2023. The event was consisting of 03 days deliberation talks by eminent speakers on Disaster Risk Management (DRM) as well as providing hands on training to the youth. The program was organized with the support of Punjab State Council for Science & Technology (PSCST), Govt. of Punjab and Ministry of Environment and Forests (MoEF). The training program aimed to bring together the domain experts, members of academia, scientist, researchers and key stakeholders on a common platform for understanding the role of science in enhancing Disaster Resilience by exploring the penetration of Science, Technology and Innovation (STI) in Disaster Risk Reduction (DRR). Various dignitaries from national level graced the event and enriched the participants with their thoughts. Prof. Yajvender Pal Verma, Registrar, Panjab University, Chandigarh graced the event and share the examples of technology innovations nurturing at Panjab University for mapping the disasters. Dr. Ashish Kumar Panda, Deputy Secretary, NITI Ayog, New Delhi was the Chief Guest and Keynote speaker for this event. He led the audience informed various government initiatives and partnerships in the domain of Disaster Risk Management (DRM). Dr. K.S. Bath, Joint Director, Punjab State Council for Science and Technology, Chandigarh graced the event as Guest of Honour. He highlighted the Punjab Govt. initiatives to provide skill-based training to the youth of Punjab. Col. Gaurav Bhatia, Adjunct Resource Faculty, School of Internal Security and Police Administration (SISPA) was also present as Guest of Honour for this event. He led an interactive session and share his experience in Disaster Risk Reduction (DRR) and DRM. Eminent Speakers from Prestigious Institutions such as National Disaster Management Authority (NDMA), Punjab State Disaster Management Authority (PSDMA), PGIMER, CSIR-CSIO, PU and IISER, Mohali gave an insightful achievement done in the domain of DRM to the participants. The workshop provided a great platform to learn various techniques and technologies innovations that are successfully implanted for disaster resilience and mitigation. Institutions such as Punjab Red Cross Society, DRDO-DGRE, CSIR-CSIO and IMD Chandigarh were came on board to let the participants getting insights of innovations taking place at national level in the domain of Disaster Risk Management. This workshop catered 60 participants from different colleges and universities taking part in the training program.

### Background

Science, Technology & Innovation (STI) role in disaster risk reduction strategies focus around priority areas as highlighted in Sendai Framework for Disaster Risk Reduction (SFDRR) i.e., to understand risk, duration, scale and impacts and ensure scientific rigor. It should highlight the conventional and nonconventional technologies that can be useful for disaster preparedness as well as disaster mitigation. Further, STI role towards understanding the socio-economic effect of disaster should be explored; as such integration of STI with social sciences is required. Hence, capacity building- education and training must be a one of the paths that should be taken up to make one aware of the role of STI in DRR to build community preparedness as well as to facilitate research activities in disaster risk reduction. Nonetheless, these activities will result in creating networks of technical experts to strengthen their capacities in disaster risk management.

In present context, the workshop cum training session on disaster management for participants fulfills the above-mentioned targets. The workshop is useful who require an introductory-level understanding and hands-on training on the management of disasters. As only theoretical knowledge alone is not sufficient in handling emergency situation, so a practical hand on training sessions should be conducted for bridging the gap between theoretical understanding and real-world application. During this workshop theoretical knowledge is integrated with practical applications with the aim to develop skilled confident, compassionate individuals capable of mitigating the impact of disaster and aiding in restoration of normalcy.

## **Objectives**

- ⇒ Be able to distinguish various types of disasters, their potential impact, and the importance of disaster preparedness.
- ⇒ Gain knowledge about disaster risk reduction, and mitigation techniques and learn about effective response in a given situation.
- ⇒ Be able to apply practical skills such as first aid, CPR, and search and rescue, hence able to respond effectively during emergencies.

### **Details of Training Program**

DAY 1-22 Nov., 2023



Welcome Address Prof. Kashmir Singh Coordinator DST-CPR, Panjab University

Prof. Kashmir Singh in his welcome address shed the light on how Science, Technology and Innovation (STI) play a crucial role in the Sendai Framework for Disaster Risk Reduction. He mentioned how STI can immensely contribute towards achieving Disaster Risk Reduction (DRR) strategies such as education and knowledge development, incorporation of Disaster risk management into national planning and investment as well as in strengthening of institutional and legislative arrangements. He highlighted the importance of technology and innovation for the development of disaster risk management that brings a tangible effect.



Inaugural Address Prof. Yajvender Pal Verma Registrar Panjab University

Prof. Yajvender Pal Verma, Registrar, Panjab University, Chandigarh graced the event and share the examples of technology innovations nurturing at Panjab University for mapping the disasters. In his address, he stressed on the need to bring innovations that are taking place in the laboratories to make it easily available to the masses in a cost-effective manner. In his address, he highlighted the need of strengthening the Industry-Academia inter linkages bond. He stressed on the need of risk assessment and mapping of disasters. He mentioned that Disaster Risk Management creates a real case environment and show us how to act in emergency and prevent it. He highlighted that more often than not Human instigated disasters are a resultant of technological advancements.



Remarks by Guest of honour Dr. Kulbir Singh Bath Joint Director Punjab State Council for Science & Technology (PSCST)

Dr. Kulbir Singh Bath in his address highlighted the importance of the workshop to train the Punjab's youth in Disaster Risk Management (DRM). While mentioning the kinds of disaster, he emphasized the requirement of skill development in the domain of DRM. He mentioned that although more or less similar skill-sets is required for mitigation however at the resilience stage precision takes the centre stage so as to avoid loss due to future disaster led events.



Remarks by Guest of honour Col. Gaurav Bhatia Adjunct Resource Faculty School of Internal Security and Police Administration (SISPA)

Col. Gaurav Bhatia delivered an insightful lecture, emphasizing the importance of DRM in preventing disasters. He stressed on optimizing Disaster Preparedness and mentioned that a Paradigm Shift is required towards Cutting-Edge Capacity Building in Disaster Risk Reduction. There is a need of youth of India to be disaster prepared/disaster ready to facilities any disaster response efforts. He emphasized on to work on decreasing the gap in scientific understanding, required for better forecasting that includes detailed structured approach and understating the dynamics of disaster led events. He encouraged the interaction between different institutions to strengthen the DRM environment for internal physical and dynamical processes to accelerate the work in the field of DRM in India.



## Chief Guest Remarks and Keynote lecture Dr. Ashish Kumar Panda Deputy Secretary NITI Ayog

Dr. Ashish Kumar Panda in his address mentioned the various Science, Technology and Innovation (STI) led interventions that can help to contribute towards Sendai Framework with aims to achieve the substantial reduction of disaster risk. He interlinked Sendai Framework for Disaster Risk Reduction (SFDRR) for target year period from 2015 to 2030 with STI interventions. He highlighted the three priority areas of SFDRR and how STI can contributes towards it. He stressed on the need for enhanced scientific and technical work on disaster risk reduction and prioritizing the development and dissemination of science-based risk knowledge, technology, and innovation. As well as in line to the priority Action 3: 'Investing in disaster risk reduction for resilience', he emphasized on both public and private investment in disaster risk prevention and reduction through structural and non-structural measures that are essential to enhance the economic, social, health and cultural resilience. He highlighted the role of Public Private Partnerships (PPPs) for better use of technological innovations for DRM. He quoted the example of "Coalition for Disaster Resilient Infrastructure" A partnership of national governments, UN agencies and programmes, multilateral development banks and financing mechanisms, the private sector, and knowledge institutions that aims to promote the resilience of new and existing infrastructure systems to climate and disaster risks in support of sustainable development. He highlighted the mindful use of natural resources and early warning systems. He quoted prominent STI interventions that can contribute to DRM such as IoT, AI/ML & Big Data as well as use of Smart textiles. He mentioned that such technologies innovation can empower the disaster relief at the time of any disaster event. He informed about the Agnii Mission by GoI that is contributing towards accelerating the growth of New India's Innovations through the National Technology Commercialization Program. He gave way forward for Resilient Tomorrow such as Good Policy and Governance for Tech-Driven Disaster Management as well as setting the scene with Policies and Financial Incentives by defining clear standards and frameworks. He stressed on the need of holistic Approach and mentioned that not only emergency response services are required but fostering a culture of prevention is also required. For that a scientific approach of development is required. He stressed a Peoplecentered development strategy with keenness and commitment on the part of all Stakeholders. He emphasized on educating people for DRR and DRM through decentralized planning, implementation and monitoring and control. As well as stressed on institutionalizing national systems and capacities, strengthening governance mechanisms at local level, building community resilience and reducing the vulnerabilities of the communities at risk.



Invited talks Shri Vivek Sharma Senior Consultant Punjab SDMA

Shri Vivek Sharma in his talk focused on Disaster Management Act, 2005 & Institutional framework of disaster management in India. He shed the light on history of Disaster Risk Management (DRM) by quoting various events that led to evolution of DRM. He mentioned the various level of authorities intervening at various levels of DRM Such as NDMA and SDMA. He informed about the importance of disaster Management Plans need to be prepared at National, state, district Plan and at local & departmental levels. He drawn attention towards various key features of disaster Management Plans such as inter-coordination of line ministries, formation of National Executive Committee and National Crisis Management Committee. He shared a thought-provoking quote on the role of development in averting disasters and states can help this. He led to understanding the state-level DM structure by quoting the example of Punjab. He explained Punjab State Disaster Management Authority and its' initiatives taken so far towards DRM. In his way forward, he emphasized on updating State Disaster Management plans in due course of time in alignment to the national frameworks existing for Disaster Risk Management.



Invited talks Dr, Raman Sharma Associate Professor Dept. of Hospital Administration, PGIMER

Dr. Raman Sharma explained various emergency response levels in Public Health. He shed the light on various Infectious Diseases and later the plans of action for the preparedness of the same. He mentioned the concept Public Health Emergency of International Concern (PHEIC). He quoted the example of COVID-19 for explaining the Infectious Diseases Emergency (IDE). He highlighted the various levels for the preparedness for the same. He mentioned the Public and Individual's contribution to slow down the spread of Infectious diseases in case of emergency. He informed about global preparedness levels for public health safety in case of emergency. He introduced the concept INFODEMIC to the participants and to manage it to avoid the convey of misinformation.

### Hands on Training on CPR, First aid to participants By Punjab Red Cross society, Chandigarh

Hands-on training on CPR (Cardiopulmonary Resuscitation) and First Aid was provided by Punjab Red Cross Society to the participants of the workshop. Participants were first given the demonstration of the CPR technique which can be applied if someone is not breathing properly or if their heart has stopped. Later participants were engaged to do live demonstrations. They were explained over the seven steps of CPR that can be and when to be applied.





DAY 2-23 Nov., 2023



Invited talks Prof. Ravinder Kaur Professor Department of Geography, Panjab University

Prof. Ravinder Kaur discussed Community-Based Disaster Risk Management (CBDRM), stressing the interrelationship between hazard, risk, and vulnerability. She quoted best practices that brought forward the community led efforts to mitigate disasters. Thereby, reduce their vulnerabilities and enhance their capacities. She mentioned various strategies of Community Based Risk Reduction which are channelized by various phases. She mentioned the role a communication system plays in Community-Based Disaster Risk Management and how it can be integrated in various model for community integration for planning and response processes.



Invited talks Mr. Abhinav Walia Senior Consultant National Disaster Management Authority (NDMA)

Mr. Abhinav Walia in his talk led through the functioning of National Disaster Management Authority (NDMA). He explained the concept of disaster management that has evolved from an activity-based arrangement to the full-fledged mission. He explained the structure of NDMA and its channelization. As well as how it became a proactive institutionalized structure that penetrates to state and district levels. He outlined the Hon'ble PM's Ten-point agenda for Disaster Risk Reduction. He highlighted the use of technology platforms such as SWAYAM / DIKSHA for capacity building to encourage the participants. He talked about the Disaster Management Act 2005 with role and responsibilities of ministries, agencies, departments etc. He discussed India's commitment to reduce the disaster impact on life and property to its minimum as per its global commitment for achieving the set targets and goals of international agreements by 2030.



Invited talks Dr. Satish Kumar Chief Scientist & Professor AcSIR, CSIR- CSIO

Dr. Satish Kumar showcased the fusion of Inferential Imaging techniques (i.e. photo, acoustics and seismic) used for earthquake early warning (EEW) and Automatic Target Recognition (ATR) applications. He highlighted the use of EEW works to enhance lead time by the development of computational techniques to estimate earthquake parameters. As well as the use of ATR to analyze the multi-sensing modalities and data fusion to detect, classify and recognize target (Human and moving vehicles) signatures automatically using Seismic, Acoustic, Imaging sensors to accomplish the goal. He introduced the concept of I-HEAL - Innovative technologies for health assessment and damage mitigation of structures Image and signal processing & Artificial Intelligence techniques for damage/defect identification. He highlighted his successful Earthquake Warning System (EqWS) project for Delhi Metro which involves the development of seismic nodes with inbuilt event detection capability and interfacing with Central Control Room for alert signal generation during an earthquake.

## Hands on Training in various techniques used for Snow Avalanche resilience, mitigation and detection

at DRDO- Defence Geoinformatics Research Establishment (DGRE)

DRDO-DGRE is the lab that ensure safe mobility of troops in inhospitable terrains and also to focus on military potential of various types of terrains based on modern techniques of terrain evaluation.



During the hands-on training at DRDO-DRGE participant were exposed various instruments used to mitigate snow avalanches. Participants were given training to use the safety equipment for snow tracking at high altitudes. They were familiarized with various technological inventions that DRDO-DGRE has come up for snow avalanche resilience.



DAY 3- 24 Nov., 2023



Invited talks Dr. Chandrakanta Ojha Assistant Professor Earth and Environmental Sciences, IISER, Mohali

Dr. Chandrakanta Ojha presented means and ways to map the ground water level. In his presentation, he showed RADAR remote sensing for monitoring induced land subsidence due to overexploitation of groundwater in India and world. He mentioned the global groundwater scenario and its depletion through anthropogenic activities. He highlighted various Geodetic Monitoring Techniques to map the anthropogenic activities. He shown the USA and India's Ground water levels using Satellite Radar Interferometry Technique (MT-InSAR). He introduced the concept of InSAR to the participants, based upon which, he related the Groundwater that leads to induced land subsidence and damage to the infrastructures. He mentioned that Satellite Remote sensing is an effective tool for monitoring groundwater dynamics of any stressed aquifer systems and water management.

### Hands on Training in various techniques used for urban management and weather forecasting at CSIR-Central Scientific Instruments Organization (CSIO) & India Meteorological Department (IMD), Chandigarh

#### **CSIR-Central Scientific Instruments Organization (CSIO)**

CSIO deals in promotion, guidance and coordination of scientific and industrial research in India including other institutions and financing the specific research activities. During the visit to CSIR-CSIO participants were given insights into earthquake detection sensors and weather prediction equipment. Participants were made aware of various seismic zone in north zone Himalayan and how CSIO is making efforts to map them thereby helping to generate timely warnings. Participants were shown the successful Delhi metro earth quake mapping project and various sensors used in this project. Participants were aware about thermal imagery techniques and their calibrations.





#### India Meteorological Department (IMD), Chandigarh

This centre is rendering the meteorological services to the general public of the states of Haryana and Punjab and Union Territory of Chandigarh and various concerned departments of Central and State Governments like Agriculture, Irrigation, Disaster Management, Power, Flood Control, Water Management, Relief and Rehabilitation, Roadways, Tourism, Insurance, Railways etc.



Participants at IMD, Chandigarh were familiarized about the techniques of a series of observational / forecasting work used in daily routine at IMD. They were introduced with National Satellite Meteorological Centre (NSMC) and National Weather Forecast Centre. They were shown the instrument working in the field for measuring minimum and maximum temperatures, humidity in the air, wind direction, rainfall intensity etc. Participants were given the glimpse of the process of getting information from the satellites and transmitting it to various organizations and departments as the daily weather forecast was elucidated.



#### Valedictory Session



Interactive Talk Dr. M. R. Bhutiyani Fmr. Director DRDO-Defence Terrain Research Laboratory (DTRL)

Dr. M.R. Bhutiyani in his presentation shared strategies for natural disaster mitigation in the various regions of Himalaya. He gave an overview of high altitude warming in the Himalayas by presenting a study based on instrumental records and Land Surface Temperatures (LST) derived from Landsat-5TM and OLI data. He presented his work on glaciological studies on the Siachen Glacier that has culminated in development of methodology of estimation of mass balance of very long glaciers by an innovative hydrological method and suspended sediment transport studies in the Nubra River.



Valedictory Address Prof. Kashmir Singh Coordinator DST-CPR, Panjab University

Prof. Kashmir Singh in his valedictory address emphasized upon enhancing the training for specialists in DRR. He stressed on the need for capacity building in Disaster Risk Reduction where STI role can be put forward intensively. He mentioned in his address the importance of technological innovations that can led to a better disaster risk solution. He stressed on the need of a good STI policy in context to disaster risk management that should be accompanied with allied schemes together coming from private as well as public sector.

#### **Quiz & Distribution of Certificate**

A quiz was organized to base upon activities carried out in the workshop. The participants who excel in the quiz were given the prizes. At the end of the workshop, participants were given the participation certificates.



# Key Takeaways

- 1. Engagement of youth in analysis of the various disaster management approaches adopted at the national level in India is important.
- 2. Identification of various institutions, instruments and incentives for making development planning DRR is necessary.
- 3. The shift in focus and perspective from risk to resilience within disaster management approaches, particularly in terms of their policy implications is required.
- 4. Alternative resilience building strategies as possible pathways to safe and sustainable development should be explored.
- 5. Skill development in youth to shift his/her focus to innovate for the up-liftment of the community is required.

# **Program Schedule**

| Day 1 (22 Nov, 2023) |  |  |  |  |
|----------------------|--|--|--|--|
| TIME (IST)           | EVENTS   |  |  |  |
| 9:00 - 9:40          | Registration   |  |  |  |
| Inaugural Session    |  |  |  |  |
| 9:40 - 9:45          | PU Anthem  |  |  |  |
| 9:45 - 9:50          | Felicitation of Distinguished Guests   |  |  |  |
| 9:50 - 9:55          | Welcome Address and Introduction to the Theme of Workshop                                      |  |  |  |
|                      | Dr. Kashmir Singh, Coordinator, DST-CPR, Panjab University, Chandigarh                         |  |  |  |
| 9:55 - 10:00         | Inaugural address  |  |  |  |
|                      | Prof. Yajvender Pal Verma, Registrar, Panjab University, Chandigarh                            |  |  |  |
| 10:00-10:05          | Remarks  |  |  |  |
|                      | Prof. Harsh Nayyar, Director, Research & Development Cell (RDC), Panjab                        |  |  |  |
|                      | University, Chandigarh   |  |  |  |
| 10:05-10:10          | Remarks by Guest of honour   |  |  |  |
|                      | Dr. Kulbir Singh Bath, Joint Director, Punjab State Council for Science &                      |  |  |  |
|                      | Technology (PSCST)   |  |  |  |
| 10:10-10:30          | Remarks by Guest of honour   |  |  |  |
|                      | Col. Gaurav Bhatia, Adjunct Resource Faculty, School of Internal Security and                  |  |  |  |
|                      | Police Administration (SISPA)  |  |  |  |
| 10:30-11:00          | Chief Guest Remarks and Keynote lecture  |  |  |  |
|                      | Dr. Ashish Kumar Panda, Deputy Secretary, NITI Ayog, New Delhi                                 |  |  |  |
| 11:00- 11:05         | Vote of thanks   |  |  |  |
|                      | Dr. Sukhdeep Kaur, Project Scientist II, DST-CPR, Panjab University,                           |  |  |  |
|                      | Chandigarh   |  |  |  |
| 11:05-11:30          | Networking Tea   |  |  |  |
| Session 1: Invit     |  |  |  |  |
| 11:35-12:25          | Shri Vivek Sharma, Senior Consultant, Punjab SDMA  |  |  |  |
| 12:30 -1:15          | Dr, Raman Sharma. Associate Professor. Dept. of Hospital Administration.<br>PGIMER, Chandigarh |  |  |  |
| 1:15 - 2:00          | Lunch  |  |  |  |
| Session 2: Train     | ning session   |  |  |  |
| 2:00 - 5:00          | Hands on Training on CPR, First aid to participants by Punjab Red Cross                        |  |  |  |
|                      | society, Chandigarh at Panjab University, Chandigarh   |  |  |  |

| Day 2(23 Nov, 2023) |   |  |  |  |
|---------------------|---|--|--|--|
| TIME (IST)          | EVENTS  |  |  |  |
| 9:30-9:40           | Recapitulation session  |  |  |  |
|                     | Dr. Ravneet Kaur, Project Scientist-III, DST-CPR, Panjab University (PU),                                       |  |  |  |
|                     | Chandigarh  |  |  |  |
| Session 1: Inv      | ited talks  |  |  |  |
| 9:40- 10:30         | Dr. Krishna Mohan, Professor, Department of Geography, Panjab University,<br>Chandigarh                         |  |  |  |
| 10:30-11:00         | Networking Tea  |  |  |  |
| 11:00-11:50         | Mr. Abhinav Walia, Senior Consultant, NDMA  |  |  |  |
| Session 2: Inte     | eractive workshop session   |  |  |  |
| 11:50-12:50         | Dr. Satish Kumar, Chief Scientist & Professor at AcSIR, CSIR- CSIO, Chandigarh                                  |  |  |  |
| 12:50-1:30          | Networking Lunch  |  |  |  |
| Session 3: Tra      | ining session   |  |  |  |
| 2:00 - 5:00         | Hands on Training on natural and manmade disaster management such as earth quake, fire, floods etc at DRDO-DGRE |  |  |  |

| Day 3 (24 Nov, 2023)           |   |  |  |  |
|--------------------------------|---|--|--|--|
| TIME (IST)                     | EVENTS  |  |  |  |
| 9:30-9:40                      | Recapitulation session  |  |  |  |
|                                | Dr. Sukhdeep Kaur, Project Scientist-II, DST-CPR, Panjab University (PU),<br>Chandigarh     |  |  |  |
| Session 1: Invited talk        |   |  |  |  |
| 9:40- 10:30                    | Dr. Chandrakanta Ojha, Assistant Professor, Earth and Environmental Sciences, IISER, Mohali |  |  |  |
| 10:30-10:50                    | Networking Tea  |  |  |  |
| Session 2: Training session    |   |  |  |  |
| 10:50-1:00                     | Visit to CSIR-CSIO and IMD Chandigarh to explore existing technologies in the               |  |  |  |
|                                | field of urban management and weather forecasting.  |  |  |  |
| 1:00 - 2:00                    | Networking Lunch  |  |  |  |
| Session 3: Valedictory session |   |  |  |  |
| 2:00-2:40                      | Interactive talk by Dr MR Bhutiyani, Fmr., Director, DTRL                                   |  |  |  |
| 3:00- 3:15                     | Address   |  |  |  |
|                                | Dr. Kashmir Singh, Coordinator, DST-CPR, Panjab University, Chandigarh                      |  |  |  |
| 3:15-3:45                      | Quiz & Distribution of certificate  |  |  |  |
| 3:45-4:15                      | Group Photo   |  |  |  |
| Departure Tea                  |   |  |  |  |

## **Participants Profile**

The participants for the training Programme were volunteers, students and faculties of *various universities* and institutes, voluntary Organizations, domain experts, members of academia and other *key* stakeholders etc. Participants registered on DST-CPR page to receive certificate *post completion* of the training program. Over 59 participants attended the Programme on the all the 3 days. List of Participants is as follows.

#### List of participants -

| Sr. No. | Name                | Email                         |
|---------|---------------------|-------------------------------|
| 1.      | Ram Dhiman          | dhiman.ram2002@gmail.com      |
| 2.      | Mr. Dikshant Sharma | dikshantsharmasolan@gmail.com |
| 3.      | Mohd Amaan Ansari   | amaan76524@gmail.com          |
| 4.      | Ritik Awasthi       | ritikawasthi188@gmail.com     |
| 5.      | Bidhi Lord Singh    | singhbidhilord1990@gmail.com  |
| 6.      | indira kamsar       | indirakamsar@gmail.com        |
| 7.      | Shahin              | shahin786khan00@gmail.com     |
| 8.      | Vaishali Dhiman     | dhimanvaishali327@gmail.com   |
| 9.      | Aryan Chugh         | aryanchugh555@gmail.com       |
| 10.     | Aditya Sharma       | adityasharma2039@gmail.com    |
| 11.     | Manshi              | manshibhardwaj2005@gmail.com  |
| 12.     | Saranjana           | mehlasaranjana@gmail.com      |
| 13.     | Partishtha          | partishthanain@gmail.com      |
| 14.     | Meenakshi           | meenakshikundu2911@gmail.com  |
| 15.     | Kiran Thakur        | sanuthakur083@gmail.com       |
| 16.     | Pooja               | ny6886225@gmail.com           |
| 17.     | Rohit Arora         | technoartworld@gmail.com      |
| 18.     | Harpreet Kaur       | harpreetkaur@pu.ac.in         |
| 19.     | Garima              | garimasingh@dnc.ac.in         |
| 20.     | Megha Kumari        | mk4345583@gmail.com           |
| 21.     | Vanshika Gupta      | rajnigupta21000@gmail.com     |
| 22.     | Dr. Gunjan Sud      | sud.gunjan17@gmail.com        |
| 23.     | Prabhjot Kaur       | prabhdhillon74650@gmail.com   |
| 24.     | Muskan              | muskansinghaniya55@gmail.com  |
| 25.     | Tanisha             | tanishasinghroha1@gmail.com   |
| 26.     | Nosheen Chaudhary   | chaudharynosheen43@gamil.com  |
| 27.     | Komal               | komalantil724@gmail.com       |
| 28.     | Arumita             | arumita1803@gmail.com         |
| 29.     | Mehakmeet Kaur      | mehakmk754@gmail.com          |
| 30.     | Gaganjot Kaur       | kgaganjot08@gmail.com         |
| 31.     | Akriti              | pathaniaaki012@gmail.com      |
| 32.     | Shreya              | bshreya286@gmail.com          |
| 33.     | Ritika Thakur       | ritikathakur.r80@gmail.com    |

| 34. | Garima              | garimagill2004@gmail.com    |
|-----|---------------------|-----------------------------|
| 35. | Yashika             | Yashikamyid@gmail.com       |
| 36. | Mridul Guleria      | mridulguleria96@gmail.com   |
| 37. | Himanshu            | 08himanshusoni08@gmail.com  |
| 38. | Dr Renu Bala        | renubala@mcmdavcwchd.in     |
| 39. | Sidhant Bhardwaj    | mahadev7777828@gmail.com    |
| 40. | Dr.Abhishek chauhan | mecherabhishek@yahoo.co.in  |
| 41. | Muskan              | musjoon18@gmail.com         |
| 42. | Dr. Mahesh Thakur   | mahesh09@gmail.com          |
| 43. | Jugraj Singh        | jugrajsingh23596@gmail.com  |
| 44. | Manik lakherwal     | maniklakherwal@gmail.com    |
| 45. | Aditi Minhas        | aditi.minhas20@gmail.com    |
| 46. | Aditi Minhas        | aditi.minhas20@gmail.com    |
| 47. | Garima              | garima9778@gmail.com        |
| 48. | Ajay Veer Singh     | ajayveer010@gmail.com       |
| 49. | Mannat thakur       | mannatthakurxx06@gmail.com  |
| 50. | Garima Sharma       | garima572sharma@gmail.com   |
| 51. | Harshita            | harshitagaur2001@gmail.com  |
| 52. | A S Kang            | askang_85@pu.ac.in          |
| 53. | Mahika Sharma       | mahikarajeev0@gmail.com     |
| 54. | Dr.A.S.Kang         | askang_85@pu.ac.in          |
| 55. | Dhairyaa            | dhairyaakaushik@gmail.com   |
| 56. | Akhil Sharma        | akhilsharma420197@gmail.com |
| 57. | Abhinav Arya        | abhinavarya359@gmail.com    |
| 58. | Shreya Gupta        | shreyagupta2341@gmail.com   |
| 59. | Pranav sharma       | sharmapranav840@gmail.com   |

## **Annexure-I**

## **Group Photo**



#### **Annexure-II**

#### Media Coverage

#### Training program on "Disaster Risk Management and Technological Innovations"

City Air News (https://www.cityaimews.com/profile/city-air-news) Nov 26, 2023 07:02 G 0



Chandigarh, November 26, 2023: DST-Centre for Policy Research (CPR) at Panjab University, Chandigarh organized a 3-day training program on "Disaster Risk Management and Technological Innovations" from November 22-24.

The event consisted of 03 days deliberation talks by eminent speakers on Disaster Risk Management (DRM) as well as providing hands on training to the youth. The program was organized with the support of Punjab State Council for Science & Technology (PSCST), Govt. of Punjab and Ministry of Environment and Forests (MoEF).

Various dignitaries from national level graced the event and enriched the participants with their thoughts. Prof. Yajvender Pal Verma, Registrar, Panjab University, Chandigarh graced the event and share the examples of technology innovations nurturing at Panjab University for mapping the disasters.

Dr. Ashish Kumar Panda, Deputy Secretary, NITI Ayog, New Delhi was the Chief Guest and Keynote speaker for this event. He led the audience informed various government initiatives and partnerships in the domain of Disaster Risk Management (DRM).

#### https://www.cityairnews.com/content/training-program-on-disaster-risk-managementand-technological-innovations

#### Workshop on Disaster Risk Management and Technological Innovations

#### NOVEMBER 6, 2023 1:10 PM

Event: 03 days training Workshop "Disaster Risk Management and Technological Innovations"

Date- November 22th to November 24th, 2023 (09:30 AM-5:00 PM)

#### Venue- Panjab University, Chandigarh

DST-Centre for Policy Research (CPR) at Panjab University, Chandigarh organized a 3-day training program on "Disaster Risk Management and Technological Innovations" from 22nd to 24th November-2023. The event was consist of 03 days deliberation talks by eminent speakers on Disaster Risk Management (DRM) as well as providing hands on training to the youth. The program was organized with the support of Punjab State Council for Science & Technology (PSCST), Govt. of Punjab and Ministry of Environment and Forests (MoEF). The training program aimed to bring together the domain experts, members of academia, scientist, researchers and key stakeholders on a common platform for understanding the role of science in enhancing Disaster Resilience by exploring the penetration of Science, Technology and Innovation (STI) in Disaster Risk Reduction (DRR). Various dignitaries from national level graced the event and enriched the participants with their thoughts. Prof. Yajvender Pal Verma, Registrar, Panjab University, Chandigarh graced the event and share the examples of technology innovations nurturing at Panjab University for mapping the disasters. Dr. Ashish Kumar Panda, Deputy Secretary, NITI Ayog, New Delhi was the Chief Guest and Keynote speaker for this event. He led the audience informed various government initiatives and partnerships in the domain of Disaster Risk Management (DRM). Dr. K.S. Bath, Joint Director, Punjab State Council for Science and Technology, Chandigarh graced the event as Guest of Honour. He highlighted the Punjab Govt. initiatives to provide skill based training to the youth of Punjab. Col. Gaurav Bhatia, Adjunct Resource Faculty, School of Internal Security and Police Administration (SISPA) was also present as Guest of Honour for this event. He led an interactive session and share his experience in Disaster Risk Reduction (DRR) and DRM. Eminent Speakers from Prestigious Institutions such as National Disaster Management Authority (NDMA), Punjab State Disaster Management Authority (PSDMA), PGIMER, CSIR-CSIO, PU and IISER, Mohali gave an insightful achievements done in the domain of DRM to the participants. The workshop provided a great platform to learn various techniques and technologies that are successfully implanted for disaster resilience and mitigation. Institutions such as Punjab Red Cross Society, DRDO-DGRE, CSIR-CSIO and IMD Chandigarh were came on board to let the participants getting insights of innovations taking place at national level in the domain of Disaster Risk Management. This workshop catered 50 participants from different colleges and universities taking part in the training program.

#### https://cpr.puchd.ac.in/author/dstadmin/

DST-Centre for Policy Research Panjab Univer... • 3rd+ + Follow •••• S&T Policy Research Centre at Panjab University Chandigarh fu... 12m • 🕲

A successful 3-day training program on "Disaster Risk Management and Technological Innovations" was organised at DST-Centre for Policy Research Panjab University, Chandigarh from 22nd to 24th

November, 2023 with the support of Punjab State Council For Science And Technology and Ministry of Environment, Forests & Climate Change, Government of India



https://mu.linkedin.com/posts/dst-centre-for-policy-research-panjab-universitychandigarh-622874203\_dst-centre-for-policy-research-cpr-panjab-activity-7026045109758476288-v6t1



DST-Centre for Policy Research Panjab Unive... • 3rd+ S&T Policy Research Centre at Panjab University Chandigarh fu... 12m • 🕲 + Follow ····

A successful 3-day training program on "Disaster Risk Management and Technological Innovations" was organised at DST-Centre for Policy Research Panjab University, Chandigarh from 22nd to 24th

November, 2023 with the support of Punjab State Council For Science And Technology and Ministry of Environment, Forests & Climate Change, Government of India



https://twitter.com/pu\_cprdst?lang=en



Panjab University, Chandigarh ... @OfficialPU

DST-Centre for Policy Research (CPR) at PU is organizing PSCST, Punjab sponsored 03 days training Workshop on "Disaster Risk Management and Technological Innovations" from, November 22th to November 24th , 2023 at PU.

10:51 AM · Nov 2, 2023 · 1,725 Views

Panjab University, Facebook