



9th Comprehensive Course on Disaster Risk Management

01-12 December 2025
Rohini Campus, Delhi



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Overview

Background

India's diverse geography and dense population render it highly vulnerable to a wide spectrum of natural and human-induced disasters. In recent years, the frequency and intensity of such events have surged, threatening human lives, infrastructure, and ecosystems. Climate change has further amplified these risks, intensifying floods, cyclones, droughts, heatwaves, and landslides across regions.

The UNDRR Global Assessment Report (GAR) 2025: Resilience Pays: Financing and Investing for our Future, underscores the growing global challenge, estimating that direct disaster losses now exceed \$202 billion annually, while total economic costs surpass \$2.3 trillion. According to official data from national authorities, 27 of India's 36 States and Union Territories are disaster-prone with 58.6% of landmass vulnerable to earthquakes, 12% to floods, and over 5,700 km of coastline exposed to cyclones and tsunamis. Over the past two and a half decades (2000–2025), India has faced numerous major disasters, resulting in significant loss of lives, infrastructure damages and enormous economic losses (NDMA & MHA official reports).

This escalating risk landscape demands a paradigm shift from reactive relief to proactive risk reduction, resilience building, and adaptive planning. The 9th Comprehensive Course on Disaster Risk Management has been designed to equip professionals with the knowledge, tools, and strategies to address complex disaster–climate challenges through integrated, science-based, and community-centered approaches.

Rationale

The increasing frequency and intensity of natural and anthropogenic hazards, compounded by climate change, rapid urbanization, and environmental degradation, have significantly heightened community vulnerability. This evolving risk landscape underscores the urgent need to strengthen disaster preparedness and mitigation capacities across all levels of governance.

Historically, disaster management approaches were largely reactive, centred on post-disaster relief and rehabilitation. However, modern Disaster Risk Management (DRM) emphasizes proactive risk reduction focusing on vulnerability assessment, early warning systems, resilient infrastructure, and community awareness. Achieving this transition requires a trained and skilled workforce capable of integrating scientific, technical, and social dimensions of risk management.

Today, managing disasters is a highly complex and multidisciplinary endeavour, demanding coordination across sectors such as health, infrastructure, environment, and governance, while leveraging advanced tools like Geographic Information Systems (GIS), remote sensing, and data analytics. Many developing regions continue to face shortages of trained human resources, resulting in critical gaps in preparedness and response.

Global frameworks such as the Sendai Framework for Disaster Risk Reduction (2015–2030) and the Sustainable Development Goals (SDGs) further emphasize the importance of institutional capacity-building and professional training. In this context, the National Institute of Disaster Management (NIDM) proposes to organize a two-week “9th Comprehensive Course on Disaster Risk Management” in New Delhi to enhance the competencies of professionals engaged in disaster risk reduction, resilience building, and sustainable recovery.

Aim of the Course

The overarching aim of the "9th Comprehensive Course on Disaster Risk Management" is to enhance the knowledge, skills, and capacities of disaster management professionals and stakeholders to effectively understand, assess, plan for, respond to, and recover from diverse disaster events. The course seeks to foster a proactive and holistic approach to DRR, climate change adaptation, promoting resilience building at all levels of governance and community engagement, in line with national and global frameworks.

Objectives

By the end of this course, participants will be able to:

- Acquire in-depth understanding of the core concepts of DRR, analyze global and national policy frameworks, and understand the institutional landscape governing disaster management.
- Apply methodologies for comprehensive Hazard, Risk, Vulnerability, and Capacity Assessments (HRVCA) across diverse hazards.
- Command principles of emergency response operations, coordination mechanisms, and immediate post-disaster assessment, while also planning for sustainable recovery, rehabilitation, and reconstruction with a "Build Back Better" approach.
- Offer insight into the 'Build Back Better' approach, and introducing financial risk management
- Integrate DRR into broader development planning and sector specific policies.

Profile of participants

A total of 63 participants attended the training programme, representing 20 States/Union Territories of India. The participants comprised a diverse group of officials and professionals from various departments and institutions including

- Line departments such as Revenue, Fisheries, Higher Education, CPWD, DMRC, MCD, among others.
- SDMAAs, DDMAAs, SDRFs, SIRD, ATI, Universities and IIT

Summary of the Proceedings

Day-1 Inaugural Session

The inaugural session of the 9th Comprehensive Programme on Disaster Risk Management was graced by Shri Madhup Vyas, IAS, Executive Director, NIDM; Col. Manoram Yadav, Joint Director, NIDM; Shri Randeep Rana, Senior Advisor, NIDM; along with Shri Shekher Chaturvedi, Assistant Professor, NIDM. Dr. Gagandeep Singh warmly welcomed the participants from 21 States and Union Territories representing various departments across the country. He gave a brief overview of the 2-week programme. Col. Manoram Yadav delivered the welcome address, highlighting the training programme's objectives and its significance in strengthening national resilience. Shri Madhup Vyas, IAS, ED NIDM, in his insightful inaugural address, emphasized the vision of Viksit Bharat and the critical role of disaster management in shaping a future-ready nation, urging participants to apply their learnings from the 2-week comprehensive programme meaningfully in their respective sectors. Concluding the inaugural session, Shri Randeep Rana, Senior Advisor, NIDM highlighted how robust institutional mechanisms supported by capable individuals can significantly minimize disaster risks and losses.



Opening Remarks by Course -Coordinator



Welcome Address by JD, NIDM



Inaugural Address by ED, NIDM



Vote of Thanks by Sr. Advisor NIDM



Dignitaries on Dias

Technical Sessions

Day 1 (Monday): 01.12.2025:

Session 1: Introduction of the course and Ice-Breaking Exercise

Speaker: Dr. Gagandeep Singh, Assistant Professor, NIDM



The Technical session on Foundations of Disaster Risk Reduction (DRR), Policies and Institutional Framework was commenced by Dr. Gagandeep Singh, Assistant Professor, National Institute of Disaster Management (NIDM) formally set the tone for the entire training programme. The session began with a comprehensive introduction to the course, outlining its objectives, structure, thematic coverage, and expected learning outcomes, thereby providing participants with a clear roadmap of the programme.

An interactive ice-breaking exercise was facilitated to encourage participant interaction, foster a collaborative learning environment, and enable participants to share their professional backgrounds and expectations. This was followed by a pre-training assessment designed

to assess the baseline knowledge and understanding of participants on DRR concepts, policies, and institutional mechanisms. Overall, the session effectively oriented participants, enhanced engagement, and laid a strong foundation for deeper discussions in the subsequent sessions of the course.

Session 2: Basic Concepts of Disaster Management & Vulnerability of India

Speaker: Dr. Sushma Guleria, Assistant Professor, NIDM



Dr. Sushma Guleria provided an in-depth understanding of the fundamental concepts of disaster management along with India's vulnerability profile. The session, delivered through a detailed presentation followed by group discussions, elaborated on key terminologies such as hazard, disaster, vulnerability, risk, and capacity, and explained their interlinkages using practical examples. Emphasis was laid on the Disaster Management Act, 2005, and the phased approach to disaster management encompassing prevention, mitigation, preparedness, response, recovery, reconstruction, and rehabilitation. Participants were sensitized to India's multi-hazard vulnerability, including floods, cyclones, droughts, earthquakes, landslides, industrial, chemical, biological, and climate-related hazards, with region-specific vulnerability

profiles and statistics. The group discussion component enabled participants to analyse hazard-specific impacts, vulnerability factors, and risk scenarios, encouraging critical thinking and experience sharing. Overall, the session strengthened participants' conceptual clarity on disaster risk dynamics and underscored the importance of capacity building, institutional mechanisms, and resilience-based approaches for effective disaster risk reduction.

Session 3: International Obligations of India viz. SFDRR, SDGs, IORA, BIMSTEC, COP, etc. (Global Perspective)

Speaker: Dr. Prerna Joshi Assistant Professor, NIDM



Dr. Prerna Joshi provided an in-depth understanding of India's international obligations and global engagements in disaster risk reduction and climate resilience. The session, delivered through a focused presentation and interactive group discussion, covered key global and regional frameworks including the Sendai Framework for Disaster Risk Reduction (SFDRR) 2015–2030, Sustainable Development Goals (SDGs), UNFCCC–COP and the Paris Agreement, IPCC, and regional platforms such as IORA, BIMSTEC, and the G20. The session highlighted the interlinkages between DRR, climate change adaptation, sustainable development, and resilience-building, emphasizing the shift from reactive response to proactive risk reduction and “Build Back Better” approaches. India's progress in aligning national policies, institutional mechanisms, early warning systems, risk governance,

and financing frameworks with global commitments was discussed in detail, along with emerging challenges related to financing gaps, urban vulnerability, climate-induced risks, and transboundary hazards. Case studies and group discussions enabled participants to critically examine global best practices, regional cooperation models, and India's leadership role in advancing DRR agendas at international and regional platforms, thereby strengthening participants' global perspective on disaster risk governance and resilience.

Session 4: Institutional Mechanism for DRR in India & Hon'ble PM 10-point Agenda for DRR (Indian Perspective)

Speaker: Sh. Shekhar Chaturvedi, Assistant Professor, NIDM



Shri Shekhar Chaturvedi provided a comprehensive overview of India's institutional and legal framework for Disaster Risk Reduction (DRR). The session elaborated on the paradigm shift in disaster management from a response-centric approach to a proactive, risk-driven framework emphasizing prevention, mitigation, preparedness, and resilience, as envisaged under the Disaster Management Act, 2005. Participants were introduced to the roles, responsibilities, and coordination mechanisms of key institutions at the national, state, and district levels, including the NDMA, NDRF, NIDM, SDMAs, DDMAAs, and associated executive and coordination committees, along with the functioning of the National Emergency Operations Centre (NEOC). The session also highlighted the National Disaster Management Policy (2009) and the National Disaster Management Plan (NDMP), aligned with the Sendai Framework,

outlining a structured approach across all phases of the disaster management cycle. Special emphasis was placed on the Hon'ble Prime Minister's 10-Point Agenda for DRR, underscoring mainstreaming of DRR into development, risk-informed planning, technology utilization, community participation, capacity building, learning from disasters, and strengthened international cooperation. The group discussion enabled participants to critically examine institutional coordination, financing mechanisms, and implementation challenges, thereby strengthening their understanding of India's DRR architecture and its application at multiple governance levels.

Session 5: Sectoral Impact of the Disasters

Speaker: Dr. Gagandeep Singh, Assistant Professor, NIDM



Dr. Gagandeep Singh focused on understanding the wide-ranging and interconnected impacts of disasters across multiple sectors. Through a detailed presentation and interactive group discussion, the session examined disaster impacts on social sectors such as health, education, housing, and community assets; infrastructure sectors including transport, power, water supply, sanitation, and connectivity; and productive sectors such as agriculture, horticulture, livestock, fisheries, livelihoods, tourism, and the environment. Recent Indian disaster events—including the Chamoli flash floods, Wayanad landslides, Cyclone Remal, Sikkim earthquake, and

Uttarakhand Forest fires were used to illustrate the cascading and cross-sectoral nature of disaster impacts. A focused case study on the Dharali flash flood (2025) demonstrated how a single hazard led to loss of lives, widespread housing damage, disruption of road connectivity, loss of agricultural land and livestock, and long-term environmental changes to river systems, severely affecting the local economy and social fabric. The session also emphasized the differential vulnerabilities of marginalized and informal worker groups and underscored the importance of integrated, multi-sectoral damage assessment and recovery planning through frameworks such as the Post-Disaster Needs Assessment (PDNA), promoting inclusive recovery, resilience building, and the principle of “Build Back Better” to reduce future disaster risks.

Day 2 (Tuesday): 02.12.2025

Second Day commenced with a structured recap of the sessions from Day 1. The recapitulation was facilitated by Smt. Rosina Das and Dr. Vikas, who guided participants in reflecting on key concepts, discussions, and learning outcomes from the previous day. The activity encouraged active participation, peer learning, and consolidation of knowledge, enabling participants to effectively connect the foundational themes of Day 1 with the sessions scheduled for the day.

Session 6: Hazard Risk Vulnerability Capacity (HRVC) Analysis: Tools and Techniques

Speaker: Dr. Sushma Guleria, Assistant Professor, NIDM



Dr. Sushma Guleria focused on strengthening participants’ understanding of Hazard, Risk, Vulnerability, and Capacity (HRVC) analysis as a core component of disaster risk reduction planning. Through a comprehensive presentation complemented by interactive group discussions, the session systematically explained and demonstrated key concepts such as hazard identification, exposure, vulnerability assessment, capacity analysis, and risk formulation, emphasizing their practical application in disaster management planning. Participants were introduced to a range of scientific and participatory tools and techniques, including hazard mapping, historical profiling, seasonal calendars, transect walks, vulnerability mapping, problem tree analysis, resource and capacity assessment, and critical facility analysis. The session

highlighted the importance of contextual and evidence-based HRVC analysis to identify priority risks, vulnerable groups, and capacity gaps, thereby enabling informed decision-making across prevention, mitigation, preparedness, response, and recovery phases.

Session 7: HVC Exercise

Speaker: Dr. Sushma Guleria, Assistant Professor, NIDM



Building upon the conceptual foundation laid in Session 6 on HRVC Analysis, Session 7 was designed as a hands-on Hazard, Vulnerability and Capacity (HVC) exercise to translate theory into practice. Participants were divided into seven groups, and each group was assigned the task of conducting an HVC analysis by systematically applying the tools and techniques introduced earlier, such as hazard identification and prioritization, hazard and vulnerability mapping, historical profiling, seasonal calendar analysis, transect walk-based assessment, identification of vulnerable groups, resource and capacity mapping, and critical facility analysis. The exercise required participants to assess exposure, analyse risk factors, identify capacity gaps, and propose priority interventions across

the disaster management cycle, including prevention, mitigation, preparedness, response, and recovery.

Upon completion of the group work, representatives from each group presented their analysis through presentations, highlighting identified hazards, sectoral vulnerabilities, available capacities, and recommended risk reduction measures. The group presentations enabled comparative learning, peer review, and constructive feedback, reinforcing the importance of participatory and risk-informed planning. Overall, the session strengthened practical understanding of HVC analysis, enhanced teamwork and analytical skills, and demonstrated the application of HRVC tools in developing comprehensive and inclusive disaster risk reduction strategies.

The session also covered the three phases of disaster management: pre-disaster activities like prevention, mitigation, preparedness, and early warning; actions during disasters such as response, evacuation, and relief; and post-disaster recovery, rehabilitation, and reconstruction following the “Build Back Better” approach. She introduced practical community-based tools such as disaster mapping, seasonality calendars, problem tree analysis, and the formation of Disaster Management Committees and Disaster Mitigation Teams (DMTs).



Exercise and Presentation by Participants

Session 8: Framework for Development of Disaster Management Plan

Speaker: Sh. Shekhar Chaturvedi, Assistant Professor, NIDM



The session was led by Shri Shekher Chaturvedi, focused on providing a structured framework for the preparation of comprehensive and effective Disaster Management Plans (DMPs). The session outlined the essential components of a DMP, including area and hazard profiles, risk, vulnerability and capacity analysis, seasonality of hazards, mitigation measures, preparedness activities, response Standard Operating Procedures (SOPs), relief, recovery, and reconstruction planning. Emphasis was placed on the importance of Hazard, Risk and Vulnerability (HRV) analysis as the foundation of all planning processes, highlighting that effective plans must be simple, actionable, disseminated, tested, and periodically revised.

The session also introduced participants to a range of participatory and analytical tools for DMP formulation, such as transect walks, hazard and resource mapping, historical profiling, seasonal calendars, focus group discussions, institutional network analysis, ranking exercises, and secondary data review. Key aspects related to infrastructure checklists, emergency operations centres, media and information management, public grievance redressal, budgeting, database management, and inventory of resources (including the IDRN portal) were discussed to strengthen operational readiness. The session enhanced participants' understanding of risk-informed, participatory, and practical approaches to disaster management planning, enabling them to translate assessments into actionable and resilient plans at various governance levels.

Session 9: Understanding Earthquakes and Tsunamis

Speaker: Dr. Arkaprabha Sarkar, Assistant Professor, NIDM

Session on Earthquakes and Tsunamis was delivered by Dr. Arkaprabha Sarkar mainly focused on developing a scientific and practical understanding of earthquakes and tsunamis as major natural hazards. Through a PowerPoint presentation, case studies, and interactive group discussions, the session explained the causes, mechanisms, and characteristics of earthquakes, including tectonic processes, fault movements, seismic waves, and factors influencing ground shaking and damage patterns. The session also covered the genesis of tsunamis, wave propagation, wave height, and coastal impacts, with reference to historical tsunami events and their consequences.



Case studies were used to illustrate the cascading impacts of earthquakes and tsunamis on human settlements, infrastructure, and coastal ecosystems, while discussions emphasized preparedness, early warning systems, and risk reduction measures. The session enhanced participants' understanding of earthquake and tsunami hazards and underscored the importance of scientific knowledge, preparedness planning, and resilience-building to mitigate their impacts.

Session 10: Dos and Don'ts of various disasters (Group Activity)

Facilitator: Dr. Gagandeep Singh and Dr. Prerna Joshi

The session focused on enhancing participants' practical preparedness and response capacities by

familiarizing them with the essential do's and don'ts associated with various natural and human-induced disasters. The session was conducted through an engaging mix of group activities, PowerPoint presentations, case studies, and facilitated group discussions by Dr. Gagandeep Singh and Dr. Purna Joshi.

Key disaster scenario including GLOF's, Cyclone, Fire, Earthquake, Landslide were discussed with emphasis on appropriate actions before, during, and after disaster events. Real-life case studies were used to highlight common mistakes, good practices, and lessons learned from past disasters. Participants were divided into groups to analyse scenarios, identify correct and incorrect actions, and present their findings, fostering peer learning and interactive engagement.

The session strengthened participants' understanding of risk-informed behaviour, promoted community-centric preparedness measures, and underscored the importance of timely, accurate, and context-specific actions to minimize loss of life and property during disasters.



Group Activity on Do's and Don'ts of Various Disasters

Day 3 (Wednesday): 03.12.2025

Day 3 commenced with a focused recapitulation session featuring a presentation on the do's and don'ts of various disaster events, including Glacial Lake Outburst Floods (GLOFs), cyclones, fires, earthquakes, and landslides. The session was facilitated by Dr. Gagandeep Singh and Dr. Perna Joshi, who emphasized practical, risk-informed actions to be adopted before, during, and after disaster situations. The discussion reinforced key preparedness and response measures, highlighted common errors to be avoided, and strengthened participants' understanding of safe practices across diverse hazard contexts.

Session 11: Policy & Legal Aspects (DM Act, NDM Policy)

Speaker: Sh. Shekhar Chaturvedi, Assistant Professor, NIDM

The session focused on strengthening participants' understanding of the policy and legal framework governing disaster management in India, with specific emphasis on the Disaster Management Act, 2005 and the National Disaster Management Policy. The session was facilitated by Shri Shekhar Chaturvedi and conducted through an interactive group discussion format.

The session traced the evolution of disaster management in India, highlighting the paradigm shift from a relief-centric approach to a holistic, prevention- and mitigation-oriented framework, shaped by lessons learned from major disasters. Key provisions of the Disaster Management Act, 2005 including its objectives, institutional mechanisms at national, state, district, and local levels, roles and responsibilities of authorities, response forces, financial arrangements, and penal provisions were discussed in detail. Recent amendments and their implications for strengthening institutional preparedness were also deliberated.



The National Disaster Management Policy was examined with emphasis on its guiding principles, objectives, and thematic areas such as prevention, preparedness, mitigation, capacity building, mainstreaming disaster risk reduction into development planning, and community participation. Participants engaged in group discussions to reflect on the practical application of these legal and policy provisions at the state and district levels. The session enhanced participants' conceptual clarity on the statutory and policy framework of disaster management, underscored the importance of compliance and coordination across institutions, and reinforced the role of governance in building disaster-resilient communities.

Session 12: Earthquake Risk Reduction: Strategies and Case

Speaker: Dr. Amir Ali Khan, Associate Professor, NIDM

The session provided an in-depth understanding of earthquake risk reduction through strategic frameworks and recent regional and global case studies. Dr. Amir Ali Khan discussed seismic hazards, earthquake zonation, and the distinction between primary hazards such as ground shaking and surface rupture, and secondary hazards including liquefaction, landslides, fires, and infrastructure failure. Recent earthquake events in Myanmar, Bangladesh, Tibet, Afghanistan, and other seismically active regions were highlighted to demonstrate transboundary impacts, vulnerabilities of densely populated urban areas, and challenges posed by non-engineered constructions and weak enforcement of building codes.



The session also addressed key challenges in earthquake risk management, particularly in South Asian contexts, emphasizing urbanization, population density, and preparedness gaps. A video presentation complemented the discussion by showcasing real-world impacts and lessons learned. The group discussion enabled participants to critically analyse mitigation strategies such as seismic-resistant construction, retrofitting, risk-informed land-use planning, community awareness, and regional cooperation, underscoring the need for integrated and proactive approaches to reduce earthquake risk and enhance resilience.

Session 13: Landslide and Avalanche Risk management- prevention and mitigation

Dr. Arkaprabha Sarkar, Assistant Professor, NIDM

The session focused on the risk management of landslides and avalanches, with emphasis on prevention and mitigation strategies, particularly in hilly and mountainous regions. The session was conducted by Dr. Arkaprabha Sarkar, Assistant Professor, NIDM, through a PowerPoint presentation followed by interactive group discussions.

The presentation covered the causes, types, and triggering factors of landslides and avalanches, including geological, geomorphological, hydrological, climatic, and anthropogenic influences. Emphasis was laid on hazard identification, susceptibility mapping, and risk assessment, along with the role of land-use planning and environmental management in reducing disaster risk. The session also highlighted case studies of the Wayanad landslide events in Kerala to illustrate the severe consequences of landslides in ecologically fragile and densely inhabited hill regions.

Further, the session discussed structural and non-structural mitigation measures, such as slope stabilization



techniques, retaining structures, bio-engineering measures, drainage management, afforestation, and zoning regulations. The use of advanced monitoring and early warning technologies, including Real-Time Kinematic (RTK) surveys, GNSS/GNMS-based monitoring systems, remote sensing, and ground-based instruments, was emphasized for detecting ground movement and providing timely warnings in landslide- and avalanche-prone areas.

Through group discussions, participants analysed region-specific challenges, shared field experiences, and deliberated on practical mitigation measures suitable for their respective areas. The session strengthened participants' understanding of integrated risk reduction approaches and highlighted the importance of scientific

planning, institutional coordination, and community participation in minimizing losses due to landslides and avalanches.

Session 14: Flash Flood susceptibility assessment



Speaker: Dr. Gagandeep Singh, Assistant Professor, NIDM

The session focused on understanding flash flood risk and susceptibility assessment within the broader framework of disaster risk. Dr. Gagandeep Singh introduced the concept of disaster risk and provided an overview of flash floods, emphasizing their sudden onset, high destructive potential, and increasing frequency in mountainous and riverine regions. The session explained the flash flood susceptibility concept, highlighting the role of terrain, rainfall intensity, drainage characteristics, land use, and geomorphology in determining vulnerable areas.

Through case-based learning, the session presented flash flood potential assessment of the Mandakini River Basin and detailed debris flow and hydrodynamic modelling of

the Chamoli Disaster (7 February 2021) to demonstrate scientific approaches for hazard assessment and impact analysis. The Dharali Disaster (2025) was discussed as a recent example to link modelling outputs with real-world impacts and lessons learned. The group discussion enabled participants to reflect on the application of modelling, susceptibility mapping, and scientific tools for preparedness, early warning, and risk-informed planning, reinforcing the importance of integrating technical assessments into disaster risk reduction strategies.

Session 15: Early Warning Systems for Disaster Risk Management

Speaker: Dr. Pankaj Kumar, Assistant Professor, NIDM

Session focused on the critical role of Early Warning Systems (EWS) in reducing disaster impacts through timely risk identification, forecasting, effective communication, and community preparedness. The session was delivered by Dr. Pankaj Kumar using a combination of presentations, case studies, and group discussions.



He explained the four core pillars of an effective Early Warning System: risk knowledge, monitoring and forecasting, dissemination and communication, and response capacity highlighting how the absence of any one component can weaken the entire warning chain. Emphasis was placed on translating scientific forecasts into actionable information for decision-makers and communities.

The session highlighted India's institutional early warning framework, detailing the roles of key agencies such as the India Meteorological Department (IMD), Central Water Commission (CWC), Directorate General of Resettlement Engineering (DGRE), Geological Survey of India (GSI), Indian National Centre for Ocean Information Services (INCOIS), and National Centre for Coastal Research (NCCR) in addressing hazards

including cyclones, floods, landslides, avalanches, and tsunamis. Innovations such as impact-based forecasting, the Panchayat Mausam Seva Portal, and mobile applications like DAMINI, Flood Watch India, and Van Agni were discussed as tools for enhancing last-mile

The session concluded with the key takeaway that a technology-enabled, multi-hazard, and community-centred Early Warning System, supported by strong institutional coordination, is essential for building resilience and ensuring effective last-mile connectivity in disaster risk management

Day 4 (Thursday): 04.12.2025

Day 3 recapitulation highlighted key learnings on the policy and legal framework for disaster management, landslide and avalanche risk prevention and mitigation, and the role of Early Warning Systems (EWS). Emphasis was placed on integrating the Disaster Management Act and National Policy with scientific risk assessment, hazard-specific mitigation measures, and technology-driven, community-centric early warning and last-mile communication to strengthen disaster resilience.

Session 16: Stampede and Crowd Management

Speaker: Sh. Shekhar Chaturvedi, Assistant Professor, NIDM

The session on Stampede and Crowd Management focused on understanding the dynamics of large gatherings and the measures required to prevent crowd-related disasters. Shri Shekhar Chaturvedi emphasized that stampedes are largely man-made and preventable events, arising from gaps in planning, communication, and coordination.



The session examined key causes and triggers of crowd disasters, including structural failures, fire and electrical hazards, overcrowding beyond carrying capacity, unsafe crowd behaviour, security lapses, rumors, and lack of coordination among multiple stakeholders. Recent crowd tragedy cases from India were discussed to illustrate recurring risk factors such as inadequate entry–exit management, poor crowd control mechanisms, and weak enforcement of safety norms.

The session highlighted the importance of crowd risk assessment and preparedness planning, including assessment of venue characteristics, crowd profile and behaviour, holding capacity, entry and exit routes, evacuation planning, traffic and parking management,

and medical preparedness. He elaborated on the role of the Incident Response System (IRS), unified command, and Emergency Operations Centre (EOC) in ensuring effective coordination among police, district administration, health services, and other stakeholders. The use of ICT and technological tools, such as CCTV surveillance, public address systems, crowd tracking, and token or ticket-based access systems, was emphasized for real-time monitoring and decision-making. The session also highlighted relevant legal provisions that empower authorities to regulate public assemblies and ensure safety. Through group discussions, participants analyzed crowd management challenges in their respective contexts and identified practical measures for prevention, preparedness, and response, reinforcing the need to integrate crowd management strategies into State and District Disaster Management Plans for long-term risk reduction.

Session 17: Lightning observations, forecasts and risk management

Speaker: Dr. Trisanu Banik, Scientist D, IMD

The session provided a detailed understanding of lightning as a significant weather hazard, covering its physical characteristics, types, and association with severe thunderstorms. Dr. Trisanu Banik explained the observation and monitoring framework used by IMD, highlighting the integration of manual and automatic surface observations (AWS), Doppler Weather Radars, upper-air observations, satellite systems (INSAT-3DR/3DS, ISS-LIS), and ground-based lightning detection networks (IITM and ILDN) for real-time tracking of lightning and thunderstorm activity.



Seasonal and regional lightning climatology over India was also discussed to identify hotspots and vulnerable periods, particularly during pre-monsoon and monsoon seasons.

The session elaborated on IMD's forecasting and nowcasting mechanisms, including station- and district-level thunderstorm and lightning warnings issued through the Nowcast Decision Support System (DSS) using numerical weather prediction models and lightning data assimilation. Case studies demonstrated how radar, satellite, lightning products, and model outputs are combined to improve lead time and accuracy of warnings. Emphasis was placed on risk management and dissemination, highlighting the use of Common Alert Protocol (CAP) and the DAMINI mobile application for last-mile communication. Group discussions reinforced the importance of timely, impact-

based warnings and effective communication in reducing lightning-related casualties and damage, especially among vulnerable and outdoor-exposed populations.

Session 18: Extreme Weather events Heatwaves and Drought

Shri Shiv Narayan Sidh, Assistant Professor, NIDM



The session focused on extreme weather events with special emphasis on heatwaves and droughts, highlighting their increasing frequency, intensity, and impacts in the context of climate change. Shri Shiv Narayan Sidh explained the concept, definition, and criteria for heatwaves in India, along with observed trends such as the rise in very hot days and warm nights, particularly affecting urban areas and vulnerable populations. The session discussed the health, socio-economic, agricultural, and infrastructure impacts of heatwaves, and emphasized cascading risks such as droughts, forest fires, and urban heat island effects. Case studies, including the Ahmedabad Heat Action Plan and Jodhpur heatwave management, were presented to demonstrate effective heatwave preparedness measures such as early warnings,

public awareness, health system preparedness, cooling centres, and adaptive interventions.

The session also addressed drought risk management, covering types of droughts, drought declaration processes in India, and long-term impacts on agriculture, livelihoods, water resources, and rural economies. Using Karnataka as a case study, He explained drought monitoring and early warning mechanisms, including rainfall analysis, remote sensing indicators, and institutional frameworks such as KSNDMC. The discussion highlighted strategies for mitigation, preparedness, response, and resilience, including watershed management, drought-resilient cropping, water conservation, early warning systems, employment support, and community participation. Group discussions enabled participants to reflect on region-specific challenges and reinforced the need to shift from reactive relief-based approaches to proactive, risk-informed planning for managing heatwaves and droughts.

Session 19: Nature-based Solutions for DRR

Speaker: Dr. Prerna Joshi Assistant Professor, NIDM



The session introduced Nature-based Solutions (NbS) as an integrated approach to reduce disaster risks while delivering co-benefits such as biodiversity conservation, climate adaptation, and improved human well-being. Dr. Prerna Joshi explained the IUCN and UNEA definitions of NbS, emphasizing the role of ecosystems and ecosystem services in addressing societal challenges like floods, landslides, heat stress, and urban risks. The session highlighted key NbS principles, including ecological integrity, social equity, scalability, long-term sustainability, and adaptive management, and discussed the IUCN Global Standard for NbS, which provides criteria and indicators for designing, implementing, monitoring, and verifying NbS interventions.

Through case studies, the session demonstrated practical applications of NbS for DRR, including urban greening initiatives such as the Kawaki Initiative in Kolkata and ecosystem-based flood mitigation approaches like the East Kolkata Wetlands, which function as natural buffers while supporting livelihoods. These examples illustrated how NbS can complement conventional grey infrastructure by reducing hazard intensity and exposure in a cost-effective and sustainable manner. Group discussions enabled participants to critically examine trade-offs, stakeholder participation, and challenges in mainstreaming NbS into policy and planning. The session concluded by emphasizing the need to integrate NbS into disaster management plans, urban development, and climate adaptation strategies, supported by evidence-based decision-making and community ownership for long-term resilience building.

Session 20: Principles and Overview of Incident Response System (IRS) and the Role of Emergency Support Functions (ESFs)

Speaker: Sh. Shekhar Chaturvedi, Assistant Professor, NIDM

The session provided a comprehensive overview of the Incident Response System (IRS) as a standardized and structured mechanism for managing disasters and emergencies. Sh. Shekhar Chaturvedi explained how IRS addresses challenges such as chaos, infrastructure damage, communication breakdown, and coordination gaps during disasters. The core principles and features of IRS were discussed, including common terminology, management by objectives, unity and chain of command, delegation of authority, manageable span of control, integrated communication, accountability, and development of an Incident Action Plan (IAP) for each operational period.



The organizational structure of IRS comprising the Incident Commander, Command Staff, and General Staff (Operations, Planning, Logistics, and Finance Sections) was elaborated to demonstrate clear roles and responsibilities during response operations.

The session also highlighted the role of Emergency Operations Centres (EOC) and the importance of coordination among Emergency Support Functions (ESFs) for effective resource mobilization, logistics, communication, medical support, transportation, and relief camp management. Through case studies and group discussions, participants examined activation of Incident Response Teams, transfer of command, inter-agency

coordination, and phased response from local to district levels. The discussion reinforced that IRS enables efficient, flexible, and scalable response operations, ensuring timely decision-making, optimal use of resources, and coordinated action among stakeholders, thereby strengthening overall disaster response capacity

Session 21: Sachet App Demonstration

Speaker: Dr. Gagandeep Singh, Assistant Professor, NIDM

The session focused on a live demonstration of the Sachet App. Dr. Gagandeep Singh explained the role of technology in strengthening Early Warning Systems (EWS), aligned with the Prime Minister's 10-Point Agenda on Disaster Risk Reduction. The demonstration highlighted how the Sachet App integrates warnings from authorized agencies and disseminates them through the Common Alerting Protocol (CAP), enabling timely and location-specific alerts to citizens, institutions, and local authorities.



The session emphasized the importance of last-mile connectivity, showcasing how Sachet supports community-level preparedness through integration with mobile applications and local governance mechanisms. The role of Gram Panchayats in warning dissemination, identification of safe shelters, assistance to vulnerable groups, and integration of early warning actions into Gram Panchayat Development Plans (GPDs) was highlighted. Overall, the session reinforced that technology-enabled early warnings, combined with community awareness and local action, play a crucial role in reducing loss of life, livelihoods, and assets during disasters

Day 5 (Friday): 05.12.2025

Day 4 recapitulation highlighted key learnings on preparedness and response mechanisms, management of emerging and extreme hazards, and the role of technology and nature-based approaches in disaster risk reduction. Emphasis was placed on crowd and stampede management, lightning forecasting and early warning, and management of extreme weather events such as heatwaves and droughts, supported by case studies and best practices. The sessions also underscored the importance of Nature-based Solutions and technology-enabled early warning systems, including the Sachet App, to strengthen coordinated response, last-mile communication, and community-level resilience

Session 22: PDNA hands-on exercise on damage and loss assessment

Speaker: Dr. Arkaprabha Sarkar, Assistant Professor, NIDM

The session introduced participants to the Post Disaster Needs Assessment (PDNA) framework, with a clear explanation of the distinction between damage (physical destruction of assets) and loss (economic flows and income disruptions). Through presentations, He explained the conceptual basis of PDNA, its relevance for recovery and reconstruction planning, and its linkage with disaster response financing mechanisms such as SDRF and NDRF. Key considerations such as hazard analysis, Build Back Better principles, and climate change adaptation were emphasized to ensure resilient recovery planning.



The session included a hands-on group exercise where participants worked on damage and loss assessment across multiple sectors, including housing, education, agriculture, health, power, tourism, and livelihoods. Participants identified loss-incurring areas, estimated recovery and reconstruction needs, and discussed prioritization of interventions. The exercise enhanced practical understanding of sector-wise assessment, evidence-based claims, and needs-based planning, strengthening participants' capacity to apply PDNA tools for informed decision-making in post-disaster recovery and resilience-building processes.



Group Exercise on PDNA Assessment

Session 23: Common Alert Protocol (CAP)

Speaker: Dr. Pankaj Kumar, Assistant Professor, NIDM

The session focused on the Common Alert Protocol (CAP) as a standardized and integrated framework for all-hazard, all-media early warning dissemination. Dr. Pankaj Kumar explained the evolution, concept, and significance of CAP as an ITU-approved global standard, highlighting its ability to issue a single, authoritative alert that can be disseminated simultaneously across multiple platforms such as mobile phones, television, radio, web portals, and public announcement systems. The session contrasted legacy alert systems with CAP-based systems, emphasizing improvements in speed, coordination, geo-targeting, automation, multilingual dissemination, and feedback mechanisms.

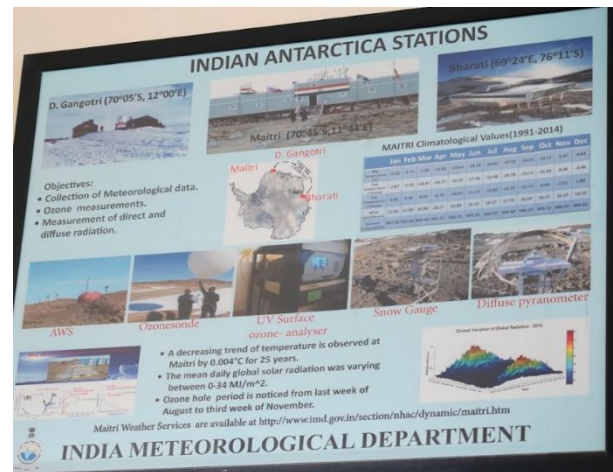
The session also detailed the implementation of CAP in India, including the roles of Alert Generating and Authorizing Agencies, State and District Disaster Management Authorities, and integration with technologies such as cell broadcast, mobile applications (Sachet), National Disaster Alert Portal, GAGAN and NavIC. Message structure, clarity, and actionable content were emphasized to ensure public understanding and timely response. Through case studies and group discussions, participants examined CAP's application for hazards such as cyclones, floods, lightning, and public health emergencies, reinforcing the importance of technology-driven, geo-targeted, and last-mile warning dissemination for strengthening disaster preparedness and response.

Session 24: Field Visit to IMD

The field visit to the India Meteorological Department (IMD) provided participants with hands-on exposure to operational meteorology, atmospheric monitoring, and forecasting infrastructure. Participants were introduced to IMD's role as a national and regional hub for environmental monitoring, including visits related to the National Ozone Centre, aerosol and precipitation chemistry laboratories, and air quality monitoring systems such as SAFAR. These facilities demonstrated how ground-based observations support weather forecasting, climate monitoring, air quality advisories, and disaster risk reduction at local to national scales.

The visit also highlighted the extensive use of satellite-based observations by IMD for weather and hazard forecasting. Participants were briefed on the application of INSAT-3D and INSAT-3DR satellites for continuous monitoring of clouds, cyclones, thunderstorms, rainfall, fog, and heat stress through visible, infrared, and water vapour imagery. The use of satellite-derived products such as cloud-top temperature, rainfall estimates, cyclone intensity and track prediction, and severe weather forecasting and nowcasting was explained. These satellite inputs, combined with radar and ground observations, form the backbone of early warning systems for cyclones, heavy rainfall, heatwaves, lightning, and air quality, reinforcing the critical role of space-based technologies in IMD's multi-hazard forecasting and disaster preparedness framework. The participants were also briefed on the different weather monitoring equipment (Dry-bulb, wet-bulb thermometers, Hygograph, Barometer, Anemometer, Rain gauge, etc.) installed at the IMD's observatory. The air quality measuring instrument (Dobson Spectrophotometer) was also shown to the participants.







Photographs from the IMD visit

Day 8 (Monday): 08.12.2025

Exposure visit to 8th NDRF Battalion in Ghaziabad

Session 25: NDRF Visit – Experiencing India’s Specialized Disaster Response Mechanisms

Speaker: Dr. Kuber Sharma, 8th Bn NDRF

As part of the 9th Comprehensive Course on Disaster Risk Management, a field visit to the National Disaster Response Force (NDRF) was organized to provide participants with practical exposure to India’s specialized disaster response systems. The visit aimed to strengthen participants’ understanding of operational preparedness, specialized response capabilities, and coordination mechanisms essential for effective disaster response.

The session began with an orientation on the mandate, organizational structure, and operational role of NDRF in managing disasters across diverse hazard scenarios. Emphasis was placed on rapid response, inter-agency

coordination, and the importance of trained human resources in minimizing loss of life and property during emergencies.

Participants were introduced to a wide range of specialized equipment used by NDRF, including Chemical, Biological, Radiological and Nuclear (CBRN) response equipment, Collapsed Structure Search and Rescue (CSSR) tools, Flood Water Rescue (FWR) equipment, Forest Fire response equipment, Medical First Responder (MFR) kits, Mountaineering equipment, and other disaster response resources. The demonstrations highlighted how equipment selection and deployment vary based on disaster type, terrain, and operational requirements.



A detailed demonstration of Collapsed Structure Search and Rescue (CSSR) operations showcased the use of cutting, breaking, and lifting tools such as bolt cutters, chain saws, chipping hammers, chisels, and circular and diamond saws. The application of these tools during earthquake and building collapse scenarios was explained with a focus on victim safety, structural assessment, and responder protection.

The Medical First Responder (MFR) component included a live demonstration of Cardiopulmonary Resuscitation (CPR), covering standard procedures, precautions, and immediate life-saving interventions during the critical golden hour. Participants were also familiarized with essential medical response practices used by NDRF teams during rescue operations.

Appendix-AMinute to Minute visit program for participants of 8TH comprehensive course on "Disaster Risk Management" On 08.12.2025 at 8th BN NDRF Ghaziabad

SN	DETAIL OF WORK	LOCATION	ASSIGNED BRANCH/OFFICER/SOs	Time (in HRS)
1.	Arrival of participants of 9 TH comprehensive course on "Disaster Risk Management" at 8 th BN NDRF on 08.12.2025 & Welcome Tea	Officers' Mess, 8 th BN NDRF	Mess Secy, Officers' Mess	1000-1030 HRS
2.	Group Photograph		Trg Branch/SOT	1035-1040
3.	Welcome address by Commandant 8 th NDRF			1045-1050
4.	Presentation on "Role and Capabilities" of NDRF	Shaheed Auditorium	Main :- Dr. Kuber S. Sharma (DC/GD) Reserve: - Sh. Ravindra Singh Ashwal (DC/GD) OC(OPS)/OC Telecom/OC Auditorium/SO (Telecom)	1050-1220
5.	Exchange of Memento		QM/SM	1220-1225
6.	Basic First Aid and Evacuation techniques	Auditorium	Medical Team for Demonstration	1230-1330
7.	Hands on Practice on CSSR & Rope Rescue	USAR Rubble Field	Rope rescue :- Main : INSP/GD Sudhir kumar Baghel "A" Reserve: SI/GD Ravinder Kumar "F" Coy CSSR Station :- Main : Insp/GD Deepika, "B" Coy Reserve: SI/GD Anita "B" Coy	1335-1400
8.	Lunch	Officers' Mess, 8 th BN NDRF	Mess Secy, Officers' Mess	1400-1500
9.	Equipment Display	Model Room	OC (Model Room)/Adjutant/SM/ SO(Trg)	1510-1600
10.	Departure	Officers' Mess, 8 th BN NDRF		1610
11.	Camp visit co-ordinating sub-ordinate officer	8 th Bn NDRF Campus & all activities	ASI/GD Gurdev Singh "C" Coy Mob.No - 747879551	1000 - 1610

Minute-to-minute programme schedule at NDRF

Day 9 (Tuesday): 09.12.2025

Day 9 started with a recapitulation of Day 7 and 8 presented by the participant groups.

Session 26: Inclusive Disaster Risk Reduction – Leaving No One Behind**Speaker: Dr. Ajinder Walia, Associate Professor, NIDM**

The session on Inclusive Disaster Risk Reduction (DRR) was delivered by Dr. Ajinder Walia with the objective of sensitizing participants to the differential impacts of disasters on vulnerable populations and the need to integrate inclusivity into all phases of disaster management.

Dr. Walia began by defining "more vulnerable groups" as those with special needs who are unable to safely and effectively access standard disaster preparedness, response, relief, and recovery mechanisms. The session highlighted the concept of intersectionality, emphasizing that vulnerability is often multidimensional and shaped by overlapping social, economic, physical, and institutional factors.

The presentation examined the disaster impacts on key vulnerable groups, including women, children, the elderly, persons with disabilities (PwDs), and people with critical medical needs. In the context of women, the session discussed issues such as differential mortality, increased workload, heightened risk of domestic violence and trafficking, challenges related to reproductive health, and limited representation in decision-making processes during disasters.



Special attention was given to children, focusing on physical and mental health impacts, disruption of education, loss of emotional security, and increased risks of child labour, trafficking, migration, and early marriage in post-disaster situations. The session also highlighted how disasters alter children's social status and long-term development outcomes.

The vulnerabilities of the elderly population were discussed in terms of physical, social, and economic impairments, including difficulty in hearing warning signals, evacuation challenges, limited access to relief and compensation, and the psychological trauma of losing lifelong assets such as home and family security.

Dr. Walia elaborated on challenges faced by persons with disabilities, covering difficulties in understanding warning systems, evacuation barriers, lack of disability-friendly shelters, exposure to violence, communication challenges, and the need for specialized support infrastructure in relief camps. The session further addressed the needs of people with critical medical conditions, who are highly dependent on healthcare facilities, power supply, medical professionals, and life-support equipment.

The session emphasized inclusive planning in the pre-disaster phase, including data collection, consultation, needs assessment, targeted awareness generation, and educating vulnerable populations on disaster do's and don'ts. Dr. Walia stressed the importance of community participation, encouraging communities to assist vulnerable groups and actively involve them in Community-Based Disaster Risk Management (CBDRM) processes.

Concluding the session, Dr. Walia highlighted that disasters should be viewed as a window of opportunity for empowerment, advocating for participation, representation, and capacity building of vulnerable groups to ensure that disaster risk reduction efforts are truly inclusive and equitable.

Session 27: Community-Based Disaster Risk Reduction

Speaker: Dr. Sushma Guleria

Dr. Sushma Guleria conducted an insightful session on Community-Based Disaster Risk Management (CBDRM) and Community Preparedness & Capacity Building. She began by defining "community" in both geographic terms as a cluster of households or a village and socially, as groups sharing common experiences or interests. Dr. Guleria highlighted the various different levels of community involvement during crises, detailing the roles of first responders, supporting networks, and advocacy groups that play crucial roles in disaster response and recovery.



She elaborated that CBDRM is a participatory approach aimed at empowering communities to prevent, mitigate, and cope with disasters using their local knowledge and resources. The session emphasized the importance of capacity building particularly for women and vulnerable groups and the value of traditional wisdom in strengthening community resilience. Dr. Guleria discussed the various vulnerabilities communities face, including economic, social, ecological, and motivational challenges, and underscored the significance of building local capacity to act effectively during the critical

“golden hours” before external aid arrives.

Session 28: Risk Financing and Mitigation

Speaker: Dr. Prerna Joshi

The session on Risk Financing and Mitigation was delivered by Dr. Prerna Joshi with the objective of enhancing participants’ understanding of financial mechanisms that ensure timely, predictable, and adequate funding for disaster preparedness, response, recovery, and mitigation. The session emphasized the growing importance of disaster risk financing in the context of increasing frequency, intensity, and unpredictability of



disasters.

Dr. Joshi highlighted the limitations of traditional “pay-after-disaster” approaches, which often delay relief efforts and place a significant fiscal burden on governments. The session introduced Disaster Risk Financing (DRF) as a proactive framework that supports funding across the disaster management cycle—before, during, and after disasters—aligning with the Sendai Framework priority of investing in disaster risk reduction for resilience.

The core components of DRF were explained, including risk retention through budgetary provisions and contingency funds, risk transfer through insurance,

reinsurance, and capital market instruments, risk reduction financing for long-term mitigation investments, shock-responsive social protection mechanisms to safeguard vulnerable populations, and private sector participation in disaster risk management.

The session detailed the disaster financing cycle, covering pre-disaster instruments such as contingency funds, insurance (indemnity, parametric, and microinsurance), catastrophe bonds, budget reserves, and early warning financing, as well as post-disaster instruments including budget reallocations, emergency credit lines from multilateral institutions, donor assistance, reconstruction loans, and tax adjustments. The importance of risk layering was emphasized, highlighting that no single financial instrument can address all types of disaster risks.

Global best practices in disaster risk financing were discussed, including parametric insurance models, sovereign catastrophe bonds, regional risk pools, and shock-responsive social protection systems. Drawing from the Indian context, Dr. Joshi outlined existing challenges such as low insurance penetration, rising urban and climate-related risks, and uninsured public assets.

The session provided an overview of India’s evolving disaster risk financing architecture under the 15th Finance Commission, including the establishment of the State and National Disaster Risk Management Funds, with dedicated allocations for both response and mitigation. Key national mitigation initiatives supported through these funds—such as GLOF risk mitigation, landslide risk mitigation, urban flood risk management, and forest fire risk mitigation—were highlighted as steps towards strengthening ex-ante risk reduction.

Concluding the session, Dr. Joshi emphasized that disaster risk financing is no longer optional but essential for safeguarding lives, infrastructure, and economic stability. The session reinforced the need for integrating insurance mechanisms, capital markets, data-driven triggers, early warning systems, and mitigation investments to build a financially resilient India capable of addressing future disaster risks.

Session 29: Psychosocial Care in Disasters

Speaker: Dr. Ajinder Walia

The session on Psychosocial Care in Disasters was facilitated by Dr. Ajinder Walia with the objective of sensitizing participants to the psychological and emotional dimensions of disasters and the importance of empathetic engagement in disaster response and recovery.

Dr. Walia emphasized that disasters not only cause physical damage but also result in significant emotional distress, trauma, and psychosocial challenges for affected individuals and communities. The session highlighted the role of disaster managers as first listeners and supporters, underscoring the need for

compassion, patience, and effective communication while engaging with disaster-affected populations. A key component of the session focused on active listening techniques, with special emphasis on the SOLER Model—Sit squarely, Open posture, Lean forward, Eye contact, and Relax. Dr. Walia explained how these non-verbal communication practices help build trust, convey attentiveness, and create a safe space for survivors to express their emotions and concerns. Participants were encouraged to apply these techniques during field interactions to improve psychosocial support outcomes.



To illustrate the impact of unexpressed emotions, Dr. Walia used the balloon analogy, explaining that emotional stress accumulates when feelings are suppressed, much like air building pressure inside a balloon. If pressure is not released through healthy expression and support, it can eventually lead to emotional breakdown. The analogy helped participants understand the importance of allowing disaster-affected individuals to express grief, fear, and anxiety as part of the healing process.

The session included an experiential learning activity where participants were asked to exchange footwear with one another and walk in someone else's shoes. This activity symbolically reinforced the concept of empathy by enabling participants to experience discomfort and unfamiliarity, mirroring the challenges faced by disaster-affected individuals. The exercise encouraged participants to reflect on perspective-taking and the necessity of understanding people's experiences beyond administrative or technical lenses.



The session concluded by reinforcing that psychosocial care is a critical component of disaster response and recovery. Dr. Walia stressed that effective disaster management must integrate emotional support, empathetic communication, and psychological first aid alongside physical relief and rehabilitation measures. The session enabled participants to appreciate the human dimensions of disasters and the importance of empathetic engagement in building resilient communities.

Session 30: Urban Floods – Causes and

Mitigation Strategies

Speaker: Dr. Garima Aggarwal, Senior Consultant, NIDM

The session delivered by Dr. Garima Aggarwal with the objective of strengthening participants' understanding of the growing challenge of urban flooding in Indian cities. Urban flooding was explained as the inundation of built-up areas caused when intense rainfall overwhelms urban drainage systems. The session highlighted urban flooding as an emerging "new normal" driven by rapid urbanisation, climate change, expansion of impervious surfaces, and loss of natural drainage.

Dr. Aggarwal discussed key contributing factors such as geographical settings of cities along rivers and coasts, encroachment on floodplains, haphazard urban development, inadequate storm water drainage, and increasing frequency of extreme rainfall events. Case studies from cities including Guwahati, Chennai, Srinagar, Mumbai, and Pune illustrated the severe impacts of urban flooding on critical infrastructure, transportation networks, public services, and livelihoods, emphasizing the consequences of poor land-use planning and clogged drainage systems.

The session highlighted the importance of urban flood risk assessment through exposure, vulnerability, and risk mapping to identify hotspots and prioritise interventions. An integrated mitigation approach was emphasized, covering structural measures such as drainage improvement, desilting, rainwater harvesting, and nature-based solutions, alongside non-structural measures including flood zoning, policy reforms, early warning systems, and community participation. The session concluded by stressing the need for water-sensitive and flood-resilient cities through coordinated planning, resilient infrastructure development, and a whole-of-society approach.



Day 10 (Wednesday): 10.12.2025

Day 10 started with a recapitulation of Day 9 presented by the participant group.

Session 31: Public Health in Emergencies and Disaster Management

Speaker: Sh. Shiv Narayan Sidh, Assistant Professor, NIDM

The session on Public Health in Emergencies and Disaster Management was delivered by Shri Shiv Narayan Sidh, Assistant Professor, NIDM, with the objective of familiarizing participants with key public health concepts in the context of disasters and emergencies. The session highlighted the growing scale of public health emergencies arising from natural hazards, technological disasters, disease outbreaks, and climate change, emphasizing that health security and disaster risk reduction are intrinsically linked. Participants were introduced to core public health principles, the disaster management cycle, and the need for a risk-based, all-hazards and people-centric approach to health emergency management.



Shri Sidh discussed the Health Emergency and Disaster Risk Management (Health EDRM) framework, outlining its key components including policies and legislation, planning and coordination, human and financial resources, information and knowledge management, risk communication, health infrastructure, and community capacities. The session emphasized the importance of preparedness, surveillance, early warning systems, inter-sectoral coordination, and resilient health systems capable of scaling up during emergencies. Special focus was placed on public health infrastructure, disease prevention, community engagement, and mainstreaming disaster risk reduction into health planning.

Using case studies such as the 2001 Gujarat Earthquake and examples of public health emergencies including pandemics and air pollution, the session highlighted the impacts of disasters on health infrastructure, service delivery, and vulnerable populations. Key lessons included the need for resilient health facilities, trained human resources, effective communication, and community preparedness. The session concluded by stressing the importance of multi-sectoral collaboration, the One Health approach, and integrating mental health and psychosocial care into disaster preparedness, response, and recovery to ensure resilient and inclusive public health systems.

Session 32: India Disaster Resource Network (IDRN) – Online Platform and Resource Management

Speaker: Shri Dharmendra Yadav, NIDM

The session on the India Disaster Resource Network (IDRN) was conducted by Shri Dharmendra Yadav, NIDM, with the objective of familiarizing participants with the use of technology for efficient disaster response through systematic resource mapping and inventory management. The session was aligned with the Hon'ble Prime Minister's 10-Point Agenda for Disaster Risk Reduction, particularly the emphasis on leveraging technology to enhance disaster management efficiency. IDRN was introduced as a critical national platform supporting evidence-based decision-making during emergencies.

Shri Yadav explained that IDRN is a web-based, location-specific inventory system that captures details of disaster response equipment, skilled human resources, and critical supplies available across the country. Initiated by the Ministry of Home Affairs under the UNDP–DRM Programme in 2003 and managed by NIDM since 2008, the portal is hosted on NIC servers and accessed by authorized government officials. The session outlined the roles of national, state, and district authorities, highlighting that district administrations are responsible for regular data collection, updation, and validation from line departments to ensure the availability of real-time and reliable information during disasters.



The session also highlighted recent advancements such as the IDRN API services, which enable states and UTs to integrate IDRN data with their own disaster inventory and management systems for online and offline access during emergencies. Examples from states such as Kerala, Jammu & Kashmir, Ladakh, Himachal Pradesh, and Uttar Pradesh demonstrated the practical application of IDRN in strengthening preparedness and response. The session concluded by emphasizing the importance of accurate, updated resource data and inter-agency coordination to enhance the effectiveness of disaster response operations through technology-driven platforms.

Session 33: Exposure visit to the National Disaster Management Authority (NDMA) Interaction with Members and Senior Officials of NDMA

An exposure visit to the National Disaster Management Authority (NDMA) was organized on 10 December 2025, with the objective of familiarizing participants with national-level disaster management frameworks, policies, mitigation strategies, and institutional mechanisms.

The programme commenced with a welcome address by Lt. Col. Surya Prakash Pandey, Joint Advisor, on behalf of NDMA. This was followed by opening remarks by Shri Safi Ahsan Rizvi, Advisor (Mitigation), NDMA, who highlighted the increasing frequency and complexity of disasters due to climate change and emphasized the importance of preparedness, mitigation, and coordinated response at all levels of governance.

A series of technical sessions were conducted by NDMA officials:



Disaster Management Framework: Policy and Legal Aspects

This session was delivered by Shri Priyank Jindal, Senior Consultant (Disaster Management), Policy & Planning Division, NDMA. The presentation covered the Disaster Management Act, 2005, national policies and guidelines, the mandate and role of NDMA, roles of nodal ministries and departments for different disasters, and the overall guiding framework and inter-institutional linkages in disaster management in India.

Disaster Risk Financing Mechanisms in India

The session on disaster risk financing was delivered by Shri Shishir Agarwal, Senior Consultant (Disaster Risk Finance), NDMA. He emphasized the importance of integrating financial preparedness into disaster risk management and elaborated on funding windows, methodologies for fund allocation, insurance-based and risk transfer solutions, and allied initiatives aimed at strengthening financial resilience against disasters.

Strategies and Projects of the Mitigation Division, NDMA

This session was conducted by Dr. Sweta Baidya, Senior Consultant, Mitigation Division, NDMA. She provided an overview of major national mitigation initiatives, including the National Cyclone Risk Mitigation Project, Urban Flood Risk Management Programme, Glacial Lake Outburst Flood (GLOF) Mitigation Programme, Landslide Mitigation Project, Coastal Erosion Project, and Earthquake Mitigation Project, along with insights into their funding mechanisms and current implementation status.

Radiological and Nuclear Disaster Management

The fourth session was delivered virtually by Dr. Vinod Kumar, Senior Consultant (CBRN), Mitigation Division, NDMA. The presentation covered key aspects of radiological and nuclear emergency preparedness, including detection and monitoring systems, decontamination procedures, medical management, and

institutional response mechanisms.



An interactive session followed, during which Shri Safi Ahsan Rizvi, invited participants to share their experiences and raise queries. Clarifications were provided on the availability of Chemical Industrial Disaster Management Guidelines (2007) and the Off-site Emergency Action Plan SOP (October 2024), integration of resilience measures in coastal road infrastructure projects, and the volunteer-based nature of the Aapda Mitra scheme. A best practice from Odisha, where Aapda Mitra volunteers are engaged as paid master trainers by the State Disaster Management Authority, was shared and discussed. Queries related to air pollution were addressed by clarifying the institutional mandate of the Ministry of Environment, Forest and Climate Change (MoEFCC) and associated regulatory bodies.

The visit provided valuable exposure to NDMA's policy, financial, and mitigation frameworks and significantly enhanced the participants' understanding of national disaster risk reduction and management mechanisms.

Day 11 (Thursday): 11.12.2025

Day 11 started with a recapitulation of Day 10 presented by the participant group.

Session 34: Practical Aspects to Enhance Preparedness and Response during Disasters

Speaker: Sh. Randeep Rana, Senior Advisor, NIDM

The session on Practical Aspects to Enhance Preparedness and Response during Disasters was conducted by Shri Randeep K. Rana with the objective of providing participants with practical, field-oriented insights to strengthen disaster preparedness and response mechanisms. The session focused on understanding the immediate impacts of disasters and the critical importance of advance planning, coordination, and readiness to minimize loss of life and damage to infrastructure.



Shri Rana emphasized key operational aspects such as coordination before the onset of disasters, emergency communication, power supply continuity, and effective early warning dissemination. The session highlighted the need for alternate and resilient communication systems, including portable towers, adequate power backup, and responsible use of media to prevent misinformation and panic. Practical guidance was shared on advance placement of search and rescue teams, coordination with NDRF and other external response forces, use of technology such as drones for surveillance, and ensuring that relief operations are dignified, well-coordinated, and need-based.

The session further addressed ground-level response challenges, including management of relief and evacuation centers, continuity of essential services, healthcare access, hygiene and sanitation, animal care, and support to vulnerable populations. Shri Rana stressed that disaster response must go beyond immediate relief to address underlying risk factors such as inequality, poor planning, and environmental degradation. The session concluded by emphasizing the need to shift from reactive response to proactive, risk-informed disaster management through continuous learning, inclusive planning, and integration of disaster risk reduction into development processes.

Session 35: Digital Learning Initiatives of NIDM – e-Learning and iGOT Platform

Speaker: Ms. Nazia Khan, Senior Consultant (PRO) and In-charge of e-Learning and iGOT at NIDM

The session on Digital Learning Initiatives of NIDM was delivered by Ms. Nazia Khan with the objective of familiarizing participants with NIDM's online capacity-building initiatives in disaster risk reduction. The session introduced the NIDM e-learning portal and the iGOT Karmayogi platform as key digital tools for enhancing knowledge, awareness, and professional competence of stakeholders at national and sub-national levels.



Ms. Khan outlined the structure of NIDM's e-learning programmes, including the Comprehensive Disaster Risk Management Framework course and multiple thematic courses covering areas such as climate change, community-based disaster risk management, gender aspects, damage and needs assessment, risk-sensitive land use planning, and financial strategies for disaster risk management. The session highlighted how these courses support a shift from reactive to proactive disaster management by promoting standardized learning, accessibility, and continuous capacity building.

The session also discussed NIDM's contribution to the iGOT Karmayogi platform under Mission Karmayogi, including the development of

specialized disaster management modules available in multiple languages. Emphasis was placed on the role of digital learning in reaching a wider audience, strengthening institutional capacities, and supporting lifelong learning for disaster management professionals. The session concluded by underscoring the importance of technology-enabled learning in building a skilled and resilient disaster management workforce.

Session 36: Applications of Remote Sensing and GIS in Disaster Management

Speaker: Dr. Gagandeep Singh

The session on Applications of Remote Sensing and GIS in Disaster Management was conducted by Dr. Gagandeep Singh, Assistant Professor, NIDM, with the objective of familiarizing participants with the role of geospatial technologies in understanding, managing, and reducing disaster risks. The session introduced the fundamentals of remote sensing and GIS, explaining how satellite-based, airborne, and ground-based data support evidence-based decision-making across the disaster management cycle.

Dr. Singh explained the application of geospatial technologies in different phases of disasters, including preparedness, response, recovery, and mitigation. Sector-specific applications were discussed for major hazards such as floods, droughts, landslides, cyclones, and forest fires. The session highlighted the use of satellite imagery for hazard zonation, flood inundation mapping, early warning, damage and loss assessment, evacuation planning, and monitoring post-disaster recovery. Emphasis was placed on how GIS enables spatial analysis to answer critical “where” questions for planning and response.

The session also highlighted national initiatives such as the National Geospatial Policy 2022 and the National Geospatial Mission, emphasizing increased accessibility and integration of geospatial data for governance and disaster management. Dr. Singh concluded by stressing that geospatial technology is not limited to technical experts but is a powerful decision-support tool for administrators and practitioners, enabling proactive, risk-informed, and resilient disaster management practices.

Session 37: Fire Risk and Mitigation – Case Studies from Delhi

Speaker: Sh. Parvesh Kumar, Station Officer, Delhi Fire Services

The session on Fire Risk and Mitigation was conducted by Shri Parvesh Kumar from the Delhi Fire Service with the objective of enhancing participants’ understanding of urban fire risks, common causes of fire incidents, and mitigation strategies. The session focused on fire hazards in densely populated urban environments, highlighting vulnerabilities arising from unsafe building practices, electrical faults, storage of inflammable materials, and inadequate compliance with fire safety norms.



Through case studies from Delhi, the resource persons explained patterns observed in residential, commercial, industrial, and institutional fire incidents. The session emphasized the importance of fire prevention measures such as adherence to building bye-laws, proper electrical installations, clear access routes for emergency vehicles, functional fire detection and suppression systems, and regular safety audits.

Special attention was drawn to fire risks in high-occupancy buildings, hospitals, schools, and informal settlements.

The session highlighted the role of preparedness, awareness, and coordination between fire services, urban local bodies, and communities in reducing fire-related losses. Participants were sensitized to the importance of integrating fire risk mitigation into urban planning, infrastructure design, and disaster management plans. The discussion reinforced fire safety as a critical component of urban disaster risk reduction.

Session 38: Fire-Fighting Techniques: Demonstration and Interaction

Speaker and facilitators: Sh. Parvesh Kumar and team from Delhi Fire Services

The session on Fire-Fighting Techniques comprised a practical demonstration and interactive engagement conducted by the Delhi Fire Service to familiarize participants with operational aspects of fire response. The session aimed to bridge the gap between theoretical knowledge and field-level practices by showcasing standard fire-fighting equipment, response protocols, and safety procedures used during fire emergencies.

Fire service personnel demonstrated the use of fire extinguishers, hoses, protective gear, and rescue equipment, explaining their appropriate application in different fire scenarios. The session covered basic fire-fighting principles, types of fires, initial response actions, and personal safety precautions for responders and civilians. Participants were also briefed on coordination during fire incidents, evacuation procedures, and the importance of timely communication.



The interactive nature of the session enabled participants to clarify operational doubts and better understand the challenges faced during fire response operations. The session reinforced the need for preparedness, trained manpower, and coordination among agencies to ensure effective fire response.



It concluded by emphasizing that awareness of fire-fighting techniques and response protocols is essential for minimizing loss of life and property during fire emergencies.

Day 12 (Friday): 12.12.2025

Day 12 started with a recapitulation of Day 11 presented by the participant group.

Session 39-40: Holistic Approach for DM-I&II (Group Work- Disaster Simulation Exercise “Deluge in Imaginepur”)

Speaker: Dr. Gagandeep Singh

The group work exercise titled “Deluge in Imaginepur” was designed as a comprehensive disaster simulation to enable participants to apply theoretical concepts to a complex, evolving urban flood scenario. The fictional city of Imaginepur represented a large Indian metropolis with diverse socio-economic characteristics, aging infrastructure, unregulated development in floodplains, and high exposure to monsoon-induced flooding. Participants were introduced to a rapidly escalating situation marked by extreme rainfall, infrastructure failure, disruption of essential services, and emerging public health risks.

Participants were assigned sectoral roles and divided into thematic groups to address different phases of disaster management. The exercise unfolded across preparedness and mitigation, response, recovery and reconstruction, community engagement, and resilient city planning. Groups were required to analyse warning signals, identify preparedness gaps, prioritise response actions, design evacuation strategies, assess interdependencies among sectors, and develop coordinated strategies for early recovery and long-term rehabilitation, including psychosocial considerations.

The simulation encouraged critical thinking, collaboration, and real-time decision-making under pressure. By working through phased disaster escalation and sector-specific responsibilities, participants gained practical insight into coordination challenges, resource prioritisation, and the importance of integrating disaster risk reduction into urban development. The exercise effectively translated classroom learning into applied practice, reinforcing the value of preparedness, multi-sectoral coordination, and risk-informed planning.

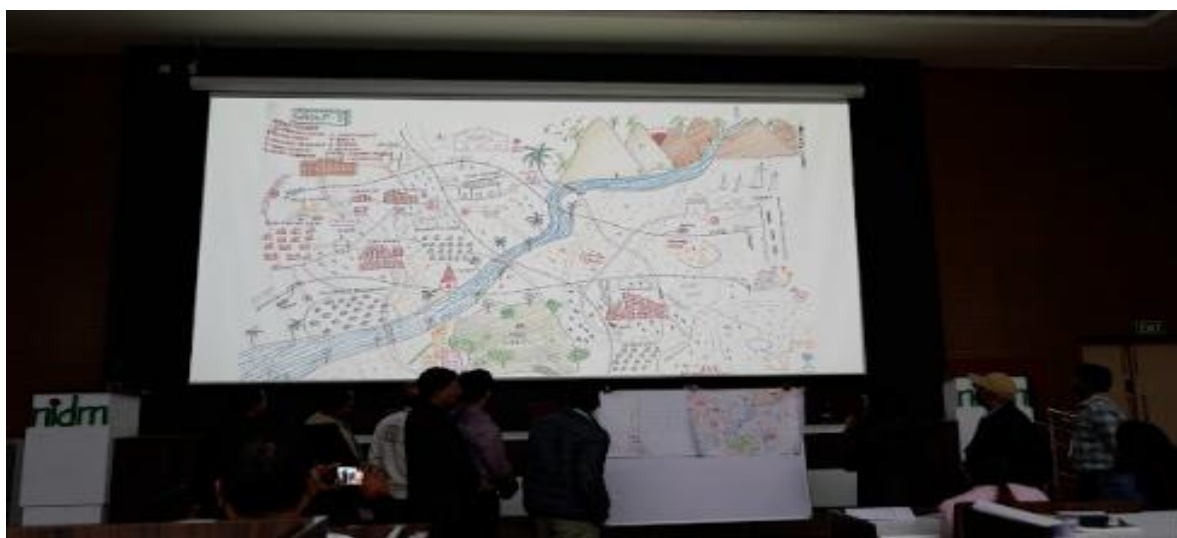
Session 41: Group presentations

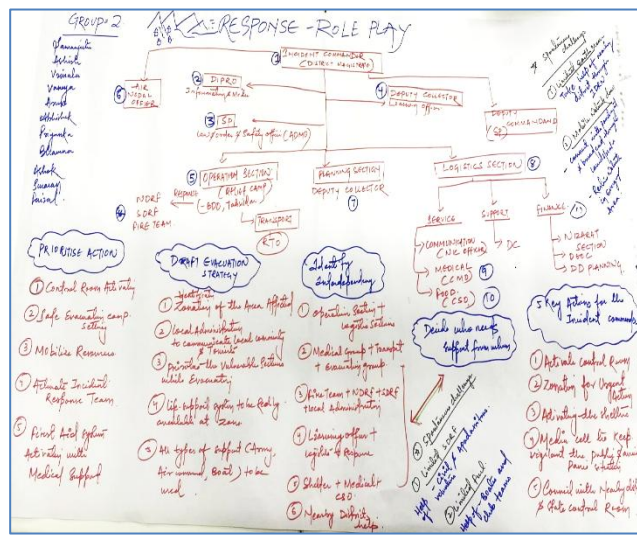
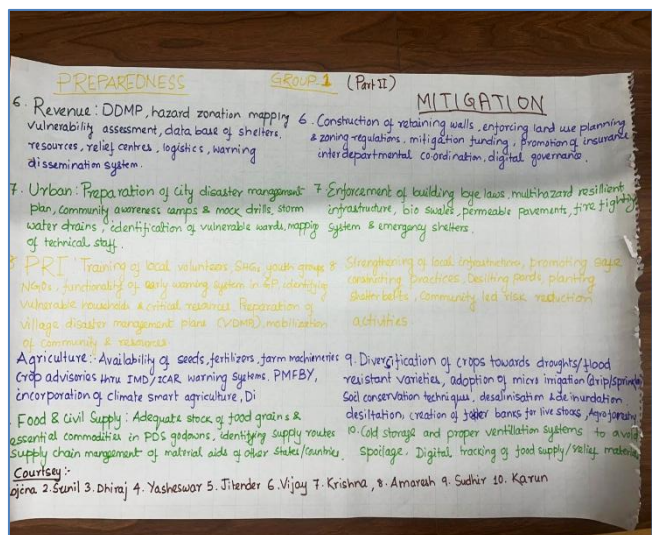
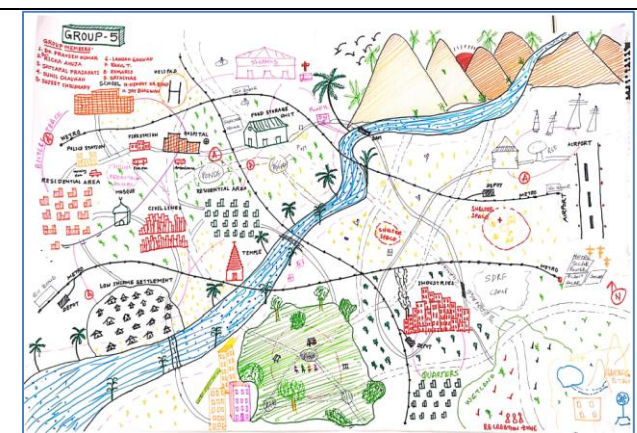
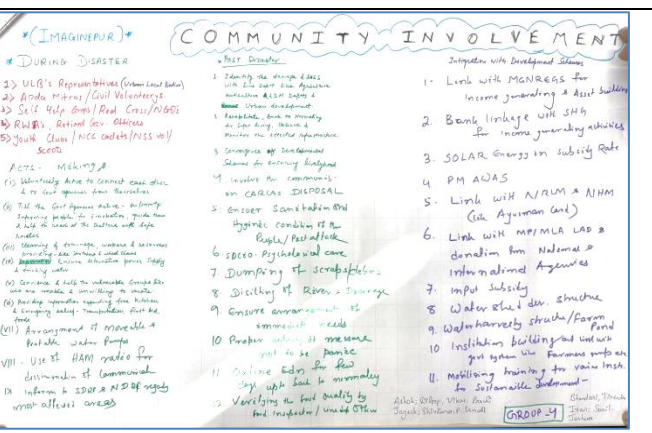
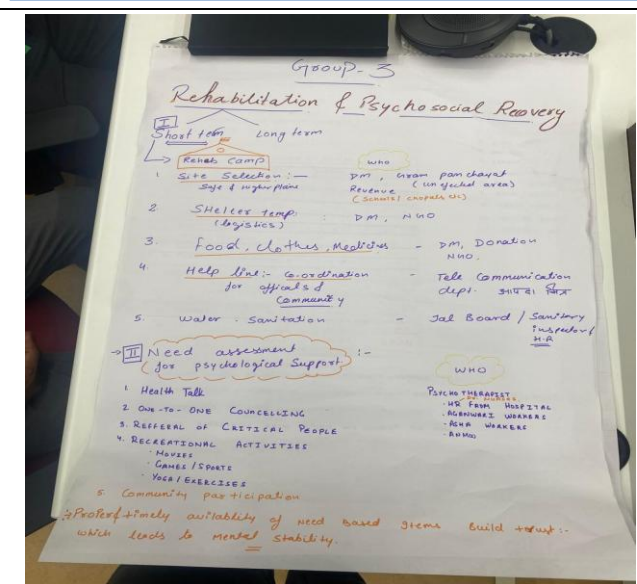
Facilitators: Dr. Gagandeep Singh, Dr. Sushma Guleria, Sh. Shekhar Chaturvedi

Following the simulation exercise, participant groups presented their analyses, strategies, and proposed interventions before the faculty. The presentations reflected structured thinking across disaster phases, covering preparedness and mitigation measures, response priorities for incident command, recovery and reconstruction planning, and approaches for community involvement and convergence with development schemes. Each group articulated sectoral roles, coordination mechanisms, and decision pathways adopted during the simulation.

One group undertook a “Build the Resilient City” map-based exercise, visually representing Imaginepur through hazard zonation, identification of lifeline infrastructure, critical assets, and vulnerable populations. Based on this spatial analysis, the group proposed resilience-enhancing interventions such as alternate transport routes, safe evacuation shelters, strengthened schools and health facilities, early warning systems, and nature-based solutions to reduce future flood risks.

The faculty interaction focused on refining strategies, highlighting strengths, identifying gaps, and linking proposed actions to policy frameworks and ground realities. The discussion reinforced the importance of inclusive planning, community-centric approaches, and long-term resilience building. The session demonstrated participants’ ability to synthesise technical, administrative, and social dimensions of disaster management and underscored the effectiveness of simulation-based learning in capacity building.



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Valediction and Certificate Distribution



The Valedictory Session marked the formal conclusion of the 9th Comprehensive Course on Disaster Risk Management and provided an opportunity to reflect on the learning outcomes and overall conduct of the programme. The session commenced with a concise summary of the course presented by Dr. Gagandeep Singh, Course Coordinator, who highlighted the thematic breadth of the course, including foundational concepts, hazard-specific modules, cross-cutting dimensions, field exposure, simulation-based group work, and participant presentations. He emphasized the active engagement of participants and the practical orientation of the programme.

Shri Randeep Rana, Senior Advisor, NIDM, and Col. Manoram Yadav, SM, Joint Director, NIDM, addressed the participants and underscored the growing complexity of disaster risks in India. Their addresses highlighted the importance of adopting a holistic, risk-informed, and inclusive approach to disaster management, with strong emphasis on preparedness, mitigation, institutional coordination, and community participation. Participants were encouraged to apply the knowledge and skills gained during the course to strengthen disaster risk reduction and resilience-building efforts in their respective organizations and jurisdictions.



The Valedictory Address was delivered by Shri Madhup Vyas, IAS, Executive Director, NIDM, who commended the participants for their commitment and active participation throughout the programme. He reiterated NIDM's role in capacity building and emphasized the importance of continuous learning, inter-sectoral collaboration, and evidence-based decision-making in disaster management. The session also included an interaction with participants, followed by the distribution of certificates. The programme concluded with a vote of thanks proposed by Dr. Gagandeep Singh, expressing gratitude to the dignitaries, resource persons, participants, and the organising team for the successful conduct of the course.



Key Takeaways

1. **Disaster management must be risk-informed and prevention-oriented**

The programme reinforced the need to move decisively from a response-centric approach to proactive disaster risk reduction, with strong emphasis on prevention, mitigation, preparedness, and resilience in line with national and global frameworks.

2. **Scientific risk assessment underpins effective decision-making**

Tools such as Hazard, Risk, Vulnerability and Capacity (HRVC) analysis, susceptibility mapping, and modelling are essential for evidence-based planning, prioritization of interventions, and formulation of actionable Disaster Management Plans.

3. **Institutional Coordination is Central to Effective DRM**

Clear roles and coordination among NDMA, SDMA, DDMA, line departments, response forces, and EOCs, supported by the Disaster Management Act, 2005, are essential to avoid duplication and delays.

4. **Disasters have cascading, multi-sectoral impacts**

The programme highlighted that disasters simultaneously affect social sectors, infrastructure, livelihoods, and ecosystems, necessitating integrated, multi-sectoral planning, damage and loss assessment, and coordinated recovery strategies.

5. **Early warning systems and last-mile connectivity are critical to saving lives**

Effective disaster risk reduction depends on robust early warning systems that integrate scientific forecasting, institutional coordination, CAP-enabled dissemination, technology platforms, and community preparedness for timely action.

6. **Preparedness and Response Must Follow a Structured System (IRS)**

The Incident Response System (IRS) provides clarity, unity of command, and operational efficiency during emergencies, ensuring coordinated response across agencies and sectors.

7. **‘Build Back Better’ is Both a Technical and Governance Imperative**

Recovery and reconstruction should reduce future risks through safer construction, resilient infrastructure, risk-informed land use, and climate adaptation, supported by PDNA-based planning.

8. **Communities Are the First Responders and Central to Resilience**

Community-Based Disaster Risk Reduction (CBDRR), local knowledge, and capacity building—

especially of women and vulnerable groups—are critical during the golden hours before external help arrives.

9. Inclusivity is Non-Negotiable in Disaster Risk Reduction

DRM must explicitly address the needs of women, children, elderly persons, persons with disabilities, and those with medical dependencies, ensuring no one is left behind across all phases of the DM cycle.

10. Financing and Nature-Based Solutions are Key Enablers of Resilience

Sustainable DRM requires ex-ante risk financing, insurance and mitigation funds, along with Nature-based Solutions (NbS) that complement grey infrastructure while delivering long-term ecological and social benefits.

List of Participants

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Annexure 1: Programme Schedule

09:15 – 09:45	Registration	Managed by organization team	
Inaugural Session (Monday): 01.12.2025			
09:45 – 09:55	Introduction and Context Setting	Dr. Gagandeep Singh, Assistant Professor, NIDM	
09:55 – 10:10	Welcome Address	Col. Manoram Yadav, SM, Joint Director, NIDM	
10:10 – 10:20	Inaugural Address	Shri Madhup Vyas, IAS., Executive Director, NIDM	
10:20 – 10:30	Vote of Thanks	Shri. Randeep Kumar Rana, Senior Advisor, NIDM	
10:30 – 11:00	Group Photograph and Tea		
Day 1 (Monday): 01.12.2025			
Time	Session	Andragogy	Speakers/facilitators
Foundations of Disaster Risk Reduction (DRR), Policies and Institutional Framework			
11:00 AM – 12:00 PM (60 minutes)	Session 1: Introduction of the course and Ice-Breaking Exercise	Pre-training Assessment and Group Activity	Dr. Gagandeep Singh, Assistant Professor, NIDM
12:00 PM – 01:00 PM (60 minutes)	Session 2: Basic Concepts of Disaster Management & Vulnerability of India	PPT and Group Discussion	Dr. Sushma Guleria, Assistant Professor, NIDM
01:00 PM – 02:00 PM	Lunch Break		
02:00 PM – 03:00 PM (60 minutes)	Session 3: International Obligations of India viz. SFDRR, SDGs, IORA, BIMSTEC, COP, etc. (Global Perspective)	PPT and Group Discussion	Dr. Perna Joshi, Assistant Professor, NIDM
03:00 PM – 03:15 PM	Tea Break		
03:15 PM – 04:15 PM (60 minutes)	Session 4: Institutional Mechanism for DRR in India & Hon’ble PM 10-point Agenda for DRR (Indian Perspective)	PPT and Group Discussion	Shri Shekher Chaturvedi, Assistant Prof. NIDM
04:15 PM – 05:30 PM (75 minutes)	Session 5: Sectoral Impact of Disasters	PPT and Group Discussion	Dr. Gagandeep Singh, NIDM
Day 2 (Tuesday): 02.12.2025			

09:30 AM – 10:00 AM	Recap from Day-1	Creative activity	Participant groups
Risk assessment and DM planning			
10:00 AM – 11:15 AM (75 minutes)	Session 6: Hazard Risk Vulnerability Capacity (HRVC) Analysis: Tools and Techniques	PPT and Group Discussion	Dr. Sushma Guleria, NIDM
11:15 AM – 11:30 AM	Tea Break		
11:30 AM – 01:00 PM (90 minutes)	Session 7: HVC Exercise	PPT and Group Discussion	Dr. Sushma Guleria, NIDM
01:00 PM – 02:00 PM	Lunch Break		
02:00 PM – 03:00 PM (60 minutes)	Session 8: Framework for Development of Disaster Management Plan	PPT and Group Discussion	Shri Shekher Chaturvedi, Assistant Prof. NIDM
03:00 PM – 03:20 PM	Tea Break		
Hazards: Risk, Readiness & Resilience			
03:20 PM – 04:20 PM (60 minutes)	Session 9: Understanding Earthquakes and Tsunamis	PPT, Case Studies and Group Discussion	Dr. Arkaprabha Sarkar, Assistant Professor, NIDM
04:20 PM – 05:20 PM (60 minutes)	Session 10: Do’s and Don’ts of various disasters	Group activity PPT, Case Studies and Group Discussion	Dr. Gagandeep Singh, Dr. Prerna Joshi
Day 3 (Wednesday): 03.12.2025			
09:30 AM – 10:00 AM	Recap from Day-2	Creative activity	Participant groups
10:00 AM – 11:15 AM (75 minutes)	Session 11: Policy & Legal Aspects (DM Act, NDM Policy)	Group Discussion	Shri Shekher Chaturvedi
11:15 AM – 11:30 AM	Tea Break		
11:30 AM – 12:30 PM (60 minutes)	Session 12: Earthquake Risk Reduction: Strategies and Case	PPT and Group discussion	Dr. Amir Ali Khan, Associate Professor, NIDM
12:30 PM – 01:30 PM (60 minutes)	Session 13: Landslide and Avalanche Risk management- prevention and mitigation	PPT and Group Discussion	Dr. Arkaprabha Sarkar, Assistant Professor, NIDM
01:30 PM – 02:30 PM	Lunch Break		
02:30 PM – 03:30 PM (60 minutes)	Session 14: Flash flood susceptibility assessment	PPT and Group Discussion	Dr. Gagandeep Singh

03:30 PM – 03:45 PM	Tea Break		
03:45 PM – 05:00 PM (75 minutes)	Session 15: Early Warning Systems for Disaster Risk Management	PPT, Case Studies and Group Discussion	Dr. Pankaj Kumar
Day 4 (Thursday): 04.12.2025			
09:30 AM – 10:00 AM	Recap from Day-3	Creative activity	Participant groups
10:00 AM – 11:15 AM (75 minutes)	Session 16: Stampede and Crowd Management	PPT and Group Discussion	Shri Shekher Chaturvedi, Assistant Professor, NIDM
11:15 AM – 11:30 AM	Tea Break		
11:30 AM – 12:30 PM (60 minutes)	Session 17: Lightning observations, forecasts and risk management	PPT, Case Studies and Group Discussion	Dr. Trisanu Banik, Scientist D, IMD
12:30 AM – 01:30 PM (60 minutes)	Session 18: Extreme Weather events Heatwaves and Drought	PPT, Case Studies and Group Discussion	Shri Shiv Narayan Sidh, Assistant Professor, NIDM
01:30 PM – 02:30 PM	Lunch Break		
02:30 PM – 03:30 PM (60 minutes)	Session 19: Nature-based Solutions for DRR	PPT and Group Discussion	Dr. Prerna Joshi
03:30 PM – 03:45 PM	Tea Break		
03:45 PM – 04:45 PM (60 minutes)	Session 20: Principles and Overview of Incident Response System (IRS) and the Role of Emergency Support Functions (ESFs)	PPT, Case Studies and Group Discussion	Dr. Shekhar Chaturvedi, Assistant Professor, NIDM
04:45 PM – 05:15 PM	Session 21: Sachet App Demonstration	Demo	Dr. Gagandeep Singh
Day 5 (Friday): 05.12.2025			
09:30 AM – 10:00 AM	Recap from Day-4	Creative activity	Participant groups
10:00 PM – 11:00 PM (60 minutes)	Session 22: PDNA hands-on exercise on damage and loss assessment	PPT and Group work	Dr. Arkaprabha Sarkar and Dr. Gagandeep Singh
11:00 – 11:15	Tea		
11:15 – 12:15 (60 minutes)	Session 23: Common Alert Protocol (CAP)	PPT, Case Studies and Group Discussion	Dr. Pankaj Kumar
12:15 PM – 01:00 PM	Lunch Break		

03:00 PM – 05:30 PM	Session 24: Field Visit to IMD	Dr. Arkaprabha Sarkar, Assistant Professor, NIDM Dr. Gagandeep Singh Dr. Perna Joshi Ms. Stanzin Tsela Mr. Rahul Kalra	
Day 6 (Saturday): 06.12.2025			
Day 7 (Sunday): 07.12.2025			
Day 8 (Monday): 08.12.2025			
08:00 PM – 05:00 PM	Session 25: NDRF Visit - Experiencing India’s Specialized Disaster Response Mechanisms Initiatives in Disaster Response in India with reference to NDRF. Simulation and Demonstration by NDRF – Search and Rescue Operations, Collapsed Structure Response, CPR Techniques and Emergency Response Coordination	Dr. Pankaj Kumar and Dr. Gagandeep Singh Ms. Stanzin Tsela Ms. Pragati Mishra Mr. Rahul Kalra	
Day 9 (Tuesday): 09.12.2025			
Cross-Cutting Dimensions of Disaster Management			
09:30 AM – 10:00 AM	Recap from Day-5 & 8	Creative activity	Participant groups
10:00 AM – 11:00 AM (60 minutes)	Session 26: Inclusive DRR: Leaving no one behind	PPT and Group Discussion	Dr. Ajinder Walia, Associate Professor, NIDM
11:00 AM – 11:30 AM	Tea Break		
11:30 AM – 12:30 PM (60 minutes)	Session 27: Community based DRR	PPT and Group Discussion	Dr. Sushma Guleria, Assistant Professor, NIDM
12:30 PM – 01:30 PM (60 minutes)	Session 28: Risk Financing & Mitigation	PPT, Case Studies, Flow Charts and Role Playing	Dr. Perna Joshi, Assistant Professor, NIDM
01:30 PM – 02:30 PM	Lunch Break		
02:30 PM – 03:30 PM (60 minutes)	Session 29: Psychosocial care in disasters	PPT and Group Discussion	Dr. Ajinder Walia, Associate Professor, NIDM
03:30 PM – 03:45 PM	Tea Break		

03:45 PM – 04:45 PM (60 minutes)	Session 30: Urban Flood Causes and Mitigation Strategies	PPT and Group Discussion	Dr. Garima Aggarwal, Senior Consultant, NIDM
04:45 PM – 05:30 PM (60 minutes)	Experience sharing	Participants	
Day 10 (Wednesday): 10.12.2025			
09:30 AM – 10:00 AM	Recap from Day-9	Creative activity	Participant groups
Tools & Techniques and Strategic Approaches			
10:00 AM – 11:00 AM (60 minutes)	Session 31: Public health	PPT and Group Discussion	Shri Shiv Narayan Sidh, Assistant Professor, NIDM
11:00 AM – 11:40 AM (40 minutes)	Session 32: IDRN online platforms and other portals managed by NIDM	Demo	Shri Dharmendra
Day 10 (Wednesday): 10.12.2025 NDMA Interaction: Policy, Planning & Financial Architecture of Disaster Management			
01:00 PM – 02:00 PM	Lunch Break		
09:30 AM – 01:00 PM	Session 33: Visit to NDMA (Dr. Gagandeep Singh, Dr. Prerna Joshi) Discussion with Members and Senior officials of NDMA. Financing Mechanism for Disasters Mitigation - Strategies and Projects CBRN disasters – Focus on Radiological and Nuclear hazards		
Tools & Techniques and Strategic Approaches			
Day 11 (Thursday): 11.12.2025			
10:00 AM – 10:30 AM	Recap from Day-10	Creative activity	Participant groups
10:30 AM – 11:30 AM (60 minutes)	Session 34: Digital learning initiatives of NIDM	PPT, Case Studies and Group Discussion	Ms. Nazia Khan, IPRO, NIDM
11:30 AM - 12:00 PM	Tea Break		
12:00 PM – 01:30 PM (90 minutes)	Session 35: Applications of Remote Sensing and GIS for Disaster Management- Demo	PPT and Group Discussion- Demo	Dr. Gagandeep Singh
12:30 PM – 01:15 PM (45 minutes)	Session 36: Practical Aspects to Enhance Preparedness and Response during Disasters	PPT and Group Discussion	Shri Randeep Rana, Senior Advisor, NIDM
01:15 PM – 02:15 PM	Lunch Break		
02:15 PM – 03:15 PM (60 minutes)	Session 37: Fire Risk and Mitigation: case studies from Delhi	PPT and Group Discussion	Shri Parvesh Kumar, Delhi Fire Service

03:15 PM – 03:45 PM	Tea Break		
03:45 PM – 05:30 PM	Session 38: Fire-fighting techniques	Demonstration and Interaction	Delhi Fire Service
05:15 PM onwards	Cultural Evening		
Day 12 (Friday): 12.12.2025			
09:30 AM – 10:00 AM	Recap from Day-10	Creative activity	Participant groups
10:00 AM – 11:15 AM (75 minutes)	Session 39: [Holistic Approach for DM-I]	Group work	Dr. Gagandeep Singh, Shri Shekher Chaturvedi, Dr. Sushma Guleria
11:15 AM – 11:30 AM	Tea Break		
11:30 AM – 12:30 PM (60 minutes)	Session 40: [Holistic Approach for DM-II]	Group work	Dr. Gagandeep Singh, Shri Shekher Chaturvedi, Dr. Sushma Guleria
12:30 PM – 01:30 PM (60 minutes)	Session 41: Group presentations by Participants	Interactive Session	Dr. Gagandeep Singh, Shri Shekher Chaturvedi, Dr. Sushma Guleria
01:30 PM – 02:30 PM	Lunch Break		
Valedictory Session (Friday): 12.12.2025			
02:30 PM – 02:40 PM	Summary of the Course	Dr. Gagandeep Singh	
02:40 PM – 02:50 PM	Address	Shri. Randeep Kumar Rana, Senior Advisor, NIDM	
02:50 PM – 03:05 PM	Valedictory Address	Shri Madhup Vyas, IAS., Executive Director, NIDM	
03:05 PM – 03:20 PM	Distribution of Certificates		
03:20 PM – 03:30 PM	Vote of Thanks	Col. Manoram Yadav, SM, Joint Director, NIDM	
03:30 PM – 04:00 PM	Tea		

Annexure 2: Participants' Feedback

Feedback Summary of the Training Programme	
Programme Title	9th COMPREHENSIVE COURSE ON DISASTER RISK MANAGEMENT (CCDRM)
Date	01-12 December 2025
Venue	NIDM, Delhi
Course Coordinator(s)	Dr. Gagandeep Singh

No. of Participants	63
Avg. no. of feedback per session	53
No. of Sessions	41
No. of Feedback Responses	2166

Name of the Session and Resource Person	Session Rating / 5	No. of Feedback
Session 1: Introduction of the course and Ice-Breaking Exercise (Dr. Gagandeep Singh)	4.8	63
Session 2: Basic Concepts of Disaster Management & Vulnerability of India (Dr. Sushma Guleria)	4.7	65
Session 3: International Obligations of India viz. SFDRR, SDGs, IORA, BIMSTEC, COP, etc. (Global Perspective) (Dr. Prerna Joshi)	4.7	61
Session 4: Institutional Mechanism for DRR in India & Honâ€™ble PM 10-point Agenda for DRR (Indian Perspective) (Shri Shekher Chaturvedi)	4.7	64
Session 5: Sectoral Impact of Disasters (Dr. Gagandeep Singh)	4.8	61
Session 6: Hazard Risk Vulnerability Capacity (HRVC) Analysis: Tools and Techniques (Dr. Sushma Guleria)	4.7	61
Session 7: HVC Exercise (Dr. Sushma Guleria)	4.8	56
Session 8: Framework for Development of Disaster Management Plan (Shri Shekher Chaturvedi)	4.7	59

Session 9: Understanding Earthquakes and Tsunamis (Dr. Arkaprabha Sarkar)	4.7	60
Session 10: Doâ€™s and Donâ€™ts of various disasters (Dr. Purna Joshi)	4.8	64
Session 11: Policy & Legal Aspects (DM Act, NDM Policy) (Shri Shekher Chaturvedi)	4.7	59
Session 12: Earthquake Risk Reduction: Strategies and Case (Dr. Amir Ali Khan)	4.7	60
Session 13: Landslide and Avalanche Risk management- prevention and mitigation (Dr. Arkaprabha Sarkar)	4.7	72
Session 14: Flash flood susceptibility assessment (Dr. Gagandeep Singh)	4.8	71
Session 15: Early Warning Systems for Disaster Risk Management (Dr. Pankaj Kumar)	4.4	60
Session 16: Stampede and Crowd Management (Shri Shekher Chaturvedi)	4.8	66
Session 17: Lightning observations, forecasts and risk management (Dr. Trisanu Banik)	4.7	65
Session 18: Extreme Weather events Heatwaves and Drought (Shri Shiv Narayan Sidh)	4.6	60
Session 19: Nature-based Solutions for DRR (Dr. Purna Joshi)	4.8	59
Session 20: Principles and Overview of Incident Response System (IRS) and the Role of Emergency Support Functions (ESFs) (Dr. Shekhar Chaturvedi)	4.8	62
Session 21: Sachet App Demonstration (Dr. Gagandeep Singh)	4.8	54
Session 22: PDNA hands-on exercise on damage and loss assessment (Dr. Arkaprabha Sarkar)	4.7	53
Session 23: Common Alert Protocol (CAP) (Dr. Pankaj Kumar)	4.7	57
Session 24: Field Visit to IMD (Dr. Arkaprabha Sarkar)	4.8	55

Session 25: NDRF Visit (Dr. Kuber Sharma)	4.7	45
Session 26: Inclusive DRR: Leaving no one behind (Dr. Ajinder Walia)	4.7	52
Session 27: Community based DRR (Dr. Sushma Guleria)	4.8	45
Session 28: Risk Financing & Mitigation (Dr. Prerna Joshi)	4.8	47
Session 29: Psychosocial care in disasters (Dr. Ajinder Walia)	4.8	51
Session 30: Urban Flood Causes and Mitigation Strategies (Dr. Garima Aggarwal)	4.6	51
Session 31: Public Health (Shri Shiv Narayan Sidh)	4.7	45
Session 32: IDRN online platforms and other portals managed by NIDM (Shri Dharmendra Yadav)	4.6	43
Session 33: Visit to NDMA (Dr. Gagandeep Singh)	4.8	40
Session 34: Practical Aspects to Enhance Preparedness and Response during Disasters (Shri Randeep Rana)	4.8	40
Session 35: Digital learning initiatives of NIDM (Ms. Nazia Khan)	4.8	40
Session 36: Applications of Remote Sensing and GIS for Disaster Management (Dr. Gagandeep Singh)	4.9	41
Session 37: Fire Risk and Mitigation: case studies from Delhi (Delhi Fire Service)	4.7	36
Session 38: Fire-fighting techniques (Delhi Fire Service)	4.8	37
Session 39: [Holistic Approach for DM-I] - (Dr. Gagandeep Singh)	4.7	28
Session 40: [Holistic Approach for DM-II] - (Dr. Gagandeep Singh)	4.7	30
Session 41: Group presentations by Participants - (Dr. Gagandeep Singh)	4.7	28

Overall Programme Session Rating	4.7
Overall Hostel Rating	4.7

Annexure 3: Certificate

