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Resilient India - Disaster Free India

TIDINGS

NIDM Newsletter–12/2021
(July - September, 2021)

Theme: Rebuilding Livelihoods in Post Pandemic Environment: Lessons Learnt









NATIONAL INSTITUTE OF DISASTER MANAGEMENT
(Ministry of Home Affairs, Government of India)

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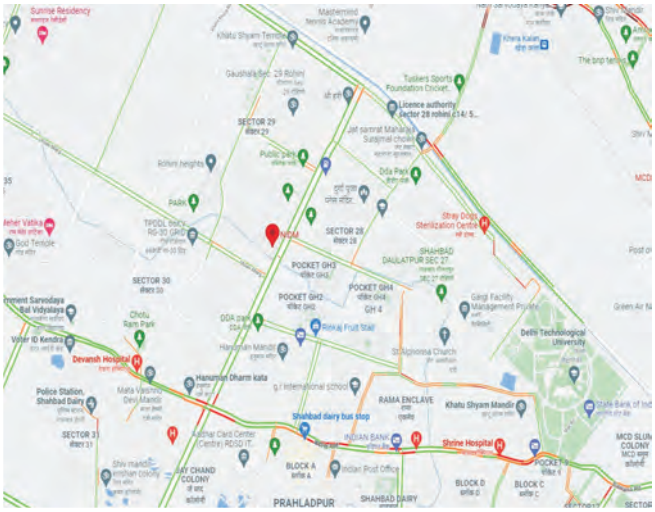
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About NIDM

The National Institute of Disaster Management (NIDM) was constituted under an Act of Parliament with a vision to play the role of a premier institute for capacity development in India and the region. The efforts in this direction that began with the formation of the National Centre for Disaster Management (NCDM) in 1995 gained impetus with its re-designation as the National Institute of Disaster Management (NIDM) for training and capacity development.

Under the Disaster Management Act 2005, NIDM has been assigned nodal responsibilities for human resource development, capacity building, training, research, documentation and policy advocacy in the field of disaster management.

Both as a national Centre and then as the national Institute, NIDM has performed a crucial role in bringing disaster risk reduction to the forefront of the national agenda. The Institute believes that disaster risk reduction is possible only through promotion of a "Culture of Prevention" involving all stakeholders. The Institute works through strategic partnerships with various ministries and departments of the central, state and local governments, academic, research and technical organizations in India and abroad and other bi-lateral and multi-lateral international agencies.

NIDM is proud to have a multi-disciplinary core team of professionals working in various aspects of disaster management. In its endeavour to facilitate training and capacity development, the Institute has state-of-the-art facilities like class rooms, seminar hall and video-conferencing facilities etc. The Institute has a well-stocked library exclusively on the theme of disaster management and mitigation.

NIDM provides Capacity Building support to various National and State level agencies in the field of Disaster Management & Disaster Risk Reduction. The Institute's vision is to create a Disaster Resilient India by building the capacity at all levels for disaster prevention and preparedness.

From the NIDM

Executive Director's Desk



Dear Readers,

The covid 19 outbreak has posed huge uncertainty to lives and livelihoods across the country. We were struggling during the second wave of the pandemic between safeguarding lives by containing the spread of the disease and safeguarding livelihoods by getting people back to work. Amidst the economic fallout of the pandemic, agriculture emerged as a sole winner with bumper crop production in the era of lockdown and physical distancing.

The government of India is paying huge impetus for restarting the economic engines and putting people back to work, including key sectors that have been affected by the pandemic. However, the uniqueness of the pandemic will continue to have direct, indirect and cascading impacts across all economic sectors. The recovery has to consider the depth and length of disruption in the country. Lessons from past recovery efforts, including from disasters related to natural hazards, must be applied to ensure that this crisis provides a framework for better health emergency preparedness, disaster risk reduction and resilience building. These lessons can be used in the window of recovery to achieve longer-term resilience goals for disaster risk reduction. The recovery process itself must provide an opportunity to build more resilient, inclusive and sustainable systems that are better placed to prevent such crises in the future.

The National Institute of Disaster Management has continued its journey for Disaster Risk Reduction during the turbulent era of Covid 19 pandemic in spite of the fact that the second wave had infected many employees in the Institute and we lost a precious life of an employee Shri Vijay Kanojia in this journey. However, we will not be deterred by the setback and proceed on our path to build a disaster resilient India.

Be safe and healthy



Major General Manoj Kumar Bindal, VSM
Executive Director, NIDM

Webinars

'Basics of Disaster Management' in collaboration with Ram Lal Anand College, University of Delhi, 2 July 2021

Key Takeaway/Recommendations



a) The purpose of the webinar was to remind the significance of disaster in today's environment. This is in order that individual disaster management authorities and officials may assess this significance in relation to their own circumstances.

b) Most of the old problems remain, as threatening as ever. Natural phenomena such as earthquakes, cyclones, volcanic eruptions, tsunamis, wildfires, floods, landslides, and drought still persist. So do their basic man-made counterparts such as major accidents. These disasters continue to cause grievous human casualties, economic and social loss, and damage to the environment. It is certainly true that we have learned to cope with these problems to some extent.

c) An increasing population alone has forced people to live in disaster prone areas which, previously, would not have been regarded as habitable. This fact tends to apply particularly in India.

d) A hazard can be generally described as a threatening event. It may take the form of a natural phenomenon, such as a possible cyclone, or it may be basically artificial, such as the accidental release of a hazardous substance from an industrial complex.

e) The formulation of disaster plans, especially the measures within such plans that deal with preparedness, response, and recovery, formulation of relevant programs for disaster-related training and public awareness.

'Resilient Community for Sustainable Development' organized by NIDM, 6 July 2021

Key Takeaway/Recommendations



a) Steps should be taken in a way that community get rid of inequality, poverty and hunger to have a dignified life which is essential for sustainable development of any nation.

b) Gender equality and women empowerment are the essential tools of a resilient community for sustainable development.

c) In India, labour force participation rate of women is not only one of the lowest but declining. We have to provide the opportunities to the women to share their productive resources, abilities and capabilities to contribute to nation development.

d) Vulnerable and deprived community are affected the most by the natural disasters and pandemics because of the lack of disaster

preparedness and disaster management strategies.

e) Sustainable development agenda can never be achieved without adequate investment in resilience of community, empowerment of community, social protection to the community and disaster preparedness.

'Sustainable Forest Management: A way towards Disaster Management and Risk Management', 8 July 2021

Key Takeaway/Recommendations

a) It is important that forest management is multi-sectoral and inclusive in nature for the benefits of all.

b) Forest provides mainly four types of ecosystem services such as provisioning services, regulatory services, cultural services and supporting services.

c) Forest management should be based on the principles of sustainable development so as to meet the needs of the present as well as future generations.

d) There's a need to increase the forest cover for the wellbeing of humans as well as biodiversity.

e) It is important to apply traditional knowledge preserved by the Advasis and tribal's in forest management.



Role of NIDM in India's Disaster Risk Management: Lessons for Nepal, 9 July 2021

Key Takeaway/Recommendations

a) Collaborative research and partnership for both India and Nepal on the topic of Disaster Risk Management. The main essence of this partnership relies on the future of capacity-building activities.

b) Disaster management has been an agenda not only limited to Nepal and India but towards all the SAARC countries.

c) Establishing disaster categories and determining the impact of disasters is insufficient to provide adequate guidance to help delineate government roles, responsibility, and authority.

d) Analyse existing and minimum required capacity at the local and provincial level to prepare for and respond to disasters.



Child Inclusive Flood and Cyclone Preparedness amidst Covid-19 in collaboration with Vidyasagar College of Education, West Bengal, 9 July 2021

Key Takeaway/Recommendations

a) Groundwork: understanding the context and forming partnerships.

b) Conduct situational analysis at local, national and regional levels to identify target areas, existing government preparedness and response plans and how children and their issues can feature.

c) Establish and strengthen partnerships with relevant government agencies and duty bearers helping them to recognize and include children and their issues in their plans.

d) Establish and strengthen partnerships with existing local organizations and childled groups to promote action and awareness around DRR.

e) Capacity building of staff and partners around working with children, including best practices.

f) Monitoring and Evaluation, Learning and Documentation.



Flood Hazard: Mitigation, Management and Building Resilience in collaboration with SDMA, Nagaland, 10 July 2021

Key Takeaway/Recommendations

a) Disasters cannot be stopped but well-preparedness and strong climate change mitigation policies can definitely help prevent a huge amount of loss.

b) For flood disaster management, the various methods for flood proofing are dry flood proofing, wet flood proofing, building relocation, building elevation, & use of permanent barriers for mitigating the impact of urban flooding.

c) Identified land use and infrastructure strategies that could reduce vulnerability.

d) Planning cities with ponds and permeable surfaces, restoring wetlands and forests, and regulating development in floodplains and hills; are the new ecosystem-based flood management approach.



e) Events associated with floods such as landslides, heavy rainfall, hailstorms, thunderstorms, and cloudbursts increased in the last few decades.

f) As far as urban flooding is concerned there is need for holistic engagement, developing sponge cities, wetland conservation policy & drainage planning; for prevention and management of urban flooding.

'Basic of Disaster Management' in collaboration with Department of Social Work, Patrician College of Arts & Science, Chennai, 12 July 2021

Key Takeaway/Recommendations

a) The systematic process of using administrative decisions and operational skills to implement policies and coping strategies within the communities to lessen the impacts of natural hazards. This comprises all forms of activities, including structural and non-structural measures to avoid adverse effects of hazards.

b) A serious disruption of the functioning of a community causing widespread human, material, economic or environmental losses which exceed the ability of the affected community to cope using its own resources.



c) The dimension and cost of a region's goods that might be susceptible to losses from a threat. Such exposure extends to infrastructure, the populace, economy and production. Determining the value of exposure becomes more complicated depending on the size and diversity of a region.

d) Refers to changes in natural and human systems to reduce risks to the lives and livelihoods of people.

e) The capacity of a system, community or society potentially exposed to hazards to adapt or changing in order to reach and maintain an acceptable level of functioning and structure. This is determined by the degree to which the social system is capable of organizing itself to increase its capacity for learning from past disasters for better future protection and to improve risk reduction measures.

Urban Flooding in Tripura: Experiences and Initiatives in collaboration with SDMA, Tripura, 12 July 2021

Key Takeaway/Recommendations



a) Action plans, SoPs, National schemes like Jal Jeevan Mission, Swachh Bharat, AMRUT and smart city missions, and other guidelines need to be adopted nationally to build resilient smart cities.

b) Improvement in the drainage system of urban cities is must to curb the issues of urban flooding.

c) Some recent initiatives for urban flooding mitigation at Tripura state level were procurement of electric and mobile diesel pumps and monitoring through surveillance cameras in flood prone areas and in the pump house.

d) Early warning through text message and control rooms and flood monitoring at ICCC are also required.

e) Issues like encroachment in flood prone areas in megacities may happen in urban areas of Tripura as well.

f) There is a need to have involvement of different departments for the operation of good plans and sensitized citizen that should help retain the water bodies and built good communication for early warning.

Ensuring Quality of Learning for during and aftermath of Pandemic, 12 July 2021

Key Takeaway/Recommendations



a) There is a need to focus on rearrangement educational institutions for physical distancing, cleanness and hygiene.

b) The strategy should be change for teaching in face to face to online/blended, distance education.

c) There should be developed alternative educational calendar for continuity of learning of children and also re-think on process of examination (Open book exam, online testing).

d) There is a need to encourage online internship / online viva-voce etc facilities for students.

e) The curriculum should be improved for different age groups of children and also changed text books according to the needs of students.

f) There is a need to focus more on ethics, norms, values, culture and the ideology of the country.

g) The action should be taken for ensuring free education for 1 to 10 classes and also improved education quality and competition in higher studies by introducing schemes like laptop distribution.

h) The quality of teacher education needs to be improved and stress on setting standards and norms of commitment and dedication to accomplish the dream of quality teacher education for encouraging to achieve excellence.

i) There should be more emphasis on encouraging research for ensuring the quality of teaching, resource development and innovative practices.

j) The monitoring and evaluation practices need to be strengthened for quality of education and also focussed on improvement in teacher recruitment and development policies.

Cyclone and Storm surge in collaboration with India Meteorological Department, Ministry of Earth Sciences, Government of India, 13 July 2021

Key Takeaway/Recommendations



a) Promoting people friendly early warning system in such a way that it facilitates the decision support system and timely action of response groups and vulnerable people needs to be emphasized.

b) Investment on resilient infrastructure and early warning communication systems which ultimately reduces the disaster risk needs to be prioritized.

c) There is a need to develop a reliable and resilient communication system for handling DRR.

d) Need to combine DRM with EWS by all the development sectors to enhance disaster risk reduction and resilience.

e) There is a need to have a compulsory discussion to address the gaps and challenges in disseminating the information to the last person in the society.

f) There is a need to extend collaboration and coordination among regulatory agencies and stake holders.

Tourism in HP during Covid19 Times: Issues, Challenges and Way Forward in collaboration with HPSDMA, 13 July 2021

Key Takeaway/Recommendations

a) Tackling the pandemic especially with the huge inflow of tourists since the HP Govt. uplifted the lockdown was major concern and challenge.

b) There is need to regulate the tourist activities to maintain sustainable and safe tourism during COVID-19.

c) HP tourism sector contribute to 6.6% of state GDP got impacted badly in pandemic and so was livelihood in HP.

d) Many creative ways can be adopted with the help of technology in tourism sector help revive the livelihood through safe ecotourism.

e) COVID appropriate behavior need to be adopted in the popular tourist destinations.

f) Adherence to the strict rules and guidelines for tourism sector should be made and followed.

g) Apart from Govt initiatives, responsibility of personal individual to follow COVID norms is highly important since tourist influx is not the issue but their inappropriate behavior regarding safety.



Role of First Responders in Disaster Risk Reduction in collaboration with Pragya India Gurugram, Haryana, 13 July 2021

Key Takeaway/Recommendations

a) Safety of first responders must be considered while preparing the DM plans.

b) First responders must be trained to act as facilitators to the external help and respond to the disaster utilizing the golden hour.

c) First responders must gel with the community they are working for in order to utilize the traditional knowledge and available resources.

d) Mainstreaming disaster risk reduction is a must into activities of first responders so that they can also be utilized during no disaster periods.

e) First responders must acquaint themselves with DM Act 2005, DM policy, local regulations and norms of assistance to make common person aware about risk of their area and also work within the purview of rules and regulations.



Impact of Pandemic on North East Education System: Challenges of E-Platform Learning, 14 July 2021

Key Takeaway/Recommendations

a) Even if some rural areas are blessed with good internet connectivity, not many families can afford digital devices which are imperative for online learning.

b) Although the online education system seems to be quite effective, yet there is a need to work on the challenges faced by learners. To establish a holistic online education system, North-eastern states need to ensure certain infrastructural development in both urban and rural spaces.

c) Students from the north-eastern states of India have been facing poor network, which leads to poor communication between the teachers and students.

d) Continuous online classes also causes mental stress to the students. As the tension rises due to the on-going pandemic, insecurity regarding the future plans of students also rises.

e) Covid-19 has made impossible for researchers to travel and work together



with others nationally and internationally. Some project work are made complicated to complete. Some scientific laboratory testing/research work could not be conducted. This leads to decline in work efficiency & economic crisis to conduct research.

Working Group Meeting on 'Preparation of National Chemicals and Petrochemicals Disaster Management Plan', 14 July 2021



Key Takeaway/Recommendations

a) The sectoral consultation aims for knowledge sharing among experts from government agencies, scientific/ academic/ research institutions, sector specialists and NGOs working in the relevant fields.

b) To develop better understanding of chemicals & petrochemicals and associated disaster risks.

c) Develop a practical template/framework to conduct Hazards-Risk, Vulnerability and Capacity Assessment (HRVCA) at the national level.

d) Develop better understanding of capacity needs.

e) Defining guiding principles for NCPC – DMP.

Research Interventions:- Mitigating Climatic Hazards: An Academic Overview, 15 July 2021



Key Takeaway/Recommendations

a) Future collaborative training and awareness programme with the involvement of students and scholars of the University may be conducted.

b) Disaster Management Plan within the University and other institutions must be prepared and drilled.

c) The use of education and research must be acknowledged for improving the livelihood of the communities.

d) There is a need for data driven approach in disaster management with strong component of research and understanding.

e) There should be committees in every institution for engaging people in disaster risk management and having public awareness program for people out of the institution.

Futuristic approach towards Construction of Sustainable Structures: Focusing on the Sundarbans, 16 July 2021

Key Takeaway/Recommendations

a) Depletion of mangroves has resulted in an increase in intensity and frequency of the salinity particularly in the central Sundarbans region.

b) Mitigation measures are potentially more efficient and are long-term sustainable solutions for

creating safer communities and reducing loss of lives and properties. There is a need to reduce risk and increase capacities of the Sundarban region.



c) There is a need to discourage development from river corridors, adopt low-cost local solutions like use of Vetiver grass for river bank protection, which can trap sediments and reduce soil erosion.

d) There is a need to ensure sustainable livelihood solutions for the villagers of Sunderbans, generating employment through other livelihood options which may require skill development activities.

e) There is a need to bring behavior change in the local people through education, skill development - vocational courses and social cohesion, which will lead to promote sustainable livelihood practices. Community people need to participate and be involved in local level initiatives.

Disaster Management Plan (DMP) in collaboration with Central University of Punjab, 17 July 2021

Key Takeaway/Recommendations



a) Future collaborative training and awareness programme with the involvement of students and scholars of the University may be conducted.

b) Importance of involvement of youth force in disaster risk reduction activities is the need of the hour.

c) DM Plan within the University must be prepared and drilled.

d) Disaster risk reduction must be mainstreamed into development activities.

e) Universities must also get themselves involved in disaster awareness activities and preparation of DM plans of their own premises.

Lightning Disaster Resilient India in collaboration with World Vision India, 19 July 2021

Key Takeaway/Recommendations



a) Community awareness is the key to avert the impact of lightning. Hence efforts need to be enhanced in this area.

b) Technological intervention such as Damini app must be strengthened so as to provide a considerable time for community to take appropriate action of safety.

c) A coordinated effort on the part of stakeholders is needed to identify areas where this problem is gaining frequency and to address this.

Disaster Psycho-Social Care in collaboration with Central University of Haryana, 20 July 2021

Key Takeaway/Recommendations

a) Youth has the strength to fight with the adverse impact of the disasters especially pandemic.

b) Higher education fraternity must enhance their capacity to address this issue.

c) Immunity and lung capacity are prime concern during present Covid pandemic and hence must regularly be checked through various indigenous means and ways taken to strengthen their capacity.

d) Youth as a catalyst agent can contribute towards mitigation of present pandemic by motivating others to follow prescribed guidelines of do's and don'ts, vaccination and medication, if need arises.



e) A coordinated effort from all stakeholders is necessary to address the issue of psycho-social ailment.

Physical and Mental Health of Children in COVID-19 in collaboration with Dada Ramchand Bakhru Sindhu Mahavidyalaya, 20 July 2021

Key Takeaway/Recommendations

a) Experts suggested that Parents/caregivers should more calm and proactive during conversations with children and see how they are doing.

b) The children should engage in creative activities, such as playing and drawing, to help them express and communicate any negative feelings and find positive ways to express difficult feelings such as anger, fear or sadness.

c) The children and adolescents should encourage sharing their feelings with trusted friend and family members.

d) There is a need to provide support for early intervention in preventing long term mental health consequences from pandemic.

e) The caregivers should identify and deal with early signs of mental health problems among children such as changes in child's emotions or behaviour.



f) Experts suggested to caregivers to notice regularly sudden significant difference in their child's behaviour for more than a week and also need to provide professional clinical help to them immediately.

g) The mental health of children need to be protected and guard consistently through open communication and facilitate professional counselling to address stressors.

h) There is a need to special attentions of children those who are more susceptible to the mental health crisis and provide support with collaborative approach by involving their parents, educators, school administrators, counsellors, psychologists, and psychiatrists.

i) The physical exercises yoga and meditation need to be included in daily routine of Children for reducing the mental stress.

Thunderstorm and Lightning in collaboration with India Meteorological Department, Ministry of Earth Sciences, Government of India, 20 July 2021

Key Takeaway/Recommendations



a) There is a need to prioritize investments in disaster-resistant infrastructure and early warning communication technologies that decrease catastrophe risk.

b) For the Central Early Warning System to be implemented effectively, the planning process must be made more orderly.

c) There is a need to improve the capability to respond to Thunderstorm and Lightning in a variety of ways, including the creation of an efficient and high-quality database.

d) There is a need to increase regulatory agency and stakeholder engagement and coordination.

e) It is critical to stress the need of promoting a people-friendly early warning system that supports decision-making and timely action by response groups and vulnerable individuals.

f) Adequate mitigation measures for reducing the impact of lightening hazard is needed to be taken along with such awareness through webinar or training programmes.

g) Lightening arresters should be placed in tourist areas and sensitive areas.

Preparedness for Flood Risk Mitigation in collaboration with SIRD Lucknow, 20 July 2021

Key Takeaway/Recommendations



a) 40 district are prone to flooding in UP and 26 district high vulnerable as per the inundation map updated in last 10 year data.

b) Many advanced level initiatives are achieved by UP Govt. were taken like 24*7 state and 75 district equipped with EOC centres last year.

c) Apps like "AapdaPrehri" is available on google playstore through this anyone can send message about hazard or if need any relief making process completely citizen centric solution.

d) The early warnings sent to people during flood danger should be impact based messages rather than based on water danger level.

e) Small projects need to be taken up at village and block level to use mitigation fund efficiently.

f) Awareness generation and capacity building should be a continuous effort.

g) Water can be diverted into to agriculture lands and multiple lakes and small check dams can be created with planting trees at appropriate places to minimize erosion.

h) Planning will help to reduce the impact of disaster so that if there are any shortcomings can be address timely and resolved before the disaster arises.

Helpline for Protection of Children during COVID-19 Pandemic in collaboration with Child India Foundation and Maris Stella College (Autonomous) Vijayawada, 20 July 2021



Key Takeaway/Recommendations

a) Ensure the continued functioning of child helplines, and other child-friendly reporting mechanisms, to enable child-friendly counselling, reporting and response mechanisms.

b) Expand financial support and resources for national child helplines to increase their ability to respond to the COVID-19 crisis.

c) Raise awareness of child helpline services in COVID-19 responses and communications.

d) Should also provide parents with online positive parenting materials to help equip them to deal with the crisis and support their children.

e) Child protection systems must be integrated into disease control measures.

Climate Change and its Possible Impacts on Women and Children in collaboration with Central University of Jharkhand, 21 July 2021

Key Takeaway/Recommendations



a) There is a need to highlight gender specific Food and Nutrition Security Challenges due to climate change.

b) Gender sensitive health indicators such as women's health (anaemia, malnourishment, VBD); Gender disaggregated data for influencing factors; training for enhancing the skills of women to undertake adaptation and mitigation, Gender financing and mainstreaming in climate change policy should be underlined.

c) There is need to emphasis on the Sustainable Development Goals challenges related climate Change issues for women and children must be placed.

d) Gender Specific Climate Sensitive Health Risks also need to be considered for Disaster Risk reduction and climate change for gender specific planning and development and also need to formulate gender sensitive guidelines and framework for sustainable development.

e) The training and capacity building programme should be designed for creating awareness among women and children for Climate change adaptation & DRR.

f) The women and children's specific risks and vulnerabilities issues must be included in gender related policy and guidelines.

Sustainable Hill Area Development in collaboration with Department of Geography, Iswar Chandra Vidyasagar College, Tripura, 22 July 2021

Key Takeaway/Recommendations



a) Hills have special significance in terms of environment and economy of any region state or country and has accordingly critical role and importance in growth and development.

b) It is to be understood that developmental strategies to be made operational has to be different in intend, content and approach than what is applicable for plain areas.

c) The development in hilly areas is very sensitive issue in terms of physiographical challenges and also the developmental conditions which are very different from the coastal areas and the plain areas.

d) The probable impact of any hazards depend on the degree of vulnerability, capacity to cope or resist the impact of hazard and likelihood of disaster happening.

e) We need to decrease the vulnerability and increase the capacity to bring down the risks at a place.

f) We have to develop scenarios to understand what is going to happen in the next hazard event and we have to plan how we will respond.

g) Land use planning is also crucial for managing the risks. We should figure out how much of development is allowed and what kind of development should be there in these hill towns.

Disaster and Development Recent Issues and Lessons from COVID-19 & Online MoU Exchange Ceremony (NIDM & SRMU), 22 July 2021

Key Takeaway/Recommendations



a) Shri Ramswaroop Memorial University (SRMU) formally exchanged a Memorandum of Understanding with National Institute of Disaster Management (NIDM) which will help in collaborating for documentation/ evaluation studies for various sectors/thematic areas jointly.

b) This association will contribute towards DRR by undertaking research project of mutual interest to both agencies and coming up with solutions for real issues.

c) There will be collaboration for consultancy/ pilot projects in the area of Disaster Risk Management on mutually agreeable terms and conditions.

d) There is a need to focus more on taking preventive measures than taking corrective measures as far as Disaster Risk Reduction and Disaster Management is concerned.

e) The ecological balance must be maintained else we need to get ready for reducing the drastic effects of disasters, as we cannot stop them yet.

Impact of Climate Change and Sustainable Development Goals in collaboration with Department of Water & Health JSS Academy of Higher Education & Research, 22 July 2021

Key Takeaway/Recommendations



a) To address the climate emergency, post-pandemic recovery plans need to trigger long term systemic shifts that will change the trajectory of CO_2 levels in the atmosphere.

b) Governments around the world have spent considerable time and effort in recent years to develop plans to chart a safer and more sustainable future for their citizens. Taking these on board now as part of recovery planning can help the world build back better from the current crisis.

c) Global warming that has been accelerated by the increased emission of greenhouse gases, particularly carbon dioxide and methane, produced by industrialization.

d) Climate change is a threat to national security as economies are disrupted and water and food scarcity within and beyond our borders create tensions and the potential for violence and increased migrations of people.

e) State and local governments are taking on the climate challenge, as is the marketplace, with several industries taking steps to protect their interests and others striving to seize the market opportunities being created by climate change.

Planning for Earthquake Risk Mitigation in Mega Cities, 23 July 2021

Key Takeaway/Recommendations



a) Population increase in cities is huge and infrastructure cannot keep up with the population rise in megacities which pose unique additional challenges.

b) The issues arise not because the standards of our building codes are low but the challenge is in the implementation of these codes and by laws.

c) The Earthquake of July 1720 has historical significance describing about the infrastructure during that period.

d) There is a need to identify and categories our structures into normal, important and critical and work accordingly.

e) Effort made to make megacities resilient should also be sustainable for long term.

f) Address earthquake risk mitigation in holistic and comprehensive manner.

g) Disconnect between science& technology and implementation people need to be bridged.

h) There should be more social demand for earthquake safety apart from Govt. initiatives.

i) The practice of volunteerism for all phases of disaster management should be promoted so that people are ready for response.

Flood Management using Remote Sensing, GIS and Bathymetry organized by NIDM, 23 July 2021

Key Takeaway/Recommendations



a) Remote Sensing & GIS techniques are having vast capabilities to handle the flood mapping on any scale, monitoring, decision support system providing at any place.

b) High resolution satellite data can give the incite of micro level information on the damages which are taken place on various infrastructures.

c) The addition of cadastral maps in remote sensing & GIS techniques is providing the parcel level information on inundation and crop damages status.

d) Dredging work for silt removal at river are given on priority in UP for moderate the floods.

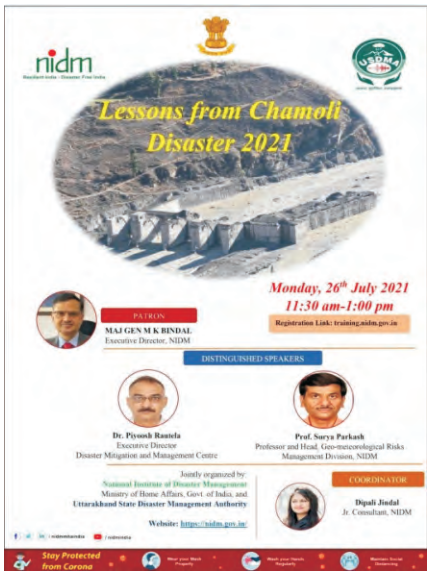
e) Monitoring of flood preparedness in the vulnerable areas, collection and compilation of post disaster data are needed.

f) Capacity building of the local community are inevitable.

g) Awareness generation regarding safeguarding the environment must be carried out extensively and intensively.

Lessons from Chamoli Disaster 2021 in collaboration with Uttarakhand State Disaster Management Authority, 26 July 202

Key Takeaway/Recommendations



a) There is a need to focus on the disaster risk impact assessment, especially for the major projects like that of hydroelectric power project.

b) Robust monitoring of glaciers would have been handy to provide early warning.

c) Lack of assessment on monitoring the probable impact of climate change and global warming on the glaciers.

d) Identification of the affected areas from the model can help plan the early warning systems and evacuation protocols, which can be made standard for other locations that may face a similar danger.

e) Every dam can help moderate flood, as long as there is space in the dam to absorb/ store flood water.

f) Landslide need to be identified and mitigated to avoid future disasters.

g) Communities are key for such preparedness and response. Not only are small communities agile and can mobilize quickly, but they also know their own populations best.

h) Data for risk prediction and risk prevention must be increased

Physical and Mental Well-Being of women in Pandemics in collaboration with KES Shroff College of Arts and Commerce, 26 July 2021

Key Takeaway/Recommendations



a) Understand the meaning of mental health is must for every individual and it is equally important to know how it is related to women.

b) Mental disorders can affect women and men differently. Some disorders are more common in women such as depression and anxiety.

c) It is important to create awareness among women regarding health, fitness and precautions they should take specifically during natural disaster to keep themselves mentally fit.

d) Most essential is to make family members aware as how to provide treatment to women members when they face traumatic situation during environmental disaster.

e) People's tendency to go to doctor without knowing the valid reasons and accepting medicines as per doctor's advice is wrong.

f) Every patient must be able to find out their own way of getting cured and then approach doctor.

Cloudburst and Floods' in collaboration with India Meteorological Department, Ministry of Earth Sciences, 27 July 2021

Key Takeaway/Recommendations



a) There is a need to enhance observational network both direct Automatic Weather Station (AWS)/ Automatic Rain Gauge (ARG) and remotely sensed Doppler Weather Radar (DWR).

b) There is a need to merged large volume of diverse dataset for ensuring hourly monitoring of cloudstorm and flood.

c) The science and technology needed to forecast the heavy rainfall events accurately needs to enhanced with latest innovations and state of the art.

d) Prior training is required for efficient use of the Early Warning System.

e) There may be large gaps in the observing system and hence number of observations systems needs to be increase and made functional.

f) The forecast of quantitative precipitation needs to be improve with improvement in data collection and processing.

g) There is a need to prioritize investments in disaster-resistant infrastructure and early warning communication technologies that decrease catastrophe risk.

h) Coordination and exchange of information among stakeholders needs to encouraged.

Financial Recovery of women during Covid-19' with KES Shroff College of Arts and Commerce, 27 July 2021

Key Takeaway/Recommendations



a) Too much existence of stratification as well as inequality between male and female members during the provision of basic health care facilities during Covid-19 and also during any kinds of environmental disaster.

b) To realise women's demand and requirement towards health improvement physically as well as mentally.

c) To provide financial autonomy in the hands of women in order to maintain healthy lifestyle.

d) There should be effective management system of any organisation in order to furnish better qualitative as well as progressive welfare services for betterment of society.

e) Priority should be given to women's demand of all categories in order to make women mentally strong because they are the caretakers as well as the bread earners of family.

Fire Safety and Risk Management in collaboration with FICCI, 29 July 2021

Key Takeaway/Recommendations

a) Strengthening of Regional Training Centre and capacity building.

b) Expansion of Fire Services-Creation of new Fire Stations/ Staff Quarters

c) Modernization of Fire Services- Provision of Modern equipment.

d) Strengthening of Urban Fire Stations by upgrading integrated command and control system with GPS/ GIS in each vehicle..



e) Wireless address detection and communication system.

f) Mandatory to mock drills.

g) Use less combustible materials, build adequate fire storages, have well placed FHCs.

h) Make your buildings more safer by following more Stringent Codes and doing Regular Fire & Electrical Audits.

i) Make your buildings more intelligent using IoT and automation.

Financial Arrangements in Disaster Risk Reduction: 15th Finance Commission & Insurance in collaboration with Sphere India, 29 July 2021

Key Takeaway/Recommendations

a) The institutionalisation of Disaster Management Authorities in the country at National, State and District Level in the form of NDMA, SDMAs and DDMAs has been possible with the enactment of the Disaster Management Act-2005.

b) The institutional structure of the National Disaster Response Fund, State Disaster Response Fund, the National Disaster Mitigation Fund, the State Disaster Mitigation Fund, the sharing principles

and the alternative sources of funding are being recognised by the four guiding principles on which the 15th finance commission recommendations are based.



c) Earlier, the funds were allocated for the expenditure on response and relief purposes however, for Capacity Building, Disaster Risk Exposure and Disaster Risk Index, the Mitigation Fund at the National and the State level have been allocated for the prepared and mitigation purposes.

d) In terms of Response and Relief, Recovery and Reconstruction and preoperational Capacity Building are the three demarcations in the both National Disaster Response Fund and State Disaster Response Fund. The alternative sources of funding can be explored in the form of reconstruction bonds issued by State Government.

e) The alternative sources of funding can be explored in the form of reconstruction bonds issued by State Government.

f) Another solution can be roping of International financial institutions.

g) State Government can setup Crowd funding platform for disasters.

h) Insurance being a risk cover has always a big scope in the context of Financial Arrangements in DRR.

Community Resilience to Droughts organized by NIDM, 29 July 2021

Key Takeaway/Recommendations



a) Changing in patterns of droughts can be dealt with the national guidelines provided by NDMA and Ministry of Agriculture.

b) Artificial groundwater recharge measures might be adopted to reduce drought problems.

c) Capacity building programmes, training for stakeholders and the community to cope with drought need to be encouraged.

d) Finance Commission recommendations need to be implemented in drought management plans, integration of plans at the district level are required.

e) Push and Pull model for Drought Management played an important role to retrieve information in Karnataka.

f) Response system needs to be strengthened.

g) We need strong and authentic data, data analytics, AI and management.

h) Women should be given equal participation and opportunity in Drought Management.

Frequent Occurrence of Earthquake in Assam: Causes, Impacts and Solutions' organized by NIDM, 30 July 2021

Key Takeaway/Recommendations



a) Behavioural dimensions are very important to make people understand regarding the concept of and survive an earthquake Inter – validation amongst tribal communities are very important.

b) It is pertinent to model our development in a way that disasters don't create any significant harm.

c) Multi-hazard approach is the need of the hour whenever a building is being planned and designed.

d) Rapid urbanization and economic development are increasing the exposure and is projected to continue to drive the disaster risk.

e) The main challenges are lack of awareness among the stakeholders and inadequate attention to structural mitigation.

f) Earthquake resistant structures should be constructed rather than earthquake proof structures.

g) Earthquake preparedness should emphasise on the engineering and social aspects.

Biodiversity Conservation' in collaboration with Dhote Bandhu Science College, Gondia, 30 July 2021

Key Takeaway/Recommendations



a) We can participate in biodiversity conservation by increasing our knowledge of environmental issues, increasing our awareness of the impacts of biodiversity loss, and increasing support for government policies and actions that conserve our valuable ecosystems.

b) We can become educators and role models as stewards of the environment by aiding in the recovery of species at risk and preventing other species from becoming at risk.

c) Biodiversity Strategy and Action Plan is intended to define the current status of biodiversity, the treats leading to its degradation and the strategies and priority actions.

to ensure its conservation and sustainable use within the framework of socio–economic development of the country.

d) Every organization must take a project to restore our local ecosystem.

e) The program for the Conservation of Flora and Fauna must be established to address on the special needs of ecosystems, species and their habitats in the rapidly developing regions.

Strategic Plan for Risk Reduction in Himalayas organized by NIDM, 30 July 2021

Key Takeaway/Recommendations



a) Mountain societies, social systems, Cultures and institutions are important in resilient recovery.

b) Eco-tourism and cultural festivals in mountains – key to resilience.

c) Innovative public service delivery.

d) Earthquake resistant features.

e) Operational framework.

f) Implementation Models.

g) Higher precipitation variability.

h) Monitoring and evaluation.

i) Build Back Better Approach.

Role of Youth in Mainstreaming Disaster Risk Reduction in Changing Climate Scenario at Local Level' in collaboration with Integrated Institute of Disaster Management, Pondicherry, 30 July 2021

Key Takeaway/Recommendations



a) Tools such as publications, modules and presentations, tutorials, role play, sounds and videos should be used of engaging youth in discovering the problems and finding appropriate measures in order to obtain a wider perspective.

b) Young people who participated in various risk management and risk reduction programs have demonstrated better knowledge on security issues and measures. They have also actively promoted a better preparedness in their surroundings and home environment.

c) Youth in disaster preparedness and recovery efforts, can help to not only increase youths' awareness of particular hazards, but can also enhance the chance that they openly discuss how to adequately protect their families.

d) Youth can play a range of roles in youth preparedness programs and play a crucial role in recovery efforts. They may assist communities in mapping their risk and protective factors or may hold leadership positions within programs.

e) Discussion was carried on challenges and assumptions and critically assesses prevailing theoretical models of risk communication using case studies that highlight the potential roles of youth as resources or receivers of disaster management realm.

f) Youth have worked with their communities in developing risk maps, designing community emergency plans, setting up early warning systems, and implementing response, mitigation, and risk reduction plans, among other activities.

Sectoral Approach to Resilience Building: Integrating DRR with Adaptation & SDGs organized by NIDM, 30 July 2021

Key Takeaway/Recommendations



a) Identify and assess health hazards and vulnerabilities associated with climate change related disasters.

b) Recommend appropriate measures for prevention, mitigation and preparedness to deal with climate change related health risks.

c) Build human resource capacity through policy planning, advocacy, research, training and education and knowledge management.

d) Provide a roadmap and action points for stakeholders with clearly defined roles, responsibilities and timelines.

e) The programmes and schemes under the Department increase resilience against risk of disasters and extreme events.

f) The activities (including physical development and systematic practices/operations) do not aggravate hazards risks and vulnerabilities for disasters.

g) Prime Minister's Agenda 10 on Disaster Risk Management draws integrated approach towards implementing the Sendai Framework for DRR and SDG.

h) Developing resilient health services and systems to mitigate and manage the health effects of climate change related disasters.

i) Environmental Degradation leads to disasters.

Curriculum Development Programme on Disaster Risk Reduction at Under Graduate Level in collaboration with India Universities and Institutions Network on Disaster Risk Reduction, 30 July 2021

Key Takeaway/Recommendations



a) 3-4 credit scores should be set for the course on disaster management.

b) It should be an ability enhancement course of university.

c) Basic and simple language.

d) Curriculum should be developed in simple/regional language.

e) Should be connected with different bodies of universities – NSS, YKS, Youth Red Cross.

f) It should be taken as a compulsory paper.

g) Include trauma and stress management studies.

h) Should talk about preparedness for future.

i) Students must be able to read early warning signs after the completion of the course.

j) Disaster mitigation techniques of construction should be included in the curriculum.

k) UG program is to build capacity of the students to save themselves and their families.

Protecting Vulnerable Children in Times of Disaster in collaboration with Smartpro Foundation, New Delhi, 30 July 2021



Key Takeaway/Recommendations

a) The communities and local organizations and government authorities should support children and their families in Disaster Situations for early recovery,

b) Experts suggested to act for saving lives and preventing and responding to violence, abuse, neglect, and exploitation of children (Child Labour, Child Marriage, trafficking), especially girls during emergencies.

c) The service provider should act for continuously engaging children with parents through creating child friendly environment at their home.

d) It is more importance to highlight risk management and vulnerability reduction of children and also encourage children and youths along with community to participate in DRR process for reducing future risk.

e) There is a need to act for encouraging participation of SMC members, PRI members and concerned officials of education department to support children and also need to work for promoting awareness among Children's groups- Safety and Hygiene.

f) There is a need to paying attention on engaging children at home creativity such as waste campaign and moral counseling.

g) The action should be taken for early recovery for their families and children for restoration of their livelihoods / dry ration/Dignity kits etc.

h) The Government Institution and different stakeholders should work for re-establishment of child care institutions like Schools, CCIs, and Anganwadi.

i) The local Institutions CSOs, Govt. officials and community leaders should work for capacity building and ensuring timely care and protection of children and also provide social security and services in order to ensure the prevention and protection of the impacts on children.

Earthquake Risks Reduction and Resilience for the ONGC Personnel in collaboration with Institute of Petroleum Safety, Health and Environment Management (IPSHEM), ONGC Goa, 2 August 2021



Key Takeaway/Recommendations

a) The oil and gas sector is very important even for our rescue and relief operations, to sustain our communications and transportation. So their survival, sustenance and resilience during disaster time is very important.

b) Adequate safety and protection measures need to be taken in all onshore/offshore installations besides other infrastructures and structures.

c) Awareness and preparedness at the individual level and institutional levels is another important aspect. People need to know what to do and what not to do during an earthquake because still the exact time and place of earthquake occurrence, its depth and duration is not easily predictable.

d) During an episode of the earthquake, maximum casualties is due to collapse of the infrastructure and structure that we built. So our objective should be that whenever whatever we built there should be zero casualty at the time of an earthquake.

e) The choice of a particular type of foundation depends on the magnitude of loads, the nature of the subsoil strata and the nature of the superstructure and its specific requirements.

f) An earthquake happening at a place where there is no preparedness will become a disaster, whereas, the same happening in a place where there's a lot of preparedness, where the buildings and all the entire built environment have been built as per all the codes they have low risks.

g) Earthquakes can be catastrophic since they can damage infrastructures and create explosions if there is a gas leak. After an earthquake, there should be a necessary check list to assess the damage caused by the earthquake.

h) Understanding what can happen is one of the first steps in developing plans for preparedness and mitigation.

i) We need to decrease the vulnerability and increase the capacity to bring down the risks at a place.

j) Prepared SOPs and preparedness related plans and impart the knowledge to each and every worker working at the retail outlet.

"HRVCA Workshop for Nodal Officers for the Preparation of National Chemical and Petrochemicals Disaster Management Plan" in collaboration with Department of Chemicals & Petrochemicals Ministry of Chemicals & Fertilizers, GoI, 2 August 2021



Key Takeaway/Recommendations

a) Our economies are heavily dependent on petrochemicals, but the sector receives far less attention than it deserves.

b) Extend producer responsibility to appropriate aspects of the use and disposal of chemical products

c) The sectoral consultation aims for knowledge sharing among experts from government agencies, scientific/ academic/ research institutions, sector specialists and NGOs working in the relevant fields

d) To develop better understanding of chemicals & petrochemicals and associated disaster risks.

e) Defining guiding principles for NCPC – DMP

f) Develop a practical template/framework to conduct Hazards-Risk, Vulnerability and Capacity Assessment (HRVCA) at the national level.

Heat wave preparedness and Response, 3 August 202

Key Takeaway/Recommendations

a) There is a need to develop area specific thresholds and accordingly preparedness measures are to be taken while dealing with heat waves.

b) The approach to have zero tolerance to heat wave deaths and associated preparedness such as appropriate revision of plans, targeted awareness campaigns, and effective preventive steps needs to be put in place.

c) There is a need to provide a platform for sharing of knowledge from various stakeholders and facilitate exchange of experiences amongst the professionals from the Member States and other Experts for reducing impacts due to Heat Waves.

d) Establishment of Early Warning System and Inter-Agency Coordination to alert residents on predicted high and extreme temperatures need to be prioritized. Who will do what, when, and how needs to be made clear to individuals and units of key departments for better management of disasters.

e) Capacity building / training programme for health care professionals at local level to recognize and respond to heat-related illnesses, particularly during extreme heat events needs to be formulated and executed.

f) Training programmes on extreme weather events should also focus on medical officers, paramedical staff and community health staff so that they can effectively prevent and manage heat - related medical issues to reduce mortality and morbidity.



Covid-19: Divyang Children & Challenges of Learning in collaboration with Mata Bhagwanti Chadha Niketan - The Ponty Chadha Foundation and UNICEF India, 03 August 2021

Key Takeaway/Recommendations



a) The issue challenges faced by the CwDs and their care givers due to COVID-19 should be highlighted.

b) There is a need to examine gaps in the currently available digital mode of education and learning material for children of special needs.

c) The action should be taken to deliberate upon more adaptive and sensitive learning strategies that can address the needs of differently abled children.

d) There is a need to formulate strategies to cope with behavioral changes and issues in abled children.

e) There is a need to sensitise participants about different available avenues and support facilities for CwDs by government, CSOs etc.

f) The strategies for providing special program for CwDs should be taken care and it should be more focus on children with Multiple Disabilities and Autism.

g) There is a need to more engagement of children in indoor gross motor skill activity for improving growth in height for children with Down syndrome.

h) Caregivers and parents of children with special needs should focus on sharing a common desire with children for leading full and happy lives and to become contributing members of society, of course to the best of their abilities

i) Government and others stakeholders need to more focus on mainstreaming education of children having multiple Disabilities and hearing impaired.

DRR Thunderstorms & Lightning Safety of Women and Children in Collaboration with Federation of Indian Chambers of Commerce and Industry (FICCI), and GTN Arts College (Autonomous), Tamil Nadu, 4 August 2021

Key Takeaway/Recommendations



Check the weather forecast before travel your child

a) Do not allow your child to ride open vehicle.

b) Move out of forested area (especially Pine forests).

c) A child victim of a lightning strike can suffer varying degrees.

d) Call helpline number.

e) Avoid metal structures and constructions with metal sheeting.

f) Safe shelters include pukka home, pukka building, or hard top vehicles with the windows rolled up.

g) Do not lie flat on the ground, as this will make a bigger target.

h) If no shelter is available, immediately get into the lightning crouch.

i) Rubber-soled shoes and car tyres do not offer protection from lightning.

j) Separate from each other.

PM's 10 Point Agenda No. 7 on DRR Role of Artificial Intelligence, Machine Learning and Deep Learning for DRR" in collaboration with Aga Khan Agency Habitate, Telangana, 5 August 2021

Key Takeaway/Recommendations



a) Develop training modules, undertake research and documentation in disaster management and organize training programmes;

b) Formulate and implement a comprehensive human resource development plan covering all aspects of disaster management; Provide assistance in national level policy formulation;

c) Provide required assistance to the training and research institutes for development of training and research programmes for stakeholders including Government functionaries and undertake training of faculty members of the State level training institutes;

d) Provide Assistance to the State Governments and State training institutes in the formulation of State level policies, strategies, disaster management framework and any other assistance as may be required by the State Governments or State training institutes for capacity-building of stakeholders, Government including its functionaries, civil society members, corporate sector and people's elected representatives;

e) Develop educational materials for disaster management including academic and professional courses;

PM 10 Point Agenda No. 1 on DRR Disaster Risk Reduction & Urban Risk Management in collaboration with Central University of Jharkhand, 6 August 2021

Key Takeaway/Recommendations



a) Urban risk has a peculiar face and one must plan to tackle the complex emergency situations with respect to urban sector.

b) Rapid urbanization, migration to urban cities and creation of satellites towns must be looked into seriously so as to mitigate the impending disaster with regard to environment and unplanned constriction practices which may be caused due to heavy influx.

c) GIS and Remote Sensing data must be put to use for taking decisions regarding identification of problem and vulnerable areas/ population and taking remedial measures.

d) Urban planning requires a multi hazard preparedness approach as every primary hazard is associated with secondary hazards.

e) Disaster management plan must be mainstreamed with the Master developmental plan to provide sustainability to the investments.

f) The smart city project must also have DRR component inbuilt in order to provide resilience to infrastructure and quality of life to citizens.

g) Future collaborative training and awareness programmes may be conducted.

PM 10 Point Agenda No. 8 on DRR Role of Youth in Disaster Management in collaboration with Rajiv Gandhi National Institute of Youth Development, Ministry of Youth Affairs & Sports, GoI, Tamil Nadu, 6 August 2021

Key Takeaway/Recommendations



a) Involvement of youth shall be promoted in Disaster Management activities because of their knowledge, attitude and behavior.

b) There is no better resource in a community than youth.

c) Youth play a pivotal role to develop Disaster Management strategy through awareness and creating early preparedness mechanism.

d) Youth as a volunteer plays important role in reconstruction, rehabilitation and recovery.

e) Covid-19 academy was initiated by Sphere India in a collaborative manner with WHO, UNICEF, WFP, HCLF. It is a capacity building initiative with the mission to enable front line volunteers and outreach workers across India to fulfill various roles in COVID-19 preparedness and response to support local government, administration, and communities.

f) Kobo tool box is a field data collection tool developed by Harvard Humanitarian Initiative- open source to address the gaps in emerging needs and response during a humanitarian crisis.

g) In Disaster youth is the first responder in the communities, they should have knowledge to manage a disaster

h) Involving youth in disaster planning and recovery can increase their awareness of hazardous situations that may occur in their neighborhood and teach them how to respond in various types of emergencies.

i) They have also actively promoted a better preparedness in their surroundings, community and home environment. Studies show that young people participating in various activities before, during and after a disaster or a major incident have a better ability to handle the situation practically and mentally.

Prime Minister's 10 Point Agenda no. 1 Flood Protection Measures organised by NIDM, 6 August 2021

Key Takeaway/Recommendations

a) There is need of continuous modernization of floods forecast, early warning and judgment support system.

b) Non-structural measures contrary to the structural measures of flood plain management, in view of cost effectiveness and speedier implementation are preferred more.

c) Flood proofing measures help greatly in the mitigation of distress and provide immediate relief to the population in flood prone areas.

d) Disaster preparedness helps flood warning and inculcates in them a disaster conscious attitude between events.

e) The sediment removal process uses a machine known as a dredge to excavate the accumulated sediment and debris. A dredge is either partially or completely submerged in water and allows the operator to easily gather the sediment and transport it to a different location.



f) Dredging can be effective on low-energy watercourses with finer sediments "pressurized" so that they can hold more water and in turn reduce the risk of flooding.

g) Geotextile tube, geotextile container and geotextile bag have a lot of potential applications in marine and hydraulic, environmental and agricultural engineering.

Online Learning in the North Eastern States: Challenges and Best Practices on in collaboration with North East Research & Social Work networking (NERSWN), 7 August 2021

Key Takeaway/Recommendations

a) When compared to physical education, online education is more affordable. The parents needn't pay for accommodation, transportation, and food as they attend classes from their own homes. In addition, many educational institutions are offering discounts for online learning, which is a great relief for the students and parents.

b) One of the major stumbling blocks with regard to online learning is the lack of strong and stable internet connections, as the ones conventionally used at homes have either low bandwidth or have exhausted their limits. Now with the commencement of online education, screen time has tremendously increased.

c) Allotting breaks during each session will be a perfect solution for this, and the students get refreshed and can prepare themselves for the next session.

d) In villages of North-eastern states, students face challenges to access the online courses conducted by their institutions mainly due to poor data connectivity, lack of access to laptops and smartphones, and power issues.

e) Even if some rural areas of the north-eastern states are blessed with good internet connectivity, not many families can afford digital devices which are imperative for online learning.



f) Families which rely on the mid-day meal scheme to feed their children properly cannot afford to spend thousands of rupees on a smartphone, leave alone a desktop or laptop.

PM 10 Point agenda no. 1 on DRR Celebration of World Indigenous Day: Leaving No One Behind organized by NIDM, 9 August 2021

Key Takeaway/Recommendations

a) Documentation of various tribal cultures and communities are of paramount importance. Inter–validation amongst tribal communities are very important.

b) Inter–linkages of traditional and scientific knowledge is significant.

c) Traditional Ecological Knowledge in the context of climate change needs to be studied.

d) Social indicators of tribal communities such as literacy, income levels and health need to be drastically improved.

e) Development should be based on ecological paradigm that emphasizes that development should not be at the cost of environmental degradation. Indigenous people should be key stakeholders of ecological restoration.

f) A voice of tribal communities needs to be heard and development should be based on bottom – up approach.



PM 10 Point Agenda no. 8 on DRR Participatory Early Warning Systems: Youth Engaging Practices in collaboration with Rajiv Gandhi National Institute of Youth Development, Ministry of Youth Affairs & Sports, GOI, Tamil Nadu, 9 August 2021

Key Takeaway/Recommendations



a) Initiative must be taken to create a network of amateur radio in India to strengthen community based disaster preparedness by reaching to the people and save life from natural disasters.

b) There is need to provide situation awareness and monitoring/ early warning of disaster.

c) Students and young professionals have an important role in sharing ideas and information about disaster risk reduction, community resilience.

d) There is a need to strengthen awareness among all stakeholders.

e) Identifying volunteers for responding during the disaster needs to be carried out.

f) There is a need to foster the building and sharing of disaster risk reduction knowledge in order to increase youth participation in DRR post-Sendai.

g) There is a need to encourage implementation of seismic design practice.

h) Empowering local young energetic players in the administration and implementation of catastrophe risk reduction actions is necessary.

Southwest Monsoon & Landslides Impact on the road network on North eastern states in collaboration with SRM University, Sikkim Campus, 10 August 2021

Key Takeaway/Recommendations



a) North east India normally receives heavy rainfall during the monsoon months (June-September), which replenishes the rivers every year. The southwest monsoon is the main source of rain, and June is the rainiest month.

b) Over generations, people have learnt to reclaim and cultivate the soils brought in by the rivers. Lately, however, they have become uncertain about their knowledge.

c) Extremely heavy rains in the northeast could accentuate existing flood conditions and lead to landslides in some areas of the north-eastern states and sub-Himalayan West Bengal.

d) The rain and snow feed mountain springs, which feed the tributaries that join the Brahmaputra, Barak as well as rivers in Manipur. All these together water the region.

e) Lying very close to the Tropics, North-East India displays, to a large extent, the character of tropical climate, especially in the valleys.

f) There are three seasons in the area, winter, summer and rainy season, though rainy season, as in the rest of India, coincides with summer months.

g) No part of North-East India receives rainfall below 1,000 mm. Shillong plateau with its southern limit marked by a 1,200-m-high scarp overlooking the Bangladesh plain receives very heavy rains.

h) The average rainfall of Brahmaputra valley is around 2,000 mm with local variations. Guwahati, being in the rain shadow of the Meghalaya plateau, receives only 1,717 mm of rain. About 90 % of the rain is received during the southwest summer monsoon, and June is by far the rainiest month.

PM's 10 Point Agenda no. 8 on DRR Tsunami Risk Reduction and Resilience in collaboration with Indian National Centre for Ocean Information Services, Ministry of Earth Sciences, 10 August 2021

Key Takeaway/Recommendations



a) There is a need to implement UNESCO-IOC Tsunami Ready Programme to other coastal states of the country. Development of community based Tsunami Risk reduction plan is required.

b) Easily understood tsunami evacuation maps are required as determined to be appropriate by local authorities in collaboration with communities.

c) Tsunami Wave exercises adheres to an organized structure. So it is important that the planning teams have clearly defined roles and responsibilities and that subject matter experts be involved during the planning process where necessary.

d) Strengthens tsunami preparedness of coastal communities through structural and systematic approach through improved assessments of hazards, risk, inundation and evacuation, early warning system/warning chain, EOP and EOC, public awareness understanding of tsunami threat and ensure exercises.

e) There are needs to improve community pre-planning for tsunami hazard.

f) Encourages a consistent and sustainable approach for tsunami hazard management.

g) Make use of existing community preparedness programme of activity.

The Plight of Orphans in COVID-19 in collaboration with SOS Children's Village Bhimtal & Jeevodaya & Deepayala, 10 August 2021

Key Takeaway/Recommendations

a) Orphans suffer stigma, stress and trauma in addition to the loss of parental love, care and protection and more often they are disinherited by their next of kin and lack access to basic needs for shelter home for proper health care, education shelter and nutrition.

b) The Government and other stakeholders have come up with a number of interventions in an effort to address the situation of Orphans in the country. However, many remain unreached and the situation demands for targeted and more sustainable and concerted synergies focussed on addressing the plight of the Orphans.

c) The mission of the session was to encourage the orphans to strive to become the next generation of leaders by instilling identity, faith, creating self-sufficient communities, teaching social justice, and emphasising the importance of an excellent education and leadership training.



d) Health and Nutrition are taken seriously by shelter home a healthy child is a successful child. The management organizes periodical free medical camps where the children's health is well checked and relevant and appropriate medication administered.

e) The webinar analyzed the challenges orphans and other vulnerable children face in accessing welfare and protection. The main focus of the session was on the challenges these children face, the mechanisms in place for assisting these children as well as the relationship between state and non state actors and the traditional means of intervention.

f) The Central Adoption Resource Authority (CARA) a statutory body under the Ministry of Women & Child Development is responsible for overseeing adoptions across the country. The body has framed exhaustive guidelines that govern the process of adoption in India.

g) Although orphans are less likely to live in poor households (because foster families tend to be comparatively richer), we find large differences between orphans and non-orphans in terms of school enrolment, child labour, and malnutrition rates, among others.

PM 10 Point Agenda no. 6 on DRR Consultative Workshop on Curriculum Development for PG Diploma/Certificate Course in collaboration with India Universities and Institutions Network on Disaster Risk Reduction (IUINDRR), 10 August 2021



Key Takeaway/Recommendations

a) Programme will help to develop a curriculum for PG diploma/certificate students to build their capacity for preparedness and response for Disaster Risk to minimizing the impact of disasters as per needs and resources.

PM 10 Point Agenda no. 1 on DRR Early Warning and Communication on Flood organized by NIDM, 11 August 2021

Key Takeaway/Recommendations

a) Early warning mechanism would alert the state/district/villages from the occurrence of a disaster.

b) High rain fall warning with location and time, pre and post-monsoon status of embankment in various flood causing rivers can be obtained.

c) Early warning systems and mitigation measures designed on reliable data would enhance the performance, optimize the cost and reduce the risks and hazards significantly.

d) For developing early warning system or decision tool relies on Hydrological modeling, the real time data is useful.

e) Early warning systems are an important component of disaster risk management strategies.

f) As part of the warning, the system provides a prediction of the scale, timing, location and likely damages of the impending flood.

g) Once the flood warning alert is received at the state Head quarter, the same is disseminated to the district deputy commissioners and the District Project officer (Disaster management) for alerting the concerned circle officer, water resource department, PWD, through SMS, Phone, and personal messengers.



Climate Change & Natural Disaster Management: Challenges and Prospects in India in collaboration with School of Law CHRIST (Deemed to be University) Delhi-NCR, 12 August 2021

Key Takeaway/Recommendations

a) Climate Change may lead to devastating consequences both globally and nationally.

b) Scientists have predicted that the long-term effects of climate change will include a decrease in sea ice and an increase in permafrost thawing, an increase in heat waves and heavy precipitation, and decreased water resources in semi-arid regions.

c) Temperatures are rising worldwide due to greenhouse gases trapping more heat in the atmosphere.

d) Climate change has always happened on Earth, which is clearly seen in the geological record; it is the rapid rate and the magnitude of climate change occurring now that is of great concern worldwide.

e) Climate variability (dry cycles to wet cycles) and land-use change play a significant role, but there is a large amount of uncertainty around the flood quantile estimates (the value of discharge corresponding to the 100-year flood), particularly if there isn't a long record of observed data at a stream location.



f) Climate change is forcing people from their homes, bringing poverty on top of poverty, and increasing hunger. People in poorer countries are at least four times more likely to be displaced by extreme weather than people in rich countries.

g) The world faces a race against time to reduce emissions and help the most vulnerable cope with climate impacts that are already being faced today and will escalate in the years ahead.

Remote Sensing for Disaster Management organized by NIDM, 12 August 2021

Key Takeaway/Recommendations



a) The proud of ISRO's world-renowned exploits to the Moon and Mars and beyond, and India's recognized around the world as an indigenous space power, it's all down to the pioneering effort of stalwarts of the past.

b) Stalwarts like Dr Vikram Sarabhai, a visionary par excellence.

c) Dr Vikram Sarabhai who convinced the post-Independence Indian government to focus on space research. Especially after the Russian Sputnik launch in 1957.

d) Under Dr Vikram Sarabhai's leadership a lot of great initiatives began, including the Physical Research Laboratory of 1947 -- a precursor to ISRO. India's first satellite Aryabhata was put into space via Russian cosmodrome in 1975, when Dr Sarabhai was at the helm of India's space affairs.

e) Space technology information could be wisely used for the remote areas for the management of Disaster where is reaching of team is time taken.

f) Near real time information and monitoring are the vital factors for the relief, mitigation, risk reduction etc. for disaster.

g) India is supporting to provide the Sentinel data for other country.

h) The flood affected states in India are increased from 2017 to 2021.

Environmental Education and Awareness among Children and Youth, 12 August 2021

Key Takeaway/Recommendations



a) Promote environment education as a whole school approach.

b) Water conservation and energy conservation practices at schools.

c) Eco friendly science labs.

d) Herbal school gardens- while selecting medicinal and other herbs for the garden.

e) One must bear in mind that the best suited would be local plants. Common being basil, mint, aloe vera etc.

f) Zero waste zones: It is essential to sensitize young minds on the importance of creating minimum waste to ensure a cleaner, healthier environment.

g) It helps in establishing an ethics on waste reduction. Teachers should encourage children to develop a waste reduction ethics and ensure its sustainability. Environment education should access a school's footprint.

h) Role of teachers as environment educators, green teacher courses.

i) An interdisciplinary approach to environment and sustainability education.

j) Youth engagement through participation in internships, volunteering, awareness and action campaigns, competitions, green events and fests, long term action projects, exchange programmes etc.

Bridging the Gap between Research and Practice for enhancing Disaster Resilience: Changes and Way Forward, 12 August 2021

Key Takeaway/Recommendations



a) Disaster management is evolving as inter-multi-disciplinarily field to many courses and there is a need of collective approach for problem solving. There are different sets of information available from different field. We need to improve gaps between research policy and practice through participatory approaches such as co-designing education and research, research training action, process technology, use of indigenous knowledge and use of social innovation in DRR.

b) Though there are challenges, we have new opportunities coming up now. For. Example CDRI fellowships, IRDR young scientists' programs, young professional networks like CRRP. There are increasing researches in the area of disaster resilience.

c) There is a need to invest in youth networks. It is it is important that the research reaches to the ground and it should be done in consultation to the people. It is important to recognize the capacities of local communities, research and policies should be field tested.

d) Lack of study about the root cases in the research and study which is impacting the professional aspects. There is a need to develop connection between the university education, research and field practice.

Youth: Physical and Mental Well Being during Disaster in collaboration with Rajiv Gandhi National Institute of Youth Development, Ministry of Youth Affairs & Sports, GOI, Tamil Nadu, 13 August 2021

Key Takeaway/Recommendations



a) Need to focus on invisible impacts of disaster on youth and try to address them in a proper manner through empowering the knowledge.

b) Effective interventions should be given pre, peri and post-disaster period to improve the adverse mental health effects of the disaster.

c) Rehabilitations plans should be made by keeping in mind the cultural context of the community and the needs of the affected population.

d) Exercise safety consciousness by being aware of hazards and alert to potential dangers.

e) Interventions to engage community level workers for psychosocial first aid using basic techniques should be encouraged.

f) The capacity enhancement programmes for physical and mental health for youth should encouraged at educational institutions so that the knowledge can be shared directly to the community.

g) Thought provoking actions to convert challenges and gaps related to the DRR into opportunities should be encouraged.

Empowering Young Researchers and Professionals to enhance Disaster Resilience, 13 August 2021

Key Takeaway/Recommendations



a) The webinar has brought out first of its own kind of discussions on challenges on to build capacities in applied research, which could be brought to the practice.

b) Research should be more practical and to be converting into solutions. Research only dictates how policy should be framed. We need to go for research-based solutions. His discussions were thought provoking and relevant to point out that there is a need to mobilize the young researchers and professions to take up the challenges in the field of DRR. He stated that empowerment should be from within.

c) Presenters shared their experiences from the field such as that how advocacy and innovation can help to strengthen the capabilities of professionals. There can be existing struggles but later on you will find solutions and opportunities.

d) Young professionals highlighted that In India hardly 10 institutes offer professional and academic programs on Disaster Management. The challenge is being faced by the young professionals are on how to become a DM expert? As the fact remain there that Disaster Management cannot be managed by a single person, it is a participatory process and a multi-disciplinary subject.

e) There is a need to apply participated approaches in research. The topics are to be grounded focusing on the local issues and solutions. It would be better if the research is planned along with community and local practices, which could be utilized in future. Such practices can help the research to reach out to the practice. There is a Research should be built upon Participatory approaches and process technology.

f) There is a need to create research-based solutions, indigenous knowledge, social innovation and modern technologies to make it more practical oriented.

Covid-19: Psychological Impact of School Closures on Early Childhood in collaboration with YWCA Delhi, 13 August 2021

Key Takeaway/Recommendations

a) There is a need to review the impact of school closure on children during pandemic like loss of access to school-based and critical services and resources particularly for children with disabilities and those living in poorer families.

b) The educational institution should follow the rules and guideline of new-normal for online learning netiquette i.e rule of virtual class rooms, impotence of routine and happy learning for reducing mental address among children.

c) The issues and concerns of children and adolescents and also their ability to learn during pandemic related school closures should be highlight.

d) The social-emotional learning is essential elements that need to be focus when supporting and addressing students' social, emotional and academic well-being.

e) There should be more focus to formulate school wide programs and activities related to mental health issues and it should also be incorporate directly into classroom daily routines.

f) The action should be taken for identify risk factors related mental health and provide possible solutions to avoid the detrimental consequence of crisis.

g) The action should be taken to protect and guard the mental health of children consistently through open communication and facilitate professional counselling to address stressors.



h) Special attention provides to the children those who are more susceptible to the mental health crisis with collaborative approach by involving their parents, educators, school administrators, counsellors, psychologists, and psychiatrists.

Climate Action and Disaster Risk Governance, 16 August 2021

Key Takeaway/Recommendations

a) The very importance of this current time to switch from Environmental Education to Environmental action.

b) Basic steps anyone can take to protect the environment should be known and practiced at individual level.

c) Everyone should help increase tree cover by planting trees every year.

d) The emerging alarming issues of climate change is different from the natural climate change phenomena Earth has experienced in the past due to manmade impact.



e) The shifting of snowline and its impact in the crops grown in the hilly region can be witness as an impact from climate change.

f) Climate adaptation measures need to be sensitized among the people according to different topographic location with different climate impact.

PM 10 Point Agenda No. 1 on DRR Hazard Risk Reduction to the Working Community Involved in Solid Waste Management in collaboration with Pondicherry University, Puducherry, 17 August 2021

Key Takeaway/Recommendations



a) SWM workers are subject to various health hazards (physical, biological and chemical). Pandemic due to COVID-19 worsen the situation of SWM workers.

b) Many of the sanitary workers found difficulties in many occupational difficulties includes drinking water, sanitary needs, personal protective gears. The SWM workers mostly didn't aware of health hazards.

c) SWM workers were treated badly by the society and we need to work on social behavior of society The role of informal workers in SWM is significant and widely not recognized

d) The contribution of informal recycling is helpful for achieving the SDGs and circular economy.

e) The informal recyclers influence the GHG emission reduction and many other environmental benefits case studies such as Dry waste collection centre in Bengaluru, SWach Pune;

f) Plastic waste management in Mumbai UNDP models has shown the economic, environmental benefits availed through waste pickers. To enable mechanism of integration of informal sector, identification and inclusive planning of the informal sector, legal protections, training and awareness, partnership with public, social enterprises and communities and finally the implementation, evaluation and monitoring are essential.

Youth Intervention in Rural Livelihood, Financial Inclusion & Public Health in Tribal Dominated Area in Current Pandemic in collaboration with Care India, and The Nudge, 17 August 2021

Key Takeaway/Recommendations



a) The objective of this session was to promote and provide evidence-backed livelihood and financial services to those living in ultra poverty at scale and increase their social, economic and financial inclusion through the programs.

b) PVTGs constitute the most vulnerable section among tribals and inhabit isolated, remote and difficult areas in small and scattered hamlets/ habitats. The session aimed at planning their socio-economic development in a comprehensive manner while retaining the culture and heritage of the community by adopting habitat development approach and intervening in all spheres of their social and economic life, so that a visible impact is made in improvement of the quality of life of PVTG.

c) Traditional cooking practices also produce 2 to 5 percent of annual greenhouse gas emissions worldwide. They stem from

two sources. First, unsustainable harvesting of fuel drives deforestation and forest degradation. Second, burning fuels during the cooking process emits carbon dioxide, methane, and pollutants from incomplete combustion that include carbon monoxide and black carbon.

d) A wide range of "improved" cook stove technologies exists, with a wide range of impacts on emissions. Advanced biomass stoves are the most promising. By forcing gases and smoke from incomplete combustion back into the stove's flame, some cut emissions by an incredible 95 percent, but they are more expensive and can require more advanced pellet or briquette fuels.

Pandemic Vaccination in the North-eastern States: Challenges and Resilience in collaboration with SRM University, Sikkim Campus Sikkim, 17 August 2021

Key Takeaway/Recommendations



a) Several challenges have been reported in administering vaccinations in rural areas of north-eastern states. Some people are reluctant to be vaccinated while others claim that they need to travel long distances to reach a health centre.

b) The villagers believe that the virus cannot infect tribal people.

c) There is a need to sensitize communities about the importance of the vaccine in the fight against COVID-19.

d) There are three important components of the fight against COVID i.e Community ownership of Covid appropriate behaviour; evidence based reporting and busting myths on covid and vaccination.

e) In tribal areas, one of the biggest challenges is the information gap.

f) To counter this, there is a need to created posters, leaflets and animated videos in local dialects busting myths about the novel coronavirus.

g) The tribal community can be sensitized by launching an awareness and resilience-building programme.

h) The emphasis should be on capacity building of tribal youths and local civil society organizations Youth volunteers belonging to Scheduled Tribes have been identified and trained under the initiative.

i) Media can be used as an important stakeholder in creating an enabling environment for vaccination by busting myths, fears and apprehensions surrounding COVID vaccination.

Role of Higher Education on Interventions Strategies Adopted in Mitigation and Management of Disasters in Context Recent Technological Development in collaboration with Symbiosis Institute of Geo-informatics, Symbiosis International (Deemed University), 17 August 2021

Key Takeaway/Recommendations

a) Institutions must explore new Research techniques and methodology provide synoptic observations of natural disasters at regular intervals that help in better planning and management of disasters.

b) Role of State Governments and State training institutes and universities in the formulation of State-

level policies, strategies, disaster management framework and capacity-building need to be strengthen;



c) Develop educational materials for disaster management, including academic and professional course;

d) Promote awareness among stakeholders including college/school teachers and students, technical personnel and others associated with multi-hazard mitigation, preparedness and response measures;

e) The use of education and research must be acknowledged for improving the livelihood of the communities and such studies encouraged and confidence must be shown to research scientist.

f) There is a need for data driven approach in disaster management with strong component of research and understanding.

g) There should be committees in every institution for engaging people in disaster risk management and having public awareness program for people out of the institution.

Women and Disasters: Missing Women's Perspective in organized by NIDM South Campus, 17 August 2021

Key Takeaway/Recommendations



a) When a natural hazard impacts on a vulnerable population, it is as much political as natural.

b) Hazards are also product of historical processes

c) Women are 14 times more likely to die during disasters but often data not disaggregated by sex.

d) Women are more at risk – can't leave home without a man/male agreeing; not taught to swim; not proper to run and caring for others.

e) When women themselves receive early warning they are more likely to act on this.

f) Studies shows that when women in charge of early warnings fewer than people die.

g) Through disaster risk reduction (DRR) training women come to see they can 'act like a man's.

h) When women live through an event and organize collectively; they pass knowledge on.

i) Covid-19 is the biggest health, development and humanitarian crisis in recent times. It has deepened pre-existing inequalities, exposing vulnerabilities in social, political and

j) Economic systems which are in turn further amplifying the impacts of the pandemic.

Engaging Youth in Disaster Preparedness and Planning, 17 August 2021

Key Takeaway/Recommendations

a) Youths are needed to be made skilled and aware of all the ill-planings and impacts so that these future leaders understand the importance of sustainability and DRR

b) The SFDRR goals and the youth oriented schemes by NDMA and NDRF need to be publicized to specify role of youth in shaping our future.

c) There is a need to invest in our youth and children at very young age so that their minds are well aware of the impending disaster and be well prepared.



d) The mountain ecosystem is very different from other areas and rural areas are affected differently from urban areas hence different strategies should be build for their protection from disasters and climate impact.

e) There is need to develop disaster profile as per climate zones for such areas and strategies should be able to reach to the bottom and able to provide support system.

f) The local youths can become a very good facilitator for implementing strategies on ground.

g) Better understanding of today's youth in technology helped them to have better understanding of various application software related to early warnings and risk and vulnerability assessment which helped many farmers in the past.

h) The youth can help fill the void between Govt initiatives and the community through better training and helping in data analytics.

PM 10 Point agenda no. 9 on DRR Children and Natural Disaster: A case study of Children Education in collaboration with Starex University, Gurugram, Haryana and Society for Empowerment, 18 August 2021

Key Takeaway/Recommendations



a) To support education at province level for data analysis and reporting on needs towards interventions, and supporting the Back to School campaign using leaflet, poster and child to child campaigning methods."

b) A framework has to be designed to deliver safe, non-violent, inclusive and effective learning environments to children.

c) Children and young people may be unable to learn due to fear or trauma for this By providing them immediate support to re-establish education for these children and youth, one has to take immediate Responsibility to stable the Situation by the help of different teams and NGO's or other organisations.

d) Introducing Disaster Management in the curriculum of schools, colleges and universities will make the educated youth address these crises with their knowledge, self-confidence, and survival skills in lesser times. Awareness among the student community will help build a better, stronger and resilient nation.

e) This includes providing temporary learning spaces in a protective and safe environment and ensuring they receive vital services like vaccinations, medicines, child protection referrals, hygiene messaging, soap distributions, access to clean water and food.

f) Education prepares vulnerable communities to learn to cope with such events. Introducing disaster management in the curriculum should be prioritised. Children must learn about disaster management, but in a manner that does not overburden them.

PM 10 Point Agenda No. 1, 8 & 9 for DRR Strengthening Youth involvement in Humanitarian action in collaboration with youth for Resilience, Indore, MP, 19 August 2021

Key Takeaway/Recommendations



a) Youth coming of age at a time of increasing and increasingly destructive natural and human made disasters. We cannot see the energy of young people wasted on living with and dealing with crisis. Young people need all our support and investment to realize their own enormous potential.

b) The session highlighted that young people are not homogenous, and a one-size-fits all humanitarian approach will not do. We need to pay attention not just to their physical essentials for survival, but to the specific developmental and social needs of young people of different ages, sexes, ethnicities, passions and motivations.

c) Promotion and increase in age-and gender-responsive and inclusive programmes that contribute to the protection, health and development of young women, young men, girls and boys within humanitarian settings.

d) Increase resources intended to address the needs and priorities of adolescents and youth affected by humanitarian crises, including disasters, conflict and displacement, and identify ways to more accurately track and report on the resources allocated to young people in humanitarian contexts.

e) The main reasons for engaging with children and young people lie within the standards that relief agencies have set for themselves for the work they do. These standards aim for an accountability to communities that implicitly, at least, includes children and young people.

f) Women and men of all ages from the disaster-affected and wider local populations, including vulnerable groups, receive information about the assistance programme and are given the opportunity to comment to the assistance agency during all stages of the project cycle.

PM 10 Point Agenda on DRR: Agenda 8 Youth Empowerment for Climate Change Resilience in collaboration with Rajiv Gandhi National Institute of Youth Development, Ministry of Youth Affairs & Sports, GOI, Tamil Nadu, 20 August 2021

Key Takeaway/Recommendations

a) The technological investment need to consider traditional ingenious knowledge for disaster risk reduction and climate change resilience.

b) To counter the existential crisis that human race is facing on this earth, there must be basic understanding and each and every person's tuning with the nature.

c) There is a need to integrate sustainability education or environmental education or climate education or disaster education to not only the undergraduate or to school children but there is a great need to train our professionals because a well-informed a well-sensitive professional never going to take decision which is against the nature.



d) The challenges youth face are unprecedented, from climate change to unemployment to multiple forms of inequalities and exclusion, in particular for youth belonging to vulnerable or marginalized groups.

e) Our behavioural aspect should also be integrated with technological advancement while dealing with the climate change and other environmental issues.

f) We also have to integrate the women empowerment women involvement and the role of traditional communities.

g) We need to identify the problem and factors responsible for it and then plan action to be done.

h) Everybody should make some pledge in order to manage our environment and also rejuvenate, reclaim and restore what has got degraded.

Women in leadership positions during disasters and its impact on children, 20 August 2021

Key Takeaway/Recommendations

a) Gender and sex are two different ideas.

b) Women are not well paid in the job market.

c) Women are under-represented in decision making.

d) Investing in policies that promote equal opportunities for men and women create a more sustainable society.



e) Women are most exposed to disasters and die in disasters and if they survive, they are more sufferers.

f) Women have more hazards, tied to family, dress, limits them to run and save lives.

g) Women are more resilient.

h) Women play imp role in community level-community participation.

i) Inclusive policies and program giving women a central role.

j) At every level-global to local women representation.

k) Women and children as basic unit- empowering policies, program and incentives to be self sustaining and minimize risk and vulnerabilities.

Disaster Psycho-Social Care in collaboration with SPADE, Shivaji College University of Delhi, 21 August 2021

Key Takeaway/Recommendations



a) College and Higher education institutions must enhance their capacities or else collaborate with trauma care agencies to address the trauma and stress amongst the students caused by the ongoing pandemic.

b) Faculty must make themselves aware of latest guidelines issued by respective governments and must ensure that students follow the basics precautionary steps being publicized.

c) Colleges must assume the role of care giver and must undertake activities like awareness, motivation and other logistics support to the needy and the community at large.

d) Charity begins at home and hence awareness and vaccination drive within college campuses for students, faculty and their families may be organized from time to time.

e) College students through summer internship or study tour programmes, can pay a role of service provider with respect to food, drinking water, medicines to the needy. They can also volunteer themselves as task force for identification of pandemic spread.

f) Need for most vulnerable groups is that matters most when it comes to mitigation. College student force can identify such needs and can bridge this gap with remedial measures to the extent possible.

School Building Infrastructure Resilience, 23 August 2021

Key Takeaway/Recommendations

a) The scale of damage by any hazard depends on number of factors such as the time of the event, population density, type of hazard and building structural fragility.

b) The past earthquakes exposed vulnerability of school buildings related infrastructures.



c) Schools should build safer communities through ensuring the seismic safety of schools through retrofitting of school buildings, mitigation solutions and disaster education.

d) Apart from structural designs of the buildings, it is very much important to understand the risk associated with non-structural elements of a building, which becomes the major cause of damage during earthquakes and building collapse.

e) Schools should help to build capacity of community and to promote prevention and mitigation. Moreover, teaching disaster risk education at school develops awareness to children.

Earthquake Risk Mitigation and Management in urban areas, 23 August 2021

Key Takeaway/Recommendations

a) We have the potential to attain high magnitude earthquake again in near future and there is need for detailed studies, mitigation and management strategies and paleoseismal studies to be done for urban areas.

b) Delhi is affected by local fault system of in and around Delhi and also from Himalayan thrust belts.

c) Non adherence to building codes implementation and poor construction practices of our country leads to disaster.

d) The large gap between scientific community and the administration for its implementation need to be bridged.

e) We need to scientifically understand the flaws in our building construction practices in order to face the challenges and apply the correct mitigation measures to improve the safety of our building construction practices such as using cost effective retrofitting.

f) Soil liquefaction potential in Delhi is another major issue which increases the seismic risk.

g) It is important to understand the soil profile, seismic zonation, seismic vulnerability and ground motion.



Climate change and Flood hazard management on the Brahmaputra Tributary in collaboration with Northeast Research & social work networking (NERSWN), 24 August 2021

Key Takeaway/Recommendations

a) Floods are recurring events in the Brahmaputra basin. During the monsoon season that falls between June and October, there are floods leading to death and destruction in North-eastern states of India.

b) The Brahmaputra valley of Assam is considered one of the most acutely flood-prone regions in India, with 40% of the land surface prone to floods, which is one of the largest among all Indian states, constituting 9.4% of India's total flood prone areas. Over 90% of the land encompasses agriculture, as well as urban population centres.

c) It also includes the Assam's valuable economic assets, among them, tea estates, oil fields, roads, and airports. The Brahmaputra and its tributaries cause flooding in the state every year.

d) Now with the commencement of online education, screen time has tremendously increased. Allotting breaks during each session will be a perfect solution for this, and the students get refreshed and can prepare themselves for the next session.

e) In villages of North-eastern states, students face challenges to access the online courses conducted by their institutions mainly due to poor data connectivity, lack of access to laptops and smart phones, and power issues.

f) To ensure better water resource management and control measures, there is the need for a shift in water policies that would promote the participation of local communities.

g) Better management of water will also assist in ensuring the sustainability of the basin conservation plans.



h) Trans-boundary water management has the potential to generate numerous benefits, such as more international trade, promotion of climate change adaptation and resilience, increase in economic growth, promotion of food security, and improvements in governance and regional integration.

i) Brahmaputra, being a complex river basin, requires a good governance mechanism which would be key to understanding the ecological, economic and political context, the relationship between the various actors, and the factors affecting current and potential future situation.

Hill Road Sustainable Infrastructure: Challenges and Management, 24 August 2021

Key Takeaway/Recommendations



a) Hill roads face the major issue of improper drainages and are impacted every year especially in monsoon due to heavy rainfall, cloudburst and flash flood situations.

b) The modified slopes from road constructions require special attention being the most susceptible areas.

c) Changes in hydrological cycle causing change in rainfall pattern are affecting the hilly areas in form of hazards.

d) India has one of the highest fatality rate from road accidents and these rate are very steep and alarming in the hilly region which makes only 2% of the total road network.

e) In hilly roads even minimum road safety measures are usually found missing like signage, glow yellow /black strips/paints, bad drainage system, inviting accidents.

f) Three main components need to be checked vehicle safety, road infrastructure and road safety audit.

g) Use of local materials and muck disposal with the help of geocell and geogrids can be used to improve the strength of the flexible pavement road and also helps in sustainable development.

h) Road widening became an issue due to lack of proper stability analysis and dumping muck on riversides are also increasing impact of river water during flash flood.

Disaster and Emergencies: A Life Cycle Approach, 24 August 2021

Key Takeaway/Recommendations

a) There is a need to ensure provisions of efficient timely services to cater to the needs of different age-groups of the children in all phases.

b) More emphasis on timely and critical service and care to children as well as effective practices that can be rendered in order to address their needs and rights.

c) Ensuring strong preparedness to provide vaccination in mass displacement situations for safeguard from any epidemic for children.

d) More care need to be taken on accessibility to safe drinking water and sanitation for children in emergencies.



e) Ensuring continuity of learning opportunity, hygiene improvement practices, sports, recreations through post disaster early recovery programmes can enable adolescents to prepare themselves for their transition to adulthood.

f) There is a need to focus on creative approach to help and familiarise them with their surroundings and provide insights into disaster risk reduction and preparedness measures, emergency relief and long-term recovery.

g) The action need to be taken for establishing an active, experiential and participatory learning process between learners and institutions to develop the concept of resilience and how to anticipate, absorb and adapt to disaster events.

h) Emphasis on traditional wisdom and local knowledge use in preventing and mitigate social, economic and psychological effects of natural hazards.

Ar6 Climate Change 2021- The Physical Science Basis (UN's IPCC Report 2021) PM's 10 Point Agenda No. 1 on DRR Theme How BIG is the Risk for India's Resilience Future? organized by NIDM, 24 August 2021

Key Takeaway/Recommendations

a) Intense monsoon is the result of the increasing aerosol and carbon dioxide in the atmosphere.

b) In the last two decades, extreme and heat waves increased and affected new areas also.

c) Climate Change impacts in India are evident in the form of rising sea level, heat islands, more humidity, extreme rainfall in short span of time, diagonal temperature range etc.

d) Agriculture and health are adversely affected by the consequences of climate change.

e) In all risk hotspots, climate change is exacerbating interactions between disasters, diseases and socio-economic risk drivers.

f) In Varanasi, children below the age of 6 years are going to be affected badly due to air pollution, studies are showing.

g) Climate change causing huge loss to the global as well as local economy.

h) Globally energy investment stood at $1.9 trillion and Asia pacific accounted for $690 billion, including $352 billion for powers sector.



i) Asia-Pacific has mixed progress on climate related goals with large investment needs to address clean energy and urgent actions are needed to move towards low- carbon climate resilient development path.

j) Countries can increase the investment in energy, with the composition of power generation investment shifting further towards renewable energy.

k) For Low Carbon transition, we should focus more on renewable energy and enhanced energy efficiency.

Snow Avalanches and Preparedness organized by NIDM, 26 August 2021

Key Takeaway/Recommendations



a) Long term measures include identification of most vulnerable areas, identification of nearest safer Location.

b) UTDRF Kargil district police, revenue and other departments, community volunteers and volunteers of various NGO's are always at the forefront for evacuation.

c) At the time of any disaster, coordination between different stakeholders is very important when it comes to relief, restore and rehabilitation of the affected people.

d) To cope up with disastrous situations, the control rooms are set up at District Level, sub Division and Tehsil headquarters which work under the control of the relief and rescue committee headed by the Deputy Commissioner, Sub Divisional Magistrate and Tehsildars at their respective levels.

e) The relief and rescue operations are taken up at war footing level and communication network between various Government / Voluntary agencies is strengthened vertically and horizontally to tackle the situations effectively.

f) The Indian army instructed all their respective posts to remain vigil and in case of any eventuality immediately rush to the spot for rescue operation/necessary assistance without waiting for any order from the higher 7 authorities, where the district administration cannot reach on time in the far-flung areas.

Building Financial Resilience and Financial Literacy for Disaster Risk Reduction in collaboration with Swayam Shikshan Prayog, Maharashtra, 26 August 2021

Key Takeaway/Recommendations



a) A set of rules need to be constructed for sound finance in the context of resilience building. Multilayered approach is required with variety of tools and services other than micro financing for vulnerable group of women.

b) It is important to diversify the investment portfolio using financial tools that cater to a variety of financial needs.

c) People must have money in their hands in order to comprehend how money works.

d) The government should recognize the grassroots organizations.

e) Significant adjustment in credit policy is required.

f) The private sector and insurance companies should design products with marginalized women's enterprises in mind, especially those who lack credit or collateral.

g) There is a need for easily available insurance products that can be utilized for various purposes, in an emergency. There is an urgent need to bridge the digital gap for rural women enterprises.

Insights from Cyclone Amphan in the context of Current Pandemic organized by NIDM, 26 August 2021

Key Takeaway/Recommendations



a) Coastal areas of the country are very fragile and are exposed to cyclones, coastal floods and storm surge.

b) Early warning systems during cyclones play a crucial role in mitigating the impact of the cyclones.

c) Building resilient infrastructures which are socially, ecologically and technologically sound are important to build resilient coastal society.

d) Possession of higher human and social capital coupled with institutional support can go a long way in building a robust society.

e) Vulnerability assessment study needs to be carried in whole of the Sundarbans but priority needs to be given to those villages that ranks higher in vulnerability ranking.

f) Separate action plans needs to be charted out at the national level for a different socio-ecological setting such as the Indian Sundarbans.

g) Decentralisation of powers at the local level to prioritise their own interests might go a long way in mitigating threats.

h) A focus is needed for mangrove conservation as it can act as buffer during the times of cyclones and coastal floods.

PM 10 Point Agenda No. 1 Comprehensive Disaster Management in collaboration with Office of Director General of Police Tripura, 27 August 2021

Key Takeaway/Recommendations



a) Police organization has to see itself as major player in the disaster management.

b) The SDRF must be carved out from local police and subsequently must be trained equipped and supported with proper training and logistics so they find themselves capable to support the victim in golden hours.

c) Police must envisage a role of local support agency for external support as they are aware of the local conditions, the area and capabilities of people.

d) There is always a need to mainstream disaster risk reduction into the activities of Police so that they may be equipped to perform better during disasters as well.

e) Regular mock drills and updation of awareness levels of police personnel must be ensured by the authorities. This will provide the authorities, a support during their disaster management activities.

f) The police authorities must look beyond their traditional role of maintaining law and order when it comes to disaster management

g) The police communication system must be looked into as communication redundancy support during disaster times.

h) Police system must adopt IRS as a system within their daily practices of functioning so that they become fully aware of the system and can put this to use during emergencies.

i) Higher authorities of Police must undertake activities for keeping the personnel motivated so that they become most sought-after force in their area for undertaking pre, during and post disaster activities.

Framework and Implementation of DRR and DRM Practices for Immovable Cultural Heritage organized by NIDM, 27 August 2021

Key Takeaway/Recommendations



a) Identification and documentation of cultural heritage sites, precincts, and structures to collect data on monuments, buildings, and sites, including physical qualities, history, and problems.

b) The identification of natural and human-induced dangers to the site/precinct/structure, as well as the use of fossil fuels, has a direct impact on the ecosystem.

c) Physical vulnerability, economic vulnerability, social vulnerability, and environmental vulnerability are all identified at different scales.

d) Analyzing the origin and effect of a sudden, catastrophic occurrence that severely disrupts communities or society's functioning and results in human, material, economic, or environmental losses.

e) Understanding Disaster Risk, Improving Disaster Risk Governance, Investing in Disaster Reduction (Through Structural and Non-Structural Measures).

f) On-site mapping of cultural resources using a GIS-based smartphone app. A mobile GIS lets users to capture, store, and update, modify, analyse, and display geographical data and information while out in the field.

g) Laser scanning is a method of capturing a real object's exact size and shape as a digital 3-dimensional representation in the computer world.

h) Cutting Edge Technology is updated and actionable satellite information to better assess how a fire, a flood or heavy rains may evolve.

i) Used either air borne or terrestrial laser scanning. The technology uses eye-safe laser beams to create a 3D representation of the surveyed environment.

j) Monitoring using AI & Remote technologies to leverage remotely sensed geospatial data from satellites to detect and mitigate potential disasters.

k) Interlock Cultural Heritage within Development & DM plans to contribute towards wellbeing and quality of life of communities, can help to mitigate the impacts of cultural globalization.

2nd Phase of online training programme on India Disaster Resource Network-(IDRN) for Haryana state, 27 August 2021

Key Takeaway/Recommendations

a) Additional items have to be examined and included on IDRN portal.

b) All district level user id and password have to be shared with district officers.

c) DC/DM / DDMA / SDMA nodal officer profile have to update on district profile.

d) For more data updation district have to encourage all the line department including (Govt , PSU , Private)



Developing Resilient Educational Infrastructure for children, 28 August 2021

Key Takeaway/Recommendations

a) There is a need for considering the design-related advice, during the planning and design phases of school infrastructure projects.

b) An operations-related initiative and associated programs of School which influence the design of the facilities is need to be strengthened.

c) There is a need to focus systems connections and related recommendations, i.e. related to programs and opportunities that should be explored as parallel initiatives outside of the scope of a school infrastructure.

d) Experts emphasis on consideration of multiple, dynamic hazards and anticipate long-term needs related to the shocks and stresses the asset is likely to face.

e) Developing new school construction and renovations of existing schools for reducing risk and building resilience.

f) Schools should be designed with flexible spaces allowing adaptability of use for both everyday and disaster situations as well as maximizing long-term utility of the facility

g) The National regulations for school zoning should be updated to allow for more flexibility in their application to different local contexts and needs. Consider form-based and performance-based zoning approaches.

h) Develop a program of co-management of facility maintenance, cleaning and improvements (and associated fund management) by parents, students and communities to promote a culture of care and respect for the physical infrastructure.



Disaster Risks of the Future: Insights from the IPCC Sixth Assessment Report, 28 August 2021

Key Takeaway/Recommendations



a) Climate change is described by many as a far greater threat to humanity than COVID-19, because of its irreversible impacts.

b) The latest IPCC sixth assessment report is bound to strengthen the criticism many countries have stonewalled and avoided moving away from coal and other fossil fuels, who promised to act and failed to influence the multilateral system.

c) Developed countries with legacy emissions to effect deep cuts, transfer technology without string to emerging economies and heavily fund mitigation and adaptation. Developing nations should then have no hesitation in committing themselves to steeper emission cuts.

d) Changing climate with increasing extreme weather events are also increasing the chances of developing sensitive disease like respiratory illnesses, non communicable diseases, vector borne disease, water borne and food borne diseases, etc.

e) Cities intensify human-induced warming locally and further urbanization together with more frequent hot extremes will increase the severity of heat waves.

f) Urbanization also increases mean and heavy precipitation over and/or downwind of cities and resulting runoff intensity. In coastal cities, the combination of more frequent extreme sea level.

g) Events due to sea level rise, storm surges and extreme rainfall/river flow events will make flooding more probable.

h) There is a need for collection of data to establish a big network for the improvement of prediction skills as well as development of weather linked region specific action plans.

i) In addition, the gaps are needed to be identified in the entire process of prediction, planning and management along with the mass awareness.

Sexual and Reproductive Health and Rights (SRHR) of women and children during Disaster and Emergencies, 30 August 2021

Key Takeaway/Recommendations



a) SRH needs of women and girls increase during an emergency.

b) International mandates and policies for addressing SRH needs.

c) Importance of SRH services in disasters.

d) MISP (Minimum Initial Service Package)- objectives, outcomes.

e) Sexual and reproductive health standards.

f) Institutional mechanism for SRH in disasters.

g) MISP training.

h) Integration of GBV (Gender Based Violence) prevention and response in DM plans.

i) Legal Framework: MTP Act, POCSO Act etc.

j) Privacy and confidentiality concerns.

Youth Empowerment Towards Coastal Disaster Risk Reduction & Resilience in collaboration with Rajiv Gandhi National Institute of Youth Development, Ministry of Youth Affairs & Sports, GOI, Tamil Nadu, 31 August 2021

Key Takeaway/Recommendations



a) Enhance young people's capacities through multiplicity of stakeholders (UN Volunteer) which provides young people under the age of 30 with the opportunity to work as DRR volunteers and gain exposure, on the frontlines of political, developmental and humanitarian field operations, and engaging in development and peace initiatives worldwide.

b) There is need to engage youth meaningfully as effective partners in response and recovery efforts. Strengthening an enabling environment that not only empowers and protects young volunteers, but also provides those platforms where they can be creative, inclusive and their voices can be heard.

c) This will boost engagement with youth volunteers and balance socio-economic risks more equitably, maximizing the potential of volunteering to positively impact those youth often left furthest behind.

d) Integrate youth volunteering in national response and recovery plans through recognizing the critical need to build back better, encourage the integration of youth volunteering in national recovery and socio-economic response plans, to engage marginalized groups, support the scaling of recovery efforts.

e) There is need to create sustainable skills development opportunities for young people, in order to transform youth volunteering from a coping mechanism to a strategic resource for community resilience in response to COVID-19.

f) There is a need to recognize and value non-formal learning in a creative and innovative way, raising the visibility of skills acquired outside the formal system and fostering complementarily between non-formal and formal learning, while at the same time promoting equal opportunities.

PM 10 Point Agenda No. 8 Community Preparedness for Fire Induced Disaster in collaboration with Directorate of State Fire Prevention Services, Gujarat, 31 August 2021

Key Takeaway/Recommendations

a) Fire, as a hazard, is most common and recurrent. Hence authorities must identify the sources beforehand and undertake activities to prevent fire

b) Community, as a first responder and vulnerable, must be made aware about possible causes of fire incidents and their capacities may be enhanced to avert fire.

c) Awareness about use of fire extinguishers in high-rise buildings must be ensured by Fire & emergency services personnel.

d) Every entity must ensure that the fire pathway along with water access points must be placed at maximum places within the premises.

e) The offices, malls and cinema halls must take all precautionary measures so as to avert fire incidences.

f) During summer season, various fire prevention resources such as fire extinguishers, sand buckets, etc. must be placed at all accessible point within the community area and their locations must be displayed for community convenience.

g) There should be a regular training in the context of Fire given at a priority basis so as to provide a considerable time for community to take appropriate action of safety.



h) A coordinated and earnest effort on the part of stakeholders is needed to identify areas where this problem is gaining frequency and to address this on priority basis.

i) Regular mock drills must be carried out at critical infrastructures such as offices, malls, schools, etc. to ensure that accepted level of preparedness is maintained.

PM 10 Point Agenda No. 1 on DRR Environment and Disasters, 31 August 2021

Key Takeaway/Recommendations

a) Engage environmental managers in national DRR Mechanisms.

b) Include DRR Criteria in environmental regulatory frameworks.

c) Assess environmental change as a parameter of risk.

d) Utilize local knowledge in CBDR Management.

e) Engage communities to promote R&D and innovation.

f) Protect and value ecosystem services.

g) Environmental technologies to designs structural defenses.

h) Integrate environmental and DRR in spatial planning.

i) Prepare for environmental emergencies.

j) Strengthen capacities for environmental recovery.

k) Healthy ecosystems provide natural defenses.

l) Natural hazards are directly affected by development processes.

m) Degraded ecosystems reduce community resilience.

n) Some environmental impacts require immediate attention.

o) Environmental degradation is a hazard in itself.



Food & Nutritional Security through Agriculture Disaster Management Plan, 31 August 2021

Key Takeaway/Recommendations



a) Agriculture in India is one of the most disaster affected sectors.

b) Economic losses from natural disasters are rising globally.

c) Drought, floods, storms and cyclones, hails, frost, pest attacks, diseases, fire, land degradation, post-harvest damages/ losses and damage to infrastructure key hazards.

d) Increased frequency and severity of climate related hazards adding a new dimension to the existing disaster risk profile.

e) In order to ensure a long run sustainable growth of the overall economy it is required to devise appropriate sectoral policies based on the requirements of the sectors matching with regional & national requirements.

f) Ensuring business continuity.

g) Food insecurity is directly proportional to agricultural losses

h) Food security is closely related to household resources, disposable income and socioeconomic status.

i) Food Security is important for a nation for boosting the agricultural sector, having a control on food prices, economic growth and job creation leading to poverty reduction and increasing global security and stability.

Earthquake Precursors Study and Earthquake Early Warning System in collaboration with National Center for Seismology, Ministry of Earth Sciences, Delhi, 1 September 2021

Key Takeaway/Recommendations



a) a) We needs to enhance reliable, sustainable and dedicated infrastructure for telecommunication link in hilly terrain having high altitude and poor approachability, which is prone to landslides and snowfalls etc.

b) Assessment of false alarm, missed alarms and other short comings needs to be carried out regularly.

c) Timely alerting or non-alerting both would have implication that may result in credibility of the systems (even with legal liability).

d) Public education campaign towards earthquake needs to be mainstreamed.

e) Multiple programs on earthquakes needs to be conducted as majority of population are not aware that earthquake cannot be predicted and why it cannot be predicted and what are do's and don'ts for the same.

f) There is also a need to expand the audience so that the message can reach to the maximum audience.

g) We need to focus on enhancing the capacity of local communities through awareness generation programme emphasizing the implementation of building bye laws mock drills as well as dos don'ts regarding the earthquake disaster.

h) Use of remote sensing satellite for earthquake related activities needs to be enhanced

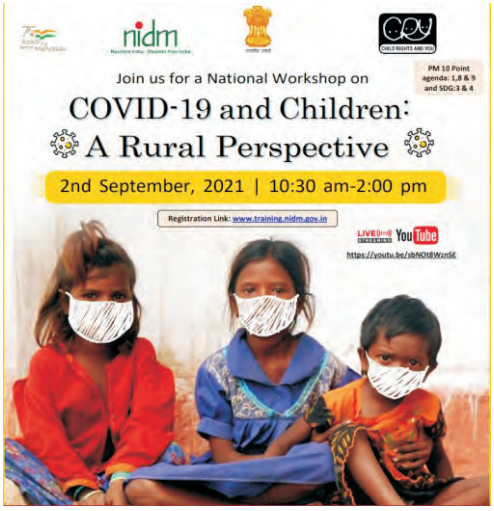
i) The temporal resolution of earthquake related studies are quite low and there is a big gap in the revisit time which is concerns as in earthquake response timely data is very critical.

j) There is a need to enhance our technological driven capacity besides strict implementation of building bye-laws to reduce and mitigate the impacts of earthquake on our communities as well built environment.

k) Research on earthquake engineering is still required even in countries with low to moderate seismic activities.

Covid-19 & Children: A Rural Perspective in collaboration with CRY Child Rights and You, 2 September 2021

Key Takeaway/Recommendations



a) Inter-sectionality of vulnerabilities: Poverty, Caste, Gender, Region, Disability etc. need to be considered.

b) Disproportionate impact on women and children.

c) Biggest learning: not to carry on with 'business as usual' attitude.

d) Lack of investment on preparedness.

e) Need to strengthen primary health care infrastructure- ANMs, ASHAs, doctors, nurses etc. This will reduce burden on secondary and tertiary care.

f) Ensure dissemination of correct information to people and negate any false information being circulated.

g) Promote responsive behaviour among adults in order to safeguard children, if adults follow COVID appropriate behaviour, children will follow them too

h) School level preparedness as schools are reopening- for new generation disasters like COVID, climate change etc.

DRR Children and Disaster: An Indian Context in collaboration with Nagaland University and Society for Empowerment, 3 September 2021

Key Takeaway/Recommendations



a) Children develop awareness raising campaign about DRR - using a variety of media to fully engage the community.

b) Include children in impact assessments, final evaluations and lessons learned exercises.

c) Establish and strengthen partnerships with relevant government agencies and duty bearers helping them to recognize and include children and their issues in their plans

d) Teachers engagement is must.

e) Monitoring and Evaluating the activities of children.

f) Conducting the mock drills and classes can improve their capability.

g) Educating the parents and faculty of the concerned school.

h) Including the Disaster management in their daily study.

i) Conducting Regular competitions on skills of disaster management.

j) Stake holders and Government and local partnership must be included.

PM 10 Point Agenda No. 1 on DRR Geospatial Technologies for Flood Management organized by NIDM, 6 September 2021

Key Takeaway/Recommendations



a) Both natural and man-made disasters pose great threats for the development and socio-economic wellbeing of the people. In recent times, floods have been the most common natural disaster ever.

b) Remote sensing tools provide the researcher with multi-date satellite imageries, which in turn aids the researcher in monitoring and recording the change progress of the past flood events.

c) Flood related problems could be solved through planning, studies and also through detailed mapping of flood plains.

d) Using models, GIS enables the mixing of many types of data. It enables the mixing of various types of geographic data with non-spatial data, attribute data, and the use of this information as relevant information at various stages of disaster management.

e) During the disaster mitigation stage, GIS is used in managing the huge levels of data required for vulnerability and hazard assessment.

f) In the disaster relief phase, GIS, in combination with GPS, is extremely useful in search and rescue operations in areas that have been devastated.

g) In the disaster rehabilitation stage, GIS is used to organize the damage information and post-disaster census information and in the evaluation of sites for reconstruction.

h) Improved coordination and cooperation among disaster management stakeholders is required, since it will create a platform and a team to implement effective disaster management policies and actions.

i) National Database for Emergency management (NDEM) user-friendly interface helps to access the landslide susceptibility maps for studying the hazard zonation maps. Geospatial Technologies for Flood management

j) To identify alternative flood management options to decrease vulnerability of areas there is a need to study vulnerability framework.

k) A four component vulnerability framework was discussed consists of threshold capacity, coping capacity, recovery capacity and adaptive capacity.

l) Emergency plans and improved risk communication are possible coping capacity increasing measures.

m) Insuring flood risks or setting up disaster compensation funds could increase recovery capacity in flood risk management.

Prediction & spread of COVID-19 among the North Eastern States in collaboration with Dept of Geography & RM, Aizawl. Central University of Mizoram, 7 September 2021

Key Takeaway/Recommendations



a) Mathematical modeling can be used to understand how a virus spreads within a population.

b) The essence of mathematical modeling lies in writing down a set of mathematical equations that mimic reality which are then solved for certain values of the parameters within the equations.

c) Mathematical modeling is a powerful tool for understanding transmission of Covid-19 and exploring different scenarios.

d) There is a need for more models that answer complementary sub-questions that can piece together the equations and facilitate halting of COVID- 19 spread.

e) Modeling tool can be seen as an optimal strategy of control that helps the authorities in developing countries to bring the situation under control with minimal costs.

f) The lack of effective treatment and vaccines against COVID-19 and the limited medical resources are all factors that make it more difficult to control the transmission of this particular pandemic. Therefore, there is a need to consider other means of intervention such as non-medical interventions, especially in developing countries

g) Although there are very few tried and tested mathematical model to estimate the population that respects or does not respect the national closure, several limits are observed.

h) We can estimate the population at high risk in countries subject to emergency and quarantine situations in general, there are potential limitations regarding the long-term risk of COVID-19.

i) New mathematical model describing the evolution of the COVID-19 in countries subject to the state of a health emergency can be aptly considered.

j) Based on the classical compartmental models, two new compartments can be now added, representing the people who have benefited from the awareness programs and those who could not manage quarantine for their personal reasons, and hence, were called partially controlled people.

k) The solutions of the mathematical model can be refined when we use information that we already know about the virus spread, for example, available data on reported number of infections, the reported number of hospitalizations or the confirmed number of deaths due to the infection.

PM 10 Point agenda No. 8 & 9 on DRR Urban Flooding in Gurugram: Experiences and Initiatives in collaboration with Amity School of Earth and Environmental Sciences, Amity University, Haryana, 7 September 2021

Key Takeaway/Recommendations



a) Disaster management need eclectic approach and use of technology should be incorporated.

b) Many check dams in Aravalli hills are constructed by GMDA to divert the water into natural drains and lakes.

c) Formation of water reserves like in Wazirabad and restoration of many old ones like Ghatalake in and around the Gurugram region were undertaken and many are still in process.

d) Huge change in the land use and choking and disappearance of natural drain system like Badshapur drain is major cause of urban flooding in Gurugram.

e) Multiplicity of agencies working in patches also creates huge problem apart from the private ownership of the drainage land at many places.

f) Govt. initiatives taken up shows how development plans for next twenty years is covering the need of comprehensive drainage plan and formation of green belt to help in filtration, water recharging, less runoff and over dependency on drains.

g) Community participation is the key to achieve success over urban flooding.

h) The poor planning with fast development and negligence towards traditional civilization approach adopted at current times which increases the vulnerability.

i) Not only urban areas but now small towns are facing these issues and the climate change impact is inevitable hence we need to be prepared and understand our vulnerabilities.

PM 10 Point Agenda No. 1, 8 and 9: SDG: 3&4 Reopening of Educational Institutions: Ensuring Safety of Students, 8 September 2021

Key Takeaway/Recommendations



a) Physical distancing of at least 6 feet to be followed as far as feasible.

b) Use of face covers/masks to be made mandatory.

c) Frequent hand washing with soap (for at least 40-60 seconds) even when hands are not visibly dirty. Use of alcohol-based hand sanitizers (for at least 20 seconds) can be done wherever feasible.

d) Respiratory etiquettes to be strictly followed. This involves strict practice of covering one's mouth and nose while coughing/sneezing with a tissue/handkerchief/flexed elbow and disposing of used tissues properly.

e) Self-monitoring of health by all and reporting any illness at the earliest.

f) Spitting shall be strictly prohibited.

g) Installation & use of Aarogya Setu App shall be advised wherever feasible.

Natural Resources and Environment Management in Rural areas in current Pandemic in collaboration with Foundation of Ecological Security (FES), Udaipur, Rajasthan, 10 September 2021

Key Takeaway/Recommendations

a) Natural Resource Management can help provide an in-depth analysis of important aspects concerning the communities living in the most disaster prone rural areas in order to mainstream them about programmatic actions and type of appropriate support for common property resources (CPRs) and Natural Resource Management to tackle future emergencies



b) Common Property Resources (CPRs) refer to all such resources which are accessible to the whole community and to which no individual has exclusive property rights.

c) The rights and practices determining the access to these resources are generally Conventional

d) Common Property Resources (CPRs) aims at assessing their role in the life and economy of the rural people. Use of common property resources in India has drawn the attention of planners and policy-makers dealing with wasteland development, antipoverty programmes and environmental problems

e) The framework for rural livelihood analysis is gaining ground rapidly as a 'new' approach to rural poverty alleviation or reduction in low income economies

f) Common property resources (CPRs) are regarded as an important resource base for the rural economy in many of the developing and underdeveloped countries till today because of their significant economic contributions to the sustenance of rural livelihood

g) Common property resources CPRs played a very important role in the economy of the surveyed villages although the consumption value from community forest was higher for the non-poor households, the poor households' dependency on community forest was very important and crucial for their survival. Hence, there is urgent need to form sustainable management of CPRs, particularly the forests in order to avoid 'the tragedy of commons' and mega disasters such as the current pandemic.

PM 10 Point Agenda No. 1 on DRR Building Resilience: Traditional Culture and Arts organized by NIDM, 10 September 2021

Key Takeaway/Recommendations



a) The preservation of general history, culture, language and food.

b) Discussion on tremendous boom in vehicles, abandonment of traditional agricultural practices.

c) To leverage the power of heritage to protect heritage and build resilience demonstrated by local and national governments and local communities.

d) The advent of modernization and the rapid development of the physical structure of Ladakh has led to the neglect of old

structures like stupas, monasteries, mosques, traditional arts and architecture, lhatos, forts, rock carvings etc.

e) To discuss about changing weather patterns in the Himalayas have brought more summer. Building Resilience: Traditional Culture and Arts rains.

f) To promoting research, capacity building and, most importantly, aligning heritage needs in disaster risk reduction policies and plans at the national and local level, and vice versa to provide data on heritage vulnerabilities and risks.

Earthquake Risk Mitigation: Challenges and Opportunities in collaboration with All India Disaster Mitigation Institute, Gujarat, 10 September 2021

Key Takeaway/Recommendations

a) Preparedness is the key for earthquake risk mitigation. There is a preponderance of scientific studies and scientific journals that point to the fact that India may be in for a very big earthquake, so it's always better to be prepared, especially the Himalayan region where so many earthquakes have already happened in the past.

b) There are tools present at the moment for urban planners, architects and decision makers to make India more resilient when it comes to seismic hazards.

c) We have to leverage science and technology to make risks sensitive decisions when it comes to planning. This is important to boost our strategies for earthquake risk mitigation.

d) There can be a combination of hard as well as soft approaches when it comes to earthquake risk mitigation. Hard approach can include retrofitting or adopting resilient building codes. Soft measures can include comprehensive and inclusive risk assessments of a seismic hazard. Mock drills are also something that is classified under the soft approaches.



e) Aligning the SDGs and resilient urban planning in India also is an opportunity for earthquake risk reduction.

f) The first step towards earthquake risk mitigation is to understanding the risk. We should be aware of our exposure to the degree of vulnerability and our capacity to deal with the impending risks and subsequently we need to strength our policies regulation beside the capacities of communities/ relevant stakeholders to enhance our resilience against disaster like earthquakes.

g) An earthquake happening at a place where there is no preparedness will become a disaster, whereas, the same happening in a place where there's a lot of preparedness, where the buildings and all the entire built environment have been built as per all the codes they have low risks.

PM 10 Point Agenda No. 1 on DRR Safety Audit for Chemical Industries Key Issues for Guidelines organized by NIDM, 13 September 2021

Key Takeaway/Recommendations



a) The selection of safety auditors is done through a committee. A detailed system has been formulated with three weeks of training provided only people with sufficient experience in the field. This includes report preparations, field visits, protocols, understanding of standard and statutes, etc. After the examination at the end, only the qualified ones are approved as the safety auditors.

b) After the relaxation in COVID-19 lockdown norms, various chemical accidents in the industries have happened. Such incidents have highlighted that the follow-ups and corrections of the audit findings are lacking. This also implies that the audits should not be done as only the check-box activity, but more and more attention is to be paid on the implementation of the recommendations and findings from the previous audits. The lessons from one chemical disaster should become the preventive measures to adopt by other industries.

c) In-depth safety audit must be carried out by trained professionals and the corrective actions recommended by them should be implemented in a time bound manner.

d) When it comes to the design of the plant, vessels and containers used in chemical industries and parameters of the chemicals to be maintained, the factor of safety escalates by 4-5 times.

e) Regular safety audit as well as the inspection of every single area of the premises is required to be done under the supervision of the competent authorities. In addition, regular hazard and risk analysis study is to be done on a regular basis.

f) The example of ERDMP certification system of Ministry of Petroleum and Natural Gas was quoted in which it is made sure that the recommendations and suggestions of the previous safety audits are being implemented in the next audit.

g) The gap between two consequent audits can be further minimized by taking the entire procedure online so that the recommendations enumerated during the audits are available for the next audit. In this way, if a new safety auditor is being appointed, he will be well-versed with the points of previous audits.

New Normal Life Style and Youth in Disaster Management in Collaboration with Shri Balaji College of Physiotherapy, Bharat Institute of Higher Education and Research, Chennai, 14 September 2021

Key Takeaway/Recommendations

a) In the short-term, governments should continue strengthening public health and health system capacity, especially the early detection and targeted response to asymptomatic transmission among younger populations

b) Capitalizing on COVID-19 enhancements to surveillance, lab, risk communications and other core capacities is imperative.

c) Back casting to identify gaps and steer resources to future health needs like genetic sequencing and contact tracing with Information Technology is being implemented.

d) It is now proven that the virus pose worrying risks, particularly to vulnerable and disadvantaged groups: older people, people with chronic conditions and/or disabilities, people living in populous urban areas or under-served rural areas and others who are marginalized and have limited access to information and services.

e) Building on COVID-19 innovations to accelerate recovery and address other pressing health problems must be ensured as a strategy for better preparedness.

f) One key lesson learned from this pandemic is that clear, caring, inclusive and regular communication from authorities contributes to public trust in the government's response, which leads to improved understanding of individual responsibility and, subsequently, a greater willingness to adopt infection prevention practices as part of "the new normal".



Gender and Covid-19 Pandemic in Kerala in collaboration with SN College, Kollam, Kerala, 14 September 2021

Key Takeaway/Recommendations

a) Women are more affected by the disaster because of the lack of exploration, untrained unknowledgeable to handle the circumstance. As disasters are similar to all then too women are more affected.

b) Women's responsibilities are also considered the reason for their death as the victims are not able to escape themselves while disasters took place.

c) Majority of domestic violence are faced by women rather than men, all over the world women could reach out to the counselors while in India is not possible so. Especially transgender are omitted out of the facilities.

d) There is need to integrate gender perspective into all disaster risk management policies, plans and decision making process.

e) Informal sector laborers or workers are not accessible to many facilities which normally required. India has major labour force where female's contribution is much lower as compared to men.

f) Increase in number of child marriages in the pandemic was due to School closer and even male child forced to child labour.



g) Marginalization experienced by the domestic workers, especially in the pandemic scenario is difficult to avoid and need to be addressed through short-term and long-term measures.

h) The short-term measures for social protection of the women domestic workers should include distribution of temporary compensations such as food vouchers, PDS ration and cash transfers for a long time.

i) Mechanisms should be developed to ensure temporary relief or provision of extended time to pay Rent and utility bills.

j) Long-term policy measures should be designed with focus on interventions for ensuring social security and welfare of the women workers.

k) Budgeting for informal sector welfare should be gender sensitive considering the large majority of women workforce in the informal sector.

l) Informal contracts, irregular labour, exploitative and undefined wage and working conditions as well as policy and legal loopholes aggravate the social and economic insecurity of the women workers.

Disaster Management in Agriculture Sector organized by NIDM, 14 September 2021

Key Takeaway/Recommendations



a) Through systematic efforts to analyze and manage the causal factors of disaster/problem, the risks can be reduced.

b) Respiratory infections caused by wheat threshing near residential areas are on the rise.

c) Safe and effective use of pesticides, including biopesticides, through aerial and ground spraying is necessary to reduce the propagation and prevent locusts spread to new areas.

d) Never allow disable person or patient to run the thresher machine.

e) A rotavator a powered machine that uses rotating blades to prepare the land needs to be handled very carefully to avoid disaster.

f) IIT Kharagpur developed an artificial intelligence-driven 'Farm Surveillance-Cum Animal Scarer" to scare animals for field crops. It is computerized sensor based electronic device, with a night-vision camera and works round the clock for blue bulls and other stray animals. Installed in fields, the device blares a siren and sends alert calls and messages over the cell phones of farmers as soon as an animal is spotted intruding within its range.

g) Greenhouse-gas emissions at the global level are raising the CO_2 content in the atmosphere, raising the global temperature due to greenhouse effect. However, landmasses have witnessed a higher increase in temperature than oceans.

h) Due to green house gas emissions, nitrous oxide gas emissions, deforestation etc, there is rise in severity in agriculture yield, soil moisture, it's nutrient, aquatic life etc.

Health Adaptation and Resilience: Advancing Strategies Knowledge and Capacities Outcome Dissemination and Future Strategy workshop organized by NIDM, 15 September 2021

Key Takeaway/Recommendations



a) Climate change needs urgent action for building the resilience of the health system.

b) Integration of environment and health management focusing on climate change adaptation is important.

c) Climate adaptation at local level needs an integrated plan for health adaptation, climate action and disaster management.

d) Climate smart community healthcare centre could be set up as pilot to test out health adaptation actions.

e) ASHA workers can be used to spread awareness locally on climate related initiatives.

f) Need of research for coming up with new initiatives and technologies to take the climate smart agenda forward more sustainably and effectively.

g) Climate indexes can be developed to measure health impacts of specific climate extremes.

h) Climate change lens needs to be applied to health and sustainable development.

DRR Climate Change and Child Health, 15 September 2021

Key Takeaway/Recommendations

a) Improving the Health conditions of the child who is suffering from various diseases.

b) Maintaining of proper hygiene for the new born children and keep them away from the disease causing areas.

c) Providing awareness among them and help them to understand the importance of the climate and its change and how it can Effect the normal living.



d) Mental health is also to be improved for the Children affected by the climate change.

e) Involving them in the activities like planting trees and explain them how it can help the air quality and control the change of the climate.

f) Role of the NSS and NCC will be very useful to provide information to the child and the Mother.

g) Role of the school staff will be very crucial in informing them the proper information through various activities and various plays.

h) Partnership of the stake holders, Local and the State Governments is very important.

Emerging Materials for Sustainable Construction, 15 September 2021

Key Takeaway/Recommendations



a) It is important to understand the role of safer construction and use of modern materials for sustainable development as well as for safekeeping of our developmental gains.

b) The need of hour is to make our infrastructure sustainable and put the use of cost effective materials.

c) It is the duty of the engineers to work with the people to merge both safety and comfort.

d) Coir as mat or fibre can be used as geo-textiles in various erosion control and rural road practices as sub surface layer.

e) Coir is more durable than Jute fibre which is mainly used as coir woven in geo-textiles. The strength after using time is better 20-30% than jute.

f) Concrete itself is not sustainable but can be put to reuse and recycle under proper research and safety checks.

g) 23.75 million ton construction and demolition waste is generated by India every year which is huge and should be reused.

h) Concrete is extremely affordable construction material and need to be recycled as aggregate or geo-polymer concrete.

Lessons Learnt from 2014 Floods, 15 September 2021

Key Takeaway/Recommendations



a) After 2014 Kashmir flood it was clear that better understanding of flood risk and vulnerabilities were needed to be studied.

b) Better understanding of flood risk vulnerability is needed.

c) Administration should consider the genuine demands of the Engineering fraternity, particularly power engineers for their Assured Career Progression, (ACP) regularization and other genuine demands.

d) After 2014 September flood three member core group was constituted for in depth studies of causes and remedial measures to mitigate the future flood threat.

e) Carrying capacity post PMDP was increased for River Jhelum at Sangam, Ram Munshibagh, Sopore and at flood spill channel at Padhshahibagh and Wullar.

f) An android app "Kashmir Flood Alert" has been launched to keep local people aware of the water level updates at 14 key sites along the length of Jhelum.

g) Wetlands in S, SW, W and NW have been acting as flood retention basins protecting the city in the past, urbanization in the aftermath of Master Plan 1971-91 made city more vulnerable to natural disasters.

h) Long term recovery measures under JTFR Project has already initiated river morphology, flood mitigation, comprehensive river management measures for Jhelum basin including preparation of DPR.

Disaster Risk Reduction & Resilience for IWAI in collaboration with Inland Waterways authority of India, Ministry of Shipping, UP, 16 September 2021

Key Takeaway/Recommendations



a) There is a need to develop disaster management plan in accordance with NDMP

b) Mainstreaming DRR&R strategies in all development activities of the sector.

c) Strengthens site specific strategies for disaster preparedness, prevention and mitigation.

d) There are needs to improve community pre-planning for tsunami hazard.

e) Encourages a consistent and sustainable approach for tsunami hazard management.

f) Make use of existing community preparedness programme of activity. Not necessary creating a new programme.

g) There is need to enhance the capacity of the stakeholders.

h) Practice disaster prevention during normal period for effective management of any impending crisis.

i) Proper training should be given to the masters and crews so that they can handle emergency situations. Skilled maritime professionals should be made to improve the maritime sector.

j) Collision accidents can be avoided by improving the adequate lighting facilities, increasing horn and whistling facilities, creating awareness among masters and crews and avoiding foggy weather conditions.

Employability skills among girls and women During COVID, 16 September 2021

Key Takeaway/Recommendations



a) Employability skills need to be in adherence to competition in the market.

b) The competitiveness has shifted during COVID.

c) NIDM can collaborate on projects related to 'project management' in order to increase employability among girls and women

d) Women Empowerment is not merely a slogan but a prerequisite for an optimal capacity for overall development of a family, society, nation and a sustainable world.

e) Traditionally being a patriarchal society, women have secondary role to play in every household in India –secondary employers.

f) The issues related to welfare of women have always been a priority among policy makers since independence, though the path has witnessed repositioning with time and as per the requirement from the Fifth Five Year Plan (1974-78) onwards, there has been a remarkable shift in the approach to women's issues from welfare to development.

g) Women need to Identify the USP of their product / service/ skill set.

h) Use Social media to spread information about your product.

Safeguarding Child Rights during COVID-19 in collaboration with Chanakya National Law University Patna, Bihar, 17 September 2021

Key Takeaway/Recommendations



a) The government should provide clear protocols to prevent/reduce family separation and other forms of child protection risks.

b) There is a need to reduce stigma and social exclusion that may result from the disease;

c) Experts emphasis on clear, coordinated, child-friendly community messaging on children's unique risks and vulnerabilities.

d) The action should be taken to provide targeted support to interim care centres and families, including child-headed households and foster families, to emotionally support children and engage in appropriate self-care.

e) Experts stressed on providing financial and material assistance to families whose income-generating opportunities have been affected.

f) Encourage and create safe opportunities to support routine contact between children and family members who are physically separated.

g) There is a need to work with other sectoral actors, including governments, to put in place measures to prevent child-family separation.

h) There is a need to focus on strengthening capacity of systems to prevent separation, engage in family tracing and reunification, and provide family-based alternative care for UASC.

PM 10 Point Agenda No. 2 on DRR Community Based Disaster Risk Management in Collaboration with District Disaster Management Authority DC Office, Dhalpur, Kullu, Himachal Pradesh DC Office, Dhalpur, Kullu, Himachal Pradesh, 17 September 2021

Key Takeaway/Recommendations

a) Community awareness is the key to lessen the impact of disaster. Hence efforts in this regard to be enhanced.

b) Mock drills must be performed with participation of the community focused on hill related disasters.

c) A coordinated and earnest effort on the part of stakeholders is needed to identify areas where this problem is gaining frequency and to address this.

d) Capacity building programs must be undertaken with the involvement of community.

e) Life Saving tool must be introduced to the community for providing first aid during the golden hour

f) Community must be made aware, trained and subsequently utilized during nontechnical activities for better coordination.

g) Local knowledge of terrain available with community must be put to use during pre and post disaster activities.

h) Special awareness drive for basic Dos and Don'ts of hill related disasters such as landslides, flash-floods, etc. must be undertaken for the community.



Disaster Risk Reduction & Resilience for Inland Water Transport Sector in collaboration with Inland Waterways authority of India, Ministry of Shipping, UP, 17 September 2021

Key Takeaway/Recommendations

a) There is a need to develop disaster management plan in accordance with NDMP Mainstreaming DRR&R strategies in all development activities of the sector.

b) Strengthens site specific strategies for disaster preparedness, prevention and mitigation.

c) There are needs to improve community pre-planning for tsunami hazard.

d) Encourages a consistent and sustainable approach for tsunami hazard management.

e) Make use of existing community preparedness programme of activity. Not necessary creating a new programme.



f) Practice disaster prevention during normal period for effective management of any impending crisis.

g) Proper training should be given to the masters and crews so that they can handle emergency situations. Skilled maritime professionals should be made to improve the maritime sector.

h) Collision accidents can be avoided by improving the adequate lighting facilities, increasing horn and whistling facilities, creating awareness among masters and crews and avoiding foggy weather conditions.

i) Effective accident investigations should be conducted so that the actual reason can be determined and necessary steps can be taken for improvement.

j) Mass awareness should be created among the people. All the passengers on board should be able to use the life-saving equipment during emergency situations. In this regard, the government should provide coverage of some awareness videos through the media.

PM 10 Point Agenda No. 2 on DRR Community Based Disaster Risk Management in collaboration with Pondicherry University, 17 September 2021

Key Takeaway/Recommendations



a) Community awareness is the key to avert the impact of lightning. Hence efforts need to be enhanced in this area.

b) Technological intervention such as Damini app must be strengthened so as to provide a considerable time for community to take appropriate action of safety.

c) A coordinated and earnest effort on the part of stakeholders is needed to identify areas where this problem is gaining frequency and to address this.

d) Community capacity must be strengthened not only to withstand the impact of disasters but also to assist the agencies to respond to disasters.

e) Training to the community teams with respect to activities they are supposed to perform for mitigation of disasters and other post disaster activities must be undertaken by authorities.

f) Mock drills must be performed with participation of community teams.

g) Safety audits pertaining to risk must be conducted with teams comprising of concerned community.

h) Best practices undertaken by various community organizations or individuals must be acknowledged and documented by authorities.

i) Community organizations must be encouraged to undertake various innovative methods to mitigate and prepare for disasters.

j) Use of technology and social media with respect to constructive practices pertaining to preparedness must be inculcated and encouraged within the community.

Building Community Resilience in the Context of Disasters in Assam in collaboration with Lutheran World Service India Trust, Assam Unit, 17 September 2021

Key Takeaway/Recommendations



a) Develop a vulnerability assessment team that is representative of the community;

b) Identify, inventory and map likely disaster threats;

c) Identify, inventory and map physically vulnerable populations and facilities;

d) Identify, inventory and map socially vulnerable populations;

e) Seek and integrate community input.

f) Present final result to the community.

g) Incorporate into comprehensive plans, land use plan, emergency management plans.

h) Ensure the proper implementation of the guidelines at ground level.

i) Special focus on the subject of long term recovery for the support of affected persons for their livelihood, education, ecology, health etc.

Covid-19 Pandemic: Assessment of informal and labour markets in collaboration with SN College, Chenganur, Kerala, 20 September 2021

Key Takeaway/Recommendations

a) There are considerable short- and long-term implications of the pandemic for informal employment and the informal economy.

b) The closure of workplaces due to covid-19 impacted most workers, especially those who lack a job or income security, specifically focusing on those in the informal economy.



c) The first lockdown measures directly affected 104 million informal workers.

d) As per the study conducted by International Labor organization, the estimated share of informal employment directly impacted by the first and the second lockdown periods represented 89.5 and 88 per cent of the total employment, respectively.

e) Women and girls are particularly disadvantaged during the crisis due to unequal structures, power relations and social norms that prevent them from accessing basic services, including healthcare and education, and participating in decision-making processes.

f) The pandemic has adverse effects on many women and girls who have limited access to healthcare services due to the unequal allocation of resources and priorities.

g) The COVID-19 outbreak has exacerbated the gendered impacts of the crisis by increasing women's economic and social insecurity, unpaid care work, and domestic violence while cutting women off from social and institutional support.

Needs for Geographical Planning for Making Cities Resilient organized by NIDM, 20 September 2021

Key Takeaway/Recommendations

a) Need to understand what exactly resilience mean in the urban context and redefine the definition of resilience.

b) Key pipeline projects need to be carried out even after the change in governance. This requires 'institutional memory.'



c) Enhancing the role of municipalities which is only limited to the maintenance of infrastructure and not on planning, anticipating problems and taking remedial actions beforehand.

d) Role of individuals in fulfilling responsibilities rather than the government taking full responsibility.

e) Bring informal knowledge into planning processes. Include 'Barefoot Planners' into the Planning process.

f) Look Back to look forward.

g) The purpose of the 74th amendment act was the empowerment of municipal authorities and work needs to be done in this direction.

h) Principle of subsidiary' means how to devolve responsibilities and how can we internalize responsibilities.

i) Stakeholders mapping and identification of key entry points in the governance framework for DRR.

Where are we now-The Sendia Framework for Disaster Risk Reduction after five years in collaboration with Assam State Disaster Management Authority, 21 September 2021

Key Takeaway/Recommendations



a) The revaluation of data is a critical component of any policy or plan.

b) Assam's GIS mapping of utilities and infrastructure has aided the state in catastrophe monitoring.

c) To improve catastrophe risk management, Assam has taken a number of steps including developing standard operating procedures, manuals, rules, and policies, drafting disaster management plans at the state, district, and department levels, developing an Assam DRR roadmap with UNICEF, establishing a DM cell in 16 major departments with dedicated HR, strengthening the techno-legal framework, and developing a river Atlas of Assam with NESAC.

d) ASDMA designated several communities as model flood villages in order to reduce disaster risk; the organisation identified the state's most susceptible villages as part of a World Bank project.

e) Overlapping of Sustainable Development Goals and the Sendai Framework Targets.

f) Changes in rainfall patterns, river trans-boundary concerns, increasing silt load, and decreasing river carrying capacity are all major challenges facing governments

PM's 10 Point Agenda No. 1 on DRR Ar6 Climate Change 2021- The Physical Science Basis (UN's IPCC Report 2021) Challenges of Resilient Development & Disaster Risk organized by NIDM, 21 September 2021

Key Takeaway/Recommendations



a) Human influence has warmed the climate at a rate that is unprecedented in at least the last 2000 years.

b) Climate change is already affecting every region on earth, in multiple ways. The changes we experience will increase with further warming.

c) With every increment of global warming, changes get larger in regional mean temperature, precipitation and soil moisture.

d) Human activities affect all the major climate system components, with some responding over decades and others over centuries.

e) A growing number of Renewable Energy technologies have

achieved a level of maturity to enable deployment at significant scale.

f) Combining bioenergy with CCS (BECCS) offers the prospect of energy supply with large-scale net negative emissions, which plays an important role in low-stabilization scenarios.

g) India stands at 4th position in the world in terms of installed RE capacity, 5th in solar and 4th in wind in terms of installed capacity.

h) India has also enhanced its ambition to install 450 GW of renewable energy capacity by 2030. If large hydro is included the installed RE capacity increases to 146 GW.

Prime Minister's 10 Point agenda No. 1 on DRR Social and Governance issues in mountains in collaboration with Aaranayak, 21 September 2021

Key Takeaway/Recommendations



a) Strengthening of knowledge about the ecology and sustainable development of mountain ecosystems and more research and monitoring to identify knowledge gaps, needs, and constraints

b) The main man-induced activities which have accelerated ecological degradation and threatened the equilibrium of Himalayan mountain ecosystems are stated as: unplanned land use, cultivation on steep slopes, overgrazing, major engineering activities, over-exploitation of village or community forests, lopping of broad leaved plant species, shifting cultivation (short cycle) in north-east India, tourism and recreation

c) Capacity development for mountain populations and minorities to counteract marginalization

d) Maintenance and development of cultural diversity

e) Population pressure and migration are major factors responsible for poverty in the hills.

f) Holistic and interdisciplinary management schemes for environmental conservation and sustainable development

g) Dissemination of more realistic and accurate information through the mass media

h) Greater attention to urban aspects of mountain issues

i) Empowerment of local communities, especially women

j) More attention to conflicts and resulting destruction of mountain ecosystems and livelihoods

k) Promoting integrated watershed development and opportunities for alternative livelihoods.

Disaster Mitigation and Preparedness for Retail Outlets in collaboration with Reliance Retail Maharashtra, 22 September 2021

Key Takeaway/Recommendations

a) We need to follow and advocate local safe building codes for earthquake resilient construction, upgrade poorly built structures.

b) We must have a plan and preparation for emergency situations and we have to identify medical centers, fire fighting stations beforehand.

c) The electric and water shut off locations needs to be placed at a safer location.

d) We need to well verse with the emergency response and evacuation plans for our area and we must develop our own emergency plan for our family or business.

e) A construction of building for residence or business needs to be avoided in steep slopes, close to mountain edges, near drainage ways, or natural erosions valleys.

f) Enhance the capability to respond to cyclone manifold must be carried out.

g) Adoption of traditional and global best practices and technologies needs to be learned and adopted as much as possible



h) There is a need to have a compulsory discussion to address the gaps and challenges in disseminating the information to the last person in the society.

i) Disaster recovery planning can be costly, so we need to be sure to confer with the appropriate members of team to determine resources.

Challenges of DRR & Climate Change: Knowledge from Lap to the People in collaboration with Central University of Rajasthan, 23 September 2021

Key Takeaway/Recommendations

a) Climate change is expanding with each passing day, there is nothing much we can do to sustain it.

b) By analyzing and understanding some phenomenon like extreme weather events, we can march a step closer to disaster management.

c) India lost almost 30% of its land to desertification.

d) The average global surface temperature has risen, and in last five years from 2015 to 2019—are the warmest years ever recorded in the 139 years.

e) The rate of ice melt in the Himalayas has doubled since the year 2000.

f) Use of renewable energy and saving earth with changing climate should be emphasized.

g) When we are making huge investment in high-risk area, science may provide good information about the risk zone areas.



Understanding and Mitigation Disaster Risk in Himachal Pradesh in collaboration with HPSDMA, Himachal Pradesh, 23 September 2021

Key Takeaway/Recommendations

a) Awareness and education for disaster mitigation and preparedness should be encouraged in the community level.

b) Necessary training and IEC materials for disaster specialists and capacity building in communities should be developed to build the local capacities.

c) The development of increased public awareness about hazards and the understanding of disaster risks are vital elements in any comprehensive strategy for disaster reduction.

d) Public awareness should be conducted through all possible means, such as through the use of media and other official, public, professional and commercial means, at all levels of society.

e) As it is the community which is going to face the hazards and its detrimental impacts, it is very important that community should be part of the complete disaster management process in all three phases- pre, during, post.



f) Community knows its environment better than outside agencies. Many times, senior citizens are aware of incidences that have happened in the past, which others may not be aware of. One just needs to make community aware, and provide necessary inputs to identify hazards and risks.

g) As Himachal is very prone to landslides, it is imperative to re-visit the various policy approaches and funding for landslide risk mapping, and feature good case studies of work done with communities to reduce landslide risk in hilly regions.

h) Strong government support, implementation of regulation and public outreach provide the key to Himachal Pradesh's landslide risk reduction. Such measures can be very powerful in India, given that there is growing momentum in disaster management and disaster risk reduction in the country.

Exploring Educational and Career Opportunities in the field of Disaster Management for Young Minds in collaboration with Confederation of Risk Reduction Professionals (CRRP), 23 September 2021

Key Takeaway/Recommendations

a) Identification and measuring disaster risk.

b) Education and knowledge development.

c) Informing people about their risk (awareness raising).

d) Incorporating DRM into national planning and investment.

e) Strengthening institutional and legislative arrangements.

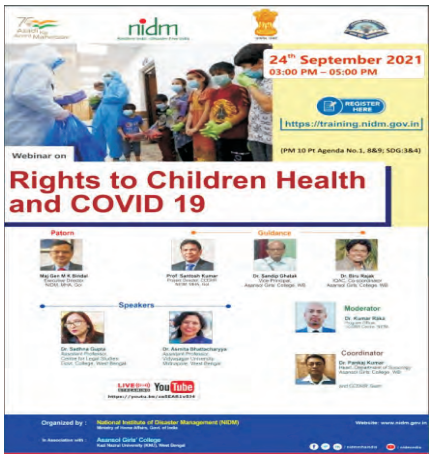
f) Providing financial protection for people and businesses at risk (finance and contingency planning).

g) Integrating DRR across multiple sectors, including health, environment, etc.



Rights to Children Health & Covid-19, 24 September 2021

Key Takeaway/Recommendations



a) It is importance of socio-emotional learning for the holistic development of children.

b) Schools in India are not just a source of education but also provide access to health, hygiene, immunization, and nutritional safety nets.

c) The action need to be taken to provide nutritious food to millions of Indian children for increasing student's enrolment and attendance in school.

d) Universalization of digital facilities to ensure access to online education for all children

e) There is need to focus on emotional reintegration of children when back to school.

f) The action should be taken for adoption of an inclusive and Gender sensitive curriculum in schools for gender equality & SDG Goal 10: Reducing Inequalities)

g) The action should be taken for minimising the effects of the pandemic and emphasised implementation of preventive measures for fulfilment of the Sustainable Development Goals and ensuring the full enjoyment of the rights of the child.

h) The state parties to ensure that the children's voices should be he heard and taken seriously in all processes and decisions affecting their interests.

PM 10 Agenda on DRR no. 2 Disaster Risk Financing Through Insurance - Disaster and Insurance Awareness - Monthly Online Webinar (DIA-MOW) in collaboration with Insurance Institute of India, Maharashtra, 24 September 2021

Key Takeaway/Recommendations



a) If there are a big number of buyers, a low premium can be attained via risk pooling, resulting in a cheaper insurance premium. The insurance premium value will be greater in one district pilot project due to a lesser spread.

b) The microfinance system was brought up several times throughout the discussion as a possible solution to agricultural losses.

c) In order to make better use of insurance goods, the general public has to be educated about financial education.

d) Risk transfer to insurance is significant because it may aid in the accurate evaluation of risk in a specific location.

e) Insurance is a disaster-focused solution with a number of benefits in addition to risk reduction. Many policies cover both direct and indirect damages, and the insurance covers a large geographic region with sufficient catastrophic coverage and coverage amounts.

f) Risk transfer to insurance is significant because it may aid in the accurate evaluation of risk in a specific location.

g) Understanding the various insurance products as well as the relationship between insurance and catastrophic risk finance is crucial.

h) In addition to risk minimization, insurance is a disaster-focused solution with a number of advantages. Many plans cover both direct and indirect damages, and the insurance covers a wide geographic area with enough catastrophe coverage and sum covered.

National Agriculture Disaster Management Plan (NADMP): Release Workshop, 24 September 2021

Key Takeaway/Recommendations

a) Frequency and intensity of disaster are increasing every year and therefore India needs a proper management plan. Like Ministry of Agriculture and Farmers' Welfare, other Ministries/ Departments need to prepare its own Disaster Management Plan.

b) There are many metrological disasters mentioned in the NADMP and IMD has been made responsible for monitoring, forecasting and early warning for such disasters. Such type of information will enable and help the authorities to evacuate or to take up actions when any such disasters happen.

c) Regarding earthquake and Tsunami, IMD is trying to augment a system by putting more radar so that the entire country can be scanned and high resolution images are available.

d) The NADMP has come up well in defining that what department has to take up preparedness measures, defining the roles and responsibilities at central and state level.

e) This is just a start and a framework and needs a lot of things in this to make it operational and to develop capacity of different departments and their officials to imbibe the spirit of disaster management.

f) This document has provided a clear cut quantitative targets for short term, medium term and long term as 2023, 2027 and 2030 which is quiet ambitious.

g) India is a front runner in terms of having robust act and policy which is now in the form of action plan for disaster risk reduction. Therefore, a small brief enlisting the meteorological framework for disaster risk reduction and reach out to regional countries or SAARC countries to share with them the experiences.

h) Global framework for climate services by World Meteorological Organization focuses on five areas namely health, water, agriculture, DRR and energy. Out of these five two important pillars i.e., agriculture and DRR are part of these NADMP. So NADMP is a very important document which contains different planning aspects from central to district level.



PM 10 Point Agenda No. 1 on DRR Ar6 Climate Change 2021- The Physical Science Basis (UN's IPCC Report 2021 Climate Change: Code Red for Humanity organized by NIDM, 24 September 2021

Key Takeaway/Recommendations



a) There is a strong requirement for a fragile Himalayan context of policy making.

b) Promotion of green economy and green activities needs to be done holistically.

c) Low volume and high value activities should be promoted to mitigate the impact of climate change.

d) Institutional plans may be more granular which can reach up to the bottom.

e) Climate Smart strategy for smart activities may be adopted to take the initiatives in building resilient community.

f) Unless the community is involved in the initiatives, it will not have any impact.

g) Need to accept the uncertainty of natural sinks and CDR Technologies.

h) Centralised development should be well balanced with decentralised to limit the ecosystem footprint.

PM 10 Point Agenda No. 1 on DRR New Insights for Drought Proofing and Futureristic Food Security organized by NIDM, 25 September 2021

Key Takeaway/Recommendations



a) At present time we should talk about the post SDG condition where we are going to face the new challenges and solve them with new technologies.

b) A drastic modification is required in the journey and monitoring of SDG by 2025, as we are going to face a disruptive change in society by 2025.

c) Detailed research and policy advocacy is required for emerging urban drought.

d) Synergies among all this efforts could be very effective in achieving the common goals better. Collective actions are therefore imperative and this can be actualized through improved inter-sectoral coordination.

e) At the case of slow onset disaster like drought, long term interventions are needed through adaptation and mitigation.

f) We need to reduce the high water footprint in our agriculture system.

g) There is an immediate exigency for adaptation of different technologies and management practices available across the country.

h) Need to prioritize adaptation efforts in communities where vulnerabilities are highest.

PM 10 Point Agenda No. 2 on DRR Emergency Operations Centre in collaboration with HCMRIPA, 27 September 2021

Key Takeaway/Recommendations



a) Emergency Operations Centre (EOC), acts as the nerve centre for any response related activity and hence must be functional even at normal times.

b) EOC must be self-sustained in terms of facilities and gadgets for a certain period of time so that it can function without any break.

c) The EOC can be preferably ESF based or combination of ESF and IRS functions to enable smooth decision making.

d) EOC may also facilitate the VIP visits without hampering the onsite response.

e) EOC is an important spoke in the Incident Response System and hence must be activated when IRS is being implemented.

f) Officials who are part of EOC must have delegated authorities to take decisions pertaining to mobilization and provisioning of resources from their corresponding departments.

g) EOC must facilitate coordination within the site operation teams and also with all stakeholders.

h) EOC must function as a bridge between any external information or changing conditions and the site operation teams and hence must be updated with relevant information and prevailing rules and regulations.

i) EOC must document every operations being coordinated and facilitated at its level.

PM 10 Point Agenda No 8 & 9 on DRR Tourism for Sustainable Development and DRR, 27 September 2021

Key Takeaway/Recommendations



a) Community participation is the key to achieve success in field of tourism for inclusive growth and sustainable development.

b) There is need of risk sensitive plans to be disseminated through travel and tourism for ensuring safety of their developmental gains and the community in longer term.

c) Due to COVID-19 tourism sector got badly affected, around 70% decline was observed in tourism sector globally.

d) The distress migration was also observed due to lockdown causing loss of livelihood.

e) DRR concept need to be incorporated in tourism sector for much needed resilience in the tourism sector.

f) The concept of inclusive growth should be addressed through tourism.

g) Rural areas and the communities should benefit from tourism by concept of self help groups which should be gender-neutral making the community empowered.

h) Cross cultural knowledge dissemination through tourism can also be done and sustainability assessment and maintenance of database of community is also required.

Indoor Air Pollution and its effect on Women and Children's Health in India in collaboration with WRI India, 27 September 2021

Key Takeaway/Recommendations



a) Public awareness: One of the most important steps in prevention of indoor air pollution is education, viz., spreading awareness among people about the issue and the serious threat it poses to their health and wellbeing.

b) The education should help people in finding different ways of reducing exposures with better kitchen management and protection of children at home. People should also be educated about the use of alternative cleaner sources of energy to replace direct combustion of biomass fuel.

c) The stakeholders must include not only public, but also politicians and administrators to ensure their commitment and increase their awareness about health effects of indoor air pollution.

d) Change in pattern of fuel use: Fuel use depends on ones' habit, its availability, and most importantly, its affordability.

e) The stoves should be modified from traditional smoky and leaky cooking stoves to the ones which are fuel efficient, smokeless and have an exit (e.g., chimney) for indoor pollutants.

f) During construction of a house, importance should be given to adequate ventilation; for poorly ventilated houses, measures such as a window above the cooking stove and cross ventilation though doors should be instituted.

g) Indoor air pollution can only be controlled with coordinated and committed efforts between different sectors concerned with health, energy, environment, housing, and rural development.

Revisiting the Cyclone Risk Management during Pandemic, 27 September 2021

Key Takeaway/Recommendations



a) There is a need for call for new approaches and revision of existing contingency plans for safe evacuations.

b) Enhanced cooperation at the Regional, National and Local levels and with civil society.

c) There is a need for proactive mindset where anticipation of the consequences of the disasters, especially on the Vulnerable among vulnerable.

d) There is a need for Risk informed development planning and climate resilience in WASH systems.

e) The capacity enhancement for decentralized response at gram panchayat level is needed.

f) Focus is required on adoption of implementation & monitoring.

g) Special emphasis is required on system strengthening for sustainable impact.

h) People centric approaches should be adopted for a better result.

PM 10 Point Agenda No. 2 on DRR Disaster Management Plan (DMP) in collaboration with Integrated Centre for Disaster Management Chennai, Tamil Nadu, 27 September 2021

Key Takeaway/Recommendations



a) The approach towards disaster management should be holistic and must include all concerned.

b) Importance of planning for effective management of the emergency well accepted

c) Hazard, Vulnerability and capacity analysis is the key to any DM plan and hence must be done with due diligence and ground truthing is a must for it.

d) DM Plan is a dynamic document and hence must have provision for accommodating new ideas, emerging issues and updation.

e) DM Plan must also be prepared in tune with and in similar format as the Ward and District DM Plan.

f) Roles and responsibilities of every stakeholder must be clearly defined and provisions must be made for filling the capacity gap with the support of neighbouring areas.

g) IRS must be the base of Response Plan in every DM Plan.

h) Risk Analysis and its transfer mechanism must also be clearly defined in a DM Plan.

i) For sustainability and effectiveness of a DM Plan, involvement of community is a must.

Resilience with Green Growth: The Fuel of the Future in collaboration with University Institute of Technology, Himachal Pradesh University, Shimla, H.P., 27 September 2021

Key Takeaway/Recommendations



a) Renewable energy industry and especially the Solar and wind sector is growing in India at a fast pace with enhanced opportunity.

b) Growth is a response to climate change mitigation commitment, however, the overall growth in renewable may overachieve the commitment.

c) The residential sector is still falling short in terms of installed capacity, only about 1400MW have been set up through the central initiative and there lies a huge opportunity.

d) A novel business model especially in RESCO mode for rooftop sector is the need of the hour.

e) To continue high growth in solar PC sector with more than 10000MW/year of installation target, enhanced manufacturing capability is required.

f) With a huge target of 100GW of solar PV target, the end-of-life recycling of PV module and other BoS is also an important which requires attention.

g) India aspires to develop 175 GW of renewable energy by 2022; however the capacity target is further pushed by MNRE to 225 GW and therefore forcing further opportunities.

h) Manufacturing of many of the renewable energy technologies is necessary to support sustainable growth.

Earthquake Resilient Hospital Infrastructure, 27 September 2021

Key Takeaway/Recommendations



a) The scale of damage of a building depends upon a number of factors such as the time of the event, density of the building, type of hazard and building structural fragility. The past earthquakes exposed vulnerability of hospital buildings and its resources.

b) There is need to identify the proper location for setting up a safe hospital. Apart from structural designs of the buildings, it is very much important to understand the risk associated with non-structural elements of a building, which becomes the major cause of damage during earthquakes and building collapse.

c) For a new hospital building we need to "design it right, build it right and maintain it right" and for existing buildings- we need to "assess it, retrofit it or replace it and maintain it".

Webinar on Disaster Resilient Heritage Infrastructure, 27th September 2021

Key Takeaway/Recommendations

a) As we all know that disasters such as earthquake, flooding, tsunamis, landslides, cyclones and fires poses great risk to human development. At the same time these disasters pose great threat to the cultural heritage.

b) In the recent past, it has seen greater emphasis and commitment to protecting heritage and leveraging it for resilience. However, these initiatives need to be mainstreamed in both disaster risk reduction and heritage management. In the last decade the world has seen a series of disastrous events that impacted badly on our built and cultural heritage. Earthquakes in Iran (2012), Italy (2012), Turkey (2012), Japan (2011), New Zealand (2011), Nepal Earthquake (2015) and Haiti (2010) have caused massive devastation to the heritage.



c) Floods and storms have had devastating effects on ancient sites, notably those at Thailand's Ayutthaya World Heritage Site (2011) and India's Leh, which was devastated by an unprecedented cloudburst in August 2010. Wildfires have ravaged wildlands, including Greece (2007), Bhutan's (June 2012), and India's Dastgeer Sahib Shrine in Srinagar (2012).

d) In a country like India with rich resources of cultural and ecological heritages along is highly vulnerable to disasters. During the year 2018 and 2019 due to the floods in Kerala, many built and cultural heritage including the manuscripts, boathouses and temples got affected badly.

e) The international ecological heritage of India, the Sundarbans is repeatedly affected by the cyclones and storms in the past five years. There is a need to understand the impacts of disasters on heritage and the other challenges associated with it.

f) Heritage buildings and cities are not only important for our culture but also to take learning about the different construction techniques and materials. As from today's the expert presentations we have seen many examples of restoration process, measures which need to be adopted for restoration of heritage structures.

Natural Disasters and Their Mitigation for Sustainable Agricultural Development, 29 September 2021

Key Takeaway/Recommendations



a) Disasters destroy critical agricultural assets and infrastructure, and they cause losses in the production of crops, livestock and fisheries.

b) They can change agricultural trade flows, and cause losses in agricultural-dependent manufacturing subsectors such as the textile and food processing industries.

c) Awareness, education, preparedness, and prediction and warning systems can reduce the disruptive impacts of a natural disaster on communities.

d) Mitigation measures such as adoption of zoning, land-use practices, and building codes are needed, however, to prevent or reduce actual damage from hazards.

e) The good news major hurricanes have minimal impact on food production.

f) The bad news hurricanes greatly interfere with our ability to transport food.

g) The mitigation strategy is made up of three main required components: mitigation goals, mitigation actions, and an action plan for implementation.

h) Winds can have devastating and long-lasting effects on tree orchards because they can break limbs, defoliate leaves and fruit, or even topple trees, leading to long-term crop losses.

i) Over decades of science and practice, several key sustainable farming practices have emerged for example: Rotating crops and embracing diversity.

j) Crop diversity practices include intercropping (growing a mix of crops in the same area) and complex multi-year crop rotations.

PM 10 Point Agenda on DRR: Agenda 8 Risk Assessment and Crisis Management at Petrol Pumps in collaboration with Nayara Energy Limited, 29 September 2021

Key Takeaway/Recommendations

a) Every calamity sends out an alarm, but it often goes ignored, leaving us caught off guard in certain instances. We frequently leave some room for disasters to occur, and that space, or gap, should be filled with our knowledge, experiences, inventions, technology, techniques, and tools.

b) As the local community is the first victim as well as they also serve as first responder before any help reach them, so it is of utmost importance to impart the knowledge of disaster preparedness, prevention and mitigation to them.

c) Petrol pumps are a hotspot for flammable materials, making them extremely sensitive to igniting. Anything that can cause a fire, such as cigarettes, lighters, electronic equipment, and so on, should be avoided.

d) Employee at petrol pumps should find out what dangerous substance are present in their premises and what the fire and explosion risks are.

e) The employee in charge of the retail outlet should have completed fire safety training and be conversant with the fire emergency plan.

f) Carry out a risk assessment and record the significant findings of that assessment including the measures that have been or will be taken by the employer/responsible person to control the risk.

g) We have to give adequate fire safety training to employees especially for the newcomer as per the emergency response plan.



Mountain of the Future: Geo-Scientific and Technical Issues in collaboration with University of Kashmir, North Campus, Delina Baramulla, 29 September 2021

Key Takeaway/Recommendations

a) Technology, including both hardware and software development, gives a core contribution to almost all the sub-domains of landslide science.

b) Though there is substantial scientific uncertainty, snow and glacial melt will likely continue to be important sources of water in the region and there will be several climatologically, glaciological, and hydrological factors that control the rate, volume, and timing of snowmelt and ice melt

c) Estimates for future glacier volume and area have been scarce due to low developments in glacier hydrological models and limited to certain areas only.

d) The use of fiber reinforced polymer with organic composites for application in masonry structures is discouraged, because of their several drawbacks pertaining to diminished performance at elevated temperatures , requirement of protective coatings, degradation of mechanical properties after continuing exposures to certain environmental surrounding, relatively higher level of care and supervision required in application.



e) Overall, greenhouse gas emissions must be decreased to prevent climate change and protect threatened water sources.

f) Higher water temperatures and changes in extremes, including floods and droughts, are projected to affect water quality and exacerbate many forms of water pollution.

g) Changes in water quantity and quality due to climate change are expected to affect food availability, stability, access and utilization.

Concurrent Disaster in Uttarakhand: Management & Best Practices in collaboration with Government Degree College Chaubattakhal, (Pauri Gharwal Uttarakhand), 29 September 2021

Key Takeaway/Recommendations

a) Uttarakhand state is highly vulnerable to multi-hazards viz. earthquake, landslides, flash-floods, avalanches, Dam Burst, drought, but particularly Earthquake, as the state falls in the highest seismic risk zones of the country i.e. Zone V and IV.



b) In case of Uttarakhand (2013 Floods), the devastation and consequent collapse cannot be attributed to 'Act of God' alone. Political apathy, economic imprudence and poor environment management played an important role.

c) These were further amplified by the inadequate state of preparedness, mitigation and response of various disaster management agencies during the crisis.

d) Leisure, adventure, and religious tourism play a prominent role in Uttarakhand's economy. The unplanned development at certain scenic or religious spots, coupled with inadequate management planning, increase in traffic and pollution has not only had a severe and negative impact on the environment but also exponentially increased the vulnerability to disasters.

e) Disaster prevention, mitigation, preparedness and relief measures along with environmental protection policies are imperative for implementation of sustainable developmental process.

Women and Child Centric Water Management: Perspectives from Bihar, 29 September 2021

Key Takeaway/Recommendations



a) Discuss openly and investigate with individual women separately why they had not attended.

b) Openly praise women expressing their ideas in open forum to build confidence.

c) Support and train women as well as men to take more powerful committee positions.

d) Encourage women and men community representatives to monitor openly the participants of key groups in the community.

e) Include discussions on gender equality in all community training.

f) Include female and male elders from all groups in key decision making processes over sensitive issues.

g) Increasing women's involvement in such roles alone may simply further the inequitable.

h) Gendered division of resources and benefits from water activities.

Challenges and Opportunities in empowering Nutrition during COVID Times, 30 September 2021

Key Takeaway/Recommendations



a) Provide adequate emergency food aid, wherever possible with local and regional purchase of foods for food assistance.

b) Provide debt relief to governments struggling to maintain necessary social safety nets.

c) Maintain robust social safety nets recognising that household food expenditures rise and fall in relation to other expenditures (e.g. on housing, health care, education, etc.).

d) Design food assistance programmes that offer adequate access to healthy food, not just sufficient calories.

e) Whenever possible, provide alternatives to school lunch programmes when schools are closed.

f) Allow for adequate access to health care, including access to mental health services, in the design and implementation of social safety nets.

g) Ensure food system workers' rights are recognized and integrated in national legislation; promote and enforce compliance with established norms.

h) Ensure food systems workers have access to full protection from hazards and risks (in terms of personal protective equipment, distancing measures, clear health and safety guidelines, paid sick leave, adequate sleeping, eating and sanitary facilities, quarantine shelters).

Using Industrial Waste (Slag and Fly Ash) in Road Construction, 30 September 2021

Key Takeaway/Recommendations



a) In current time the disposal of industrial waste is a big issue in India. Some of these materials are not biodegradable and often lead to waste disposal crisis and environmental pollution. However, due to advancement of technologies and development the possibilities of reuse of waste products can be utilized as highway construction materials. The disposing problem of industrial waste can be solved by the use of these materials in highway construction.

b) Traditionally soil, stone aggregates, sand, bitumen, cement etc. are used for road construction. Natural materials being exhausted in nature, its quantity is declining gradually. Also, the cost of extracting good quality natural material is increasing. Reuse of industrial waste is not only conserving the natural material but also helping to reduce pollution and enhance environmental balance.

c) Industrial waste products are the new alternative materials for highway construction. Waste products like Fly ash from thermal power stations can be used for Bulk fill, filler in bituminous mix, artificial aggregates; Blast furnace slag from Steel industry can be used for Base/ Sub-base material, Binder in soil stabilization.

d) Limited information is available on suitability of individual industrial wastes for its utilization in highway construction. The advantages of using Fly ash are Lightweight, and can be used as binder in stabilized base/ sub-base because of pozzolanic properties.

Innovative "Fly Ash Aggregates" v/s "Traditional Stone Aggregates", 30 September 2021



Key Takeaway/Recommendations

a) Disaster could be natural or man-made, it can create large volumes of debris or solid waste. If we focus of industrial waste, we could get waste generated which is hazardous in nature and an appropriate disposal of such waste is the need of the day.

b) Fly ash waste is by-product of industrial units related to coal, cement and thermal power plants, which could be used in making roads and flyovers which could help to save degradation of agricultural land. Normally fly ask is used in cement and can be used to strengthen concrete.

c) There is a usability of fly ash bricks over traditional stone bricks for resilient constructions and there are such innovative ways, methods are available in the market and can these be used. There are several case studies from world-wide where fly-ash can be used for strong road pavements or bricks.

PM 10 Point Agenda No. 1 on DRR Legal Framework & Policies for DRR, 30 September 2021

Key Takeaway/Recommendations



a) It is a great lesson to us that the legal framework that we have in the name of disaster management, requires more instrument to enable its implementation.

b) Since disaster management is a multi- sectoral and multi-dimensional and Multi-hazard issue we need to identify other sectoral laws.

c) The definition given to many of the disaster related parameters (monsoon, heat wave etc.), needs a serious rethink.

d) We need to look at the legal tool which is to be given to district administration.

e) We need to bring a "Heat Code" to give guidelines to the district administration to take action as an emergency response during an extreme heat wave event.

f) We need more resources to build resilience.

g) Linkages between disasters, environment and climate change are well recognized and integrating DRR is now becoming prime concern while formulating disaster management strategies.

h) While talking about preventing and preempting disaster he said Enviro Legal Due Diligence may be a key response.

i) We need to change our reactive approach to proactive approach in case of disasters. No need to wait for the disaster to happen, we should take necessary protections before any disaster appears.

j) Also we need to implement the ecosystem approach to DRR as prevention is better than cure.

Building Livelihood Resilience in times of COVID 19 Pandemic, 30 September 2021

Key Takeaway/Recommendations



a) We should adopt a human rights perspective on livelihood resilience

b) Academicians and policy planners should work in unison to address the root causes of vulnerability to allow for resilient livelihood systems

c) Government should focus on empowerment of poor and vulnerable people as crucial factor in building livelihood resilience.

d) Additional support should be provided to migrant workers in times of distress Identify and develop research methodologies and maintain big datasets for research in support of resilient livelihoods.

e) Adopting livelihood indexes for research and training activities provides policy suggestions for enhancing livelihood resilience capacities and improving the scope of available livelihood strategies to emerge from the poverty trap arisen from the current scenario.

f) A broader understanding of socio-cultural values, such as identity and attachment to place, should be included in international policy frameworks to make adaptation measures more sustainable and effective.

Impact of Covid-19 in Uttarakhand: Management and Lessons Learnt in collaboration with Government Degree College Chaubattakhal, (Pauri Gharwal Uttarakhand), 30 September 2021

Key Takeaway/Recommendations

a) Corona virus (COVID-19) pandemic poses a grave health threat to the rural areas in Uttarakhand. These communities already experience poor access to healthcare, significantly higher rates of communicable and non-communicable diseases, lack of access to essential services, sanitation etc.

b) The spread of animal generated viruses are inevitable and will keep threatening the human race. Animal Viruses generally spread due to either coming in the contact or consuming the animal products.

c) The education system has become more flexible due to the online mode of learning. Online teaching facilitates learning from anywhere, anytime.



d) One of the major stumbling blocks with regard to online learning is the lack of strong and stable internet connections, as the ones conventionally used at homes have either low bandwidth or have exhausted their limits.

e) In villages, students face challenges to access the online courses conducted by their institutions mainly due to poor data connectivity, lack of access to laptops and smartphones, and power issues.

f) Even if some rural areas in the state are blessed with good internet connectivity, not many families can afford digital devices which are imperative for online learning. Families which rely on the mid-day meal scheme to feed their children properly cannot afford to spend thousands of rupees on a smartphone, leave alone a desktop or laptop.

g) In case of such pandemics, there is need to provide immediate support to the most affected communities like daily wagers, construction works and workers in tourism sector.

h) We can produce list of experts and resource inventories, as a readymade resource guide so that we can use those in emergency situation.

i) The disaster management plans should also include the provisions for health care crisis.

Online Training Program

Community Disaster Preparedness, 1-3 July 2021

Key Takeaway/Recommendations



a) The training helped the community to understand that they are the first responder in any disaster situation and they can assess their vulnerability and find effective solutions at the local level, using local strategies and methods.

b) It was felt that there is need for a better and institutionalized coordination mechanism and partnership between the Government and community

c) It was agreed that since its essential to equip the community with life saving skills, as such more trainings should be organized for imparting life saving skills to the community, which should include First Aid, Fire Fighting, Search and Rescue components, as well as Psychological aspect.

d) It was felt that after the training, "Community Responses Teams" should be established at Village and Tehsil levels.

Comprehensive Capacity Building Programme for Youth in Disaster Risk Reduction, 1-3 July 2021

Key Takeaway/Recommendations



a) Disaster risk reduction must be mainstreamed into development activities.

b) Community, being the first responder, must be strengthened to utilise golden hour and effective management of disasters.

c) Future collaborative training and awareness programmes for the youth may be conducted.

d) Universities must also get themselves involved in disaster awareness activities and prepare DM plans for their premises.

Basics of Disaster Management and Disaster Risk Reduction in context of Covid-19 Pandemic, 5-7 July 2021

Key Takeaway/Recommendations



a) Ensuring the School Safety of the Children and how to do that.

b) Basic information about Covid-19 and the transmission,

c) Establishment of Procedures for the children and school staff.

d) Developing and adopting certain School policies.

e) pread awareness among Parents and Staff of the schools.

f) Collaboration with local and NGO's and role of the NSS and NCC volunteers.

Capacity Building on Application of Technology in Disaster Management and Disaster Risk Reduction, 5-7 July 2021

Key Takeaway/Recommendations



a) Focus should be on improving early warning systems, building disaster management capacity of local communities and improving access to emergency measures.

b) Attention should also be paid on creating resilient infrastructure, which not only survives disasters, but also remains functional during emergencies.

c) With continuous global warming resulting in increase of disaster incidences, it's a high time that investment in disaster resilient infrastructure is seen as pivotal in risk reduction.

d) It is highly important that disaster risk objectives are incorporated in planning of protected areas, ecosystems restoration and natural resource management.

e) Failures to identify the mutual benefits of environmental management, risk reduction and climate change adaptation are lost opportunities to protect lives and promote human well-being.

f) Awareness creation amongst local communities at high risk is also called for

g) A global repository featuring information on how digital technologies are being applied for disaster management would raise awareness and understanding. Hundreds of applications of disruptive technology are underway around the world, but experiences are often buried in news articles and research reports.

h) An information base would be useful for identifying digital interventions that have worked, who the implementers were, and other material to increase understanding about which technologies are relevant for different country circumstances and types of disasters.

Child Centric Disaster Risk Reduction (CCDRR), 5-7 July 2021

Key Takeaway/Recommendations



a) COVID-19 appropriate behavior.

b) Alphabetical learning of the precautions.

c) Understood the disaster mechanism and various types of disasters.

d) Special care on children and pregnant women to be taken.

e) Increasing public awareness about mental health.

f) Role of Mental Health Professionals in Disaster Situation.

g) Ensuring the School Safety of the Children and how to do that.

h) Sick students, teachers and other staff should not come to school.

Faculty Development Programme on effects of Covid 19 Pandemic on Health Care & Education Systems, 5-9 July 2021

Key Takeaway/Recommendations



a) COVID 19, as a pandemic, although has impacted adversely the health care system, however, there is a flip side to it as well. The increased investment of health infrastructure, development of vaccine in a record time and support of community and clean environment are some positives of the ongoing pandemic.

b) There have been many myths about vaccination, however, it is more to do with social media theories. These have been clarified by nodal ministry i.e. Ministry of Health & Family Welfare and authentic information must be believed.

c) Educational system has also tried to resort to online mode of teaching in order to make up the loss of teaching period.

d) Increased level of coordination between State Governments and Central Government with respect to management of Covid 19 and also vaccination drive.

e) Information about science behind the Covid 19 virus and how important was the methodology of its management such as lockdown and basic Dos and Don'ts.

Integration of Disaster Risk Reduction and Climate Change Resilience into Rural Development Policies and Programmes (SIRD-Sikkim), 6-9 July 2021

Key Takeaway/Recommendations



a) Living in remote or marginalized areas reduces access to basic services, infrastructure and, often, the efficacy of local-level national climate and disaster risk management mechanisms.

b) Climate Change Adaptation and Disaster Risk Reduction in the context of agriculture and rural growth, exploring whether linking these three approaches together will help enhance resilience to shocks and stresses in agriculture-dependent rural communities.

c) Climate and disaster risk management capacity assessments, including assessments of capacities for management of trans boundary risks such as drought, riverine flooding, desert locust swarming or disease outbreaks.

d) Reliance on subsistence agriculture means the impact of stresses and shocks (such as droughts or floods) are felt keenly by rural poor people, who depend directly on food system outcomes for their survival, with profound implications for the security of their livelihoods and welfare.

e) Disasters triggered by natural, biological and technological hazards, and further exacerbated by climate extremes and slow onset events, annually affect a growing number of people, ecosystems and economies especially at rural communities.

f) Improvement of livelihood and adaptive capacities of vulnerable rural communities in India through providing policy support to the Indian government on integrating adaptation to climate

change in key sectoral policy decisions and rural development programme.

g) While climate-related risks have always been intrinsic to natural resource based livelihoods, global processes and crises are changing and deepening risks faced by poor, vulnerable people in rural areas, particularly those involved in agriculture.

Urban Flood in Kolkata & Storm Surge Impact by YASS-2021, 7-9 July 2021

Key Takeaway/Recommendations



a) Better forecasting of heavy rain over mega cities with the help of Doppler radars.

b) Identification of vulnerable zones in and around the mega cities against risk of floods and improved disaster management procedures.

c) Improvement of old drainage systems, re-enforcement of weak and old buildings and introduction of area specific building codes.

d) Implementation of health and sanitation measures to prevent spreading of diseases after flood.

e) Preparation of a long term plan aimed at diversification of industries and employment opportunities to prevent large scale migration of population and overcrowding of the mega cities.

f) Greater awareness among the public for the weather warning and forecasts.

g) City development strategy should be more water sensitive and climate-sensitive

h) Pollution control measures with planning of green cities, including urban reforestation.

i) Experts showed many practical examples of living with the urban flood with proper planning, knowledge, know-how, money and engineering technology.

j) Several flood events in India and the government role; water conservation techniques, flood resilient structures in many of world cities, design and planning of storm water management and flood protection measures are explained.

k) Creating Levees/bunds/embankments at strategic places in the River Hoogli and Sundarbans Islands to control Storm/Tidal surge, in which case local community can be encouraged vis-à-vis with all Govt. departments and community help/volunteer groups.

Fire Safety-Prevention, Audit and Response, 12–14 July 2021

Key Takeaway/Recommendations



a) All available safety systems should be maintained, tested regularly and proper audit should be done at least by third-party. All associates should be fully trained to handle the situation of crises.

b) Training on the said subject should be made mandatory.

c) Certification course may be looked at so as to ensure that appropriately trained and certified candidates undertake the necessary activity.

d) Strengthening of Regional Training Centre and capacity building

e) Modernization of Fire Services- Provision of Modern equipment

f) Training of the Building Occupants for SOPs towards Evacuation aspects. The aspects of Training are well detailed under NBC Part 4, 2016.

g) Electrical Safety and on-site audit of electrical installations aligned to NBC Part 8, Section 2, 2016.

h) Fire Authority approvals to also include electrical single line scheme to verify the resilience and scheme of electrical power supply for Fire and Life Safety Systems.

i) Wireless address detection and communication system

j) It's critical to have a plan to deal with Fire incidents.

k) Mandatory to Mock drills.

l) Make your buildings (Basic) Safe by complying to NBC 2016 / State Fire Codes

m) Use less combustible materials, Build adequate fire storages, have well placed FHCs.

School Safety and Disaster Risk Reduction, 14–16 July 2021

Key Takeaway/Recommendations



a) Disasters have a major impact on children, youth and education systems. Studies of disaster trends and the likely consequences of climate change suggest that each year. The programme focused on truly engaged in empowering schools and their communities in the identification of the hazards and risks they are the most exposed to, their vulnerabilities and their capacity to manage them.

b) The Sendai Framework for Disaster Risk Reduction 2015-2030, adopted on 18 March 2015 at the Third United Nations World Conference on Disaster Risk Reduction, calls for the strengthening of disaster resilient public and private investments, particularly through structural, nonstructural and functional disaster risk prevention and reduction measures in critical facilities, in particular schools and hospitals and physical infrastructure.

c) The programme aimed to provide decision makers and the educational community with practical information concerning the risks affecting educational infrastructure (multi-hazard approach) as well as, practical information that allows decisions to be made on the investment needs and areas of concern where the investment should be prioritized.

d) Highlighting the safety assessment methodology facilitates the decision-making process in the definition of rational and effective safety-upgrading strategies, and allows decision makers to take science based decisions on where and how they may invest their available resources for strengthening the safety of schools, their students and teaching staff in an efficient and economical manner.

e) Discussion on high profile accidents and disasters in the education sector demonstrating the common sense of disaster planning and, conversely, the often tragic cost of failing to identify hazards and their potential for sudden, dramatic escalation if the arrangements to control and contain them prove to be inadequate.

f) Planning in advance and anticipating as many health and safety variables as possible, schools can ensure that the decisions made on the day of a crisis are not only made quickly and effectively but that they will be correct and automatic responses arising out of the time spent on pre-planning for disaster.

Child Centric Disaster Risk Reduction (CCDRR), 14–16 July 2021

Key Takeaway/Recommendations



a) A basic understanding of the pivotal concepts i.e., risk, capacity, mitigation, preparedness, and prevention.

b) To understand the type of disaster and resulting public health emergencies.

c) Ways to enhance capacities at the individual level and preparedness at the community and Governmental level to minimize the impact of COVID-19.

d) The different essential behavior for containment of the spread of COVID-19 (i) norms for physical distancing (ii) hand washing (iii) avoidance of crowded places (iv) wearing of a mask (v) healthy hygiene behaviour during COVID 19 spread.

e) Rules of home quarantine to check further spread among other family members.

f) Ways to inculcate Covid-19 Appropriate Behaviour among children.

g) Understanding of emotional physical needs of the children by their parents.

h) A life cycle approach for addressing the needs and requirements of children.

Flood Risk Reduction and Resilience, 14–16 July 2021

Key Takeaway/Recommendations



a) There is a need for Inflow forecasting, which is an important tool for real time operations.

b) Insurance is the key tool in reducing vulnerability and promoting resilience. Hence Insurance in Disaster Management need to be encouraged.

c) There is a need for increased level and degree of public – private partnership and funding in climate – change adaptation and airport resilience planning.

d) There is a need to ensure that insurance penetration in India is at par with Global standards and the insurance policies on disaster management have adequate risk coverage.

e) State governments should be encouraged to take initiatives like state of Nagaland to avail last mile risk coverage for its vulnerable population and infrastructure against catastrophic events like cyclone.

f) Business enterprises and industries must evaluate their risk appetite against cyclone and must ensure that they are adequately covered with proper insurance for catastrophic events like cyclone.

Gender, Disaster and Sustainable Communities, 15-17 July 2021

Key Takeaway/Recommendations

a) Mitigation of all sorts of satisfaction among male word female population as far as gender Sensitive for disaster management is concerned.

b) To build resilience among disaster circuited women to face numerous difficulties during disaster.

c) To address specifically women. enclaved issues in a den do provide relief measures.

d) To build inter connectivity between, gender issue, sustainable development, and disaster relief measures.

e) Constructive policy measures need to be constructed to provide effective relief measures to affect women and children.

f) The committees or associations who only provided with responsibility to make these activities available to affected Women and children, must be accountable enough to implement these, so that women and children must be able to gain advantage out of that.



Child Centric Disaster Risk Reduction (CCDRR), 21-23 July 2021

Key Takeaway/Recommendations

a) Taking necessary precautions on how much time one should wash their hands and other things.

b) Types of cyclones and causes and effects of them.

c) Explained the nutrition values in different elements and child protection and steps one has to take towards it.

d) Importance of Engaging the adolescents and mechanism for Engaging youth.

e) Support for collective activities.

f) Promote Social Distancing (a term applied to certain actions that are taken to slow down the spread of highly contagious disease, including limiting large groups.

g) Establishment of Procedures for the children and school staff.

h) Ensure water, sanitation and waste management facilities and follow environmental cleaning and decontamination procedures.



Ecosystem Restoration and Disaster Management, 22-24 July, 2021

Key Takeaway/Recommendations



a) Need of the hour is to contribute towards ecosystem restoration for reducing the disaster risk through a coordinated effort from all stakeholders.

b) Community awareness for strengthening the process and activities of restoring ecosystem and not depleting it is necessary.

c) Use of technology for identification of the gap areas/ red zones in ecosystem must be upgraded and thus identified issues must be addressed.

d) Livelihood issues must also be embedded in design stage of any ecosystem restoration project/ activity.

Mitigating the impact of COVID-19 third wave through Community Response, 26-28 July 2021

Key Takeaway/Recommendations



a) The third wave challenge & the community participation model
   - The challenge and the community participation model need to be adopted during the third wave of Covid-19.
   - The preventive measures are to be vaccinated thereby to prevent the spread of third wave.

b) Actions to mitigate Covid-19 Humanitarian crisis
   - The compassion and solidarity of the whole world it to driven the approach of the crisis involved in Covid-19.
   - Inhalation, Deposition and Touching to be followed to mitigate the symptoms and exposure of Covid-19.

c) Vaccines in Covid-19 management
   - importance of immunity power, like cellular process and immune response, host immune responses during SARS COV-2 infections.
   - Treatment like plasma therapy, vaccination to be involved in Covid-19 management.

d) Challenges and preparedness of stakeholders to combat Covid-19 third wave
   - The impact of Covid-19, on children, response of stakeholders, a farming of watchdog committees in panchayat level to protect the children, sanitations and health workers.

e) Covid waste safe disposal for control and prevention of a third wave
   - The biomedical waste and their management and guidelines for safe collections transport and disposal of covid waste.

f) Lessons learned from first & second wave of Covid-19 and the successful models to mitigate the third wave impacts
   - The behavioural weapons against Covid-19 which is highly effective at preventing viral infection and to reduce the exposal rate to the viral infection.

Geo-hazards Analysis and Management, 26-28 July 2021

Key Takeaway/Recommendations



a) Increased occurrence of very heavy and extremely heavy rainfall events shall lead to greater number of catastrophic events.

b) Increased role of climate change impact assessment agencies, disaster management and policy makers to prepare roadmap for checking devastation.

c) Actions ranging from incremental steps to transformational changes are essential for reducing risk from climate extremes.

d) Most effective adaptation and DRR actions are those that offer development benefits in the relatively near term as well as reductions in vulnerability over longer term.

e) Incorporate Disaster management as a part of every planning.

f) Need to go for cost-effective and sustainable development technology.

Child Centric Disaster Risk Reduction (CCDRR), 26-28 July 2021

Key Takeaway/Recommendations



a) Basics of Covid-19 precautions and actions of the individual.

b) Ways of the storm surge and floods and tsunami's, effects and actions to be taken.

c) Education of the children is a very important for the mental growth of the children.

d) Various Disasters happened and the role played by the NSS volunteers and youth.

e) Support around living conditions and income

f) Developing and adopting certain School policies.

g) Understand basic information about corona virus disease (COVID-19), including its symptoms, complications, how it is transmitted and how to prevent transmission.

Community Based Disaster Risk Management during Covid-19 Pandemic and Psychosocial Care in Disasters, 28-30 July 2021

Key Takeaway/Recommendations



a) Greet without physical contact - Need to revive traditional gestures and coming up with new ways to greet each other without touching.

b) Maintain Physical distance - Keep a distance of at least 2m from each other and avoid spending time in crowded places or in groups.

c) Avoid touching your eyes, nose, or mouth.

d) Maintain respiratory hygiene.

e) Wash hands regularly and thoroughly.

f) Regularly clean and disinfect frequently touched surfaces.

g) Do not spit in the open.

h) Avoid unnecessary travel.

i) Do not discriminate - Against anyone.

j) Discourage crowd - Encourage safety.

k) Do not circulate social media posts which carry unverified or negative information.

l) Seek information on COVID-19 from credible sources.

Comprehensive Landslide Risk Management, 28-30 July 2021

Key Takeaway/Recommendations



a) Landslides occur because of the interplay of multitude of causative factors on a geological time scale and scientific landslide investigation is the key to understanding of landslides.

b) Transformational change will come when we stop blaming nature for every landslide.

c) We're not talking about landslides in isolation, there is enormous complexity created by multi ecosystem and on the top of it there is disconnect between thought speech and action and great hiatus between our scientific and operating tempers.

d) There is unremarkable attention to research to hazard, vulnerability and risk analysis. Therefore, the attention to research on hazard, vulnerability and risk analysis should be the core of our activities.

e) There have been some developments since last three decades but still we need a multi-hazard approach and a multi-disciplinary collaboration for comprehensive landslides risks management.

f) The finger of responsibility lies on us that can we do some soul searching and see where the problem really is and innovate to find way forward.

g) There is need to foster integrating disaster mitigation with development planning and fostering sustainable and eco-friendly engineering solutions.

h) Determination of soil properties like stiffness, compressibility, cohesive forces and ground water that affect its strength should be done by field and laboratory testing by experts.

Hospital Disaster Preparedness & Response, 29-31 July 2021

Key Takeaway/Recommendations

a) All hospitals should be disaster ready, medical workforce should be equipped, skilled and well trained for disaster preparedness and handling mass causalities.

b) A well documented and tested Disaster Management Plan (DMP) need to be in place in every hospital.

c) More than 95 % of all deaths caused by disasters occur in developing countries, and losses due to natural disasters are 20 times greater (as a % of GDP) in developing countries than in industrialized countries.

d) Triage allows the respondents of disaster, who do not have enough resources to treat everyone, to prioritize care services, so that most services are provided to the greatest number of injured people.

e) Proper management system should be enforced in emergency situations to manage victims in an organized way.

f) Mis-and disinformation can be harmful to people's physical and mental health; increase stigmatization; threaten precious health gains; and lead to poor observance of public health measures, thus reducing their effectiveness and endangering countries' ability to stop the pandemic.

g) It is necessary to understand the types of hazards associated with the Institutional Buildings vis-à-vis life safety concept.



Community-Based Disaster Risk Management, 02-04 August 2021

Key Takeaway/Recommendations

a) All disasters, regardless of cause, have similar medical and public health consequences. A consistent approach to disasters, based on an understanding of their common features and the response expertise they require, is becoming the accepted practice throughout the world.

b) Disaster management teams are critical to the mass casualty incident response given the complexity of today's disaster threats.

c) Current disaster planning and response emphasizes the need for an all-hazards approach. Flexibility and mobility are the key assets required of all disaster management teams.

d) The incident command system has become the accepted standard for all disaster response. Functional requirements, not titles, determine the organizational hierarchy of the Incident Command System structure. All disaster management teams must adhere to this structure to integrate successfully into the rescue effort. Different kinds of hazards and the hazard profile of India.

e) Discussion on preparation of the seasonal hazard calendar with community engagement; preparation of village hazard and vulnerability map; preparation of Chapati diagram for resource analysis.

f) The development of disaster management plan at the village level aims at building the capacity and resilience of the community to equip them with skills so that management of various hazards becomes a way of life for them. The session will help the local community to prepare for and to respond to disaster effectively.



Leadership and Spirituality in Disaster and Risk Management, 02-04 August 2021

Key Takeaway/Recommendations



a) The risk of a disaster can be averted to a significant extent through the help of equanimity, intelligence, awareness, poise, patience, human values, resilience, selfless leadership, etc. Spirituality can make oneself inculcate and nurture such qualities.

b) A spiritually driven leadership style can lead to a sustainable solution for disaster risk reduction. Hence, the organization needs to build its edifice on such morals that, it can withstand any disaster.

c) In order to change our perspectives towards the disasters of life introspection is a must. There is a need to go back to timeless values and age-old techniques advised by various leaders to get stress free mind, disease-free body.

d) There are Organizations, who are adopting scientific and ancient techniques to live in harmony with nature. This will mitigate the environment related emergencies.

e) During the present Pandemic time, the world community has gradually leaned towards practicing the human values and spirituality as a psycho-social support to mitigate the created traumatic pressure.

f) A leadership style which caters to the needs of all and can have effective coordination with stakeholders is a must to give impetus to advocacy of DRR in all fields.

g) Spiritual organizations must document the DRR or disaster management activities which they perform during various disasters so as to share with other stakeholders.

Engagement of Youth in Disaster Risk Reduction and Resilience, 04-06 August 2021

Key Takeaway/Recommendations



a) Youth should be empowered with the knowledge of Disaster Risk Reduction and Resilience to act as a first responder in the communities.

b) Youth should be provide with space and modalities to contribute to DRR, in accordance with legislation, national practice and educational curriculum.

c) A change in the thought process from reactive to pro active in citizens to be developed. Instead of focusing on Disaster, focus on what cause disaster.

d) Youth having a common vision has to be connected to work on DRR and promotion of innovative practices and entrepreneurships for DRR.

e) There is need to improve among the youth generation. The need for filling the institutional void where the whole of society approach calls for more engaged participation from the non state actors.

f) Youth should be empowered to drive innovation and novel communication to enhance SFDRR and leveraging the role of youth and Young professionals in Disaster risk reduction should be encouraged.

g) Promotion of innovative practices and entrepreneurships for DRR & sustainable development in youth should be encouraged.

Child Centric Disaster Risk Reduction (CCDRR), 09-11 August 2021

Key Takeaway/Recommendations



a) Maintaining social distance and importance of taking the Vaccination.

b) Risk assessment of civil engineering, buildings, and infrastructure.

c) Social protection of girl child and Women empowerment and at the same time gender equality is to be maintained.

d) Pre disaster Reduction Activities and methods, and post Disaster recovery activities.

e) Increasing public awareness about mental health.

f) Spread awareness among parents and staff of the schools.

g) Promote social distancing (a term applied to certain actions that are taken to slow down the spread of a highly contagious disease, including limiting large groups of people coming together)

h) Enforce regular hand washing with safe water and soap, alcohol rub/hand sanitizer or chlorine solution and, at a minimum, daily disinfection and cleaning of school surfaces.

Post Disaster Needs Assessment, 11-13 August 2021

Key Takeaway/Recommendations



a) The PDNA is a multi-sectorial and multidisciplinary structured approach for assessing disaster damages, losses, impacts and needs that will lead to the development of a recovery and reconstruction plan.

b) As a tool for recovery and reconstruction planning and implementation, a PDNA is normally undertaken after the emergency phase or during the time when the post-disaster emergency operations are winding down and longer-term recovery is about to start.

c) PDNA should be led and undertaken by the government after a disaster with the collaboration of international development partners and even the private sector.

d) The sectors assessed in a PDNA are those contained in the national accounting system such as agriculture, industry, trade and services etc. and the corresponding sub-sectors under them.

e) Various experts like engineers, economists, finance specialists, statisticians, etc. who have knowledge on the valuation and estimation of damages, losses and needs in a certain sector should be members of the assessment team for that given sector.

f) With a standardized assessment procedure across sectors, the priorities for post-disaster recovery and reconstruction can be determined by the government in terms of the affected sectors of the economy, the geographical areas and social or population groups.

Venom Hazard Management and Best Practices, 11-13 August 2021

Key Takeaway/Recommendations



a) To concentrated on a brief introduction regarding the snake and its venom. How snake prevent prey from escaping, the process of anti -snake venom and its preservation.

b) The reptiles Venom research give some case study of snake bite and its related issues that how to prevent to the venom and survival.

c) To explanation about the differences between venomous and non-venomous snakes and their diversified characteristics.

d) The suggestions on how to avoid snakes and snake bites. He pointed out that killing snake is a punishable offence under the Wildlife Protection Act, 1972.

e) The stressed that venom will vary between the species as well as within the species and venom varies on the life style of snakes.

f) To reveal that increase in number of vials increase the cost of treatment and it adds to the make financial burden of the poor families.

g) To understanding of venom and better anti venom manufacturing strategies etc., help in mitigating their sufferings quickly and effectively.

h) The legal aspects of transmission of traditional ecological knowledge into knowledge economy and argued that intellectual property rights should help in to empowering the indigenous community.

Child Centric Disaster Risk Reduction (CCDRR), 11-13 August 2021

Key Takeaway/Recommendations



a) How to wear and remove a mask and how to be in other places.

b) Effects of the Disasters and ways to minimize them in collaboration with various organizations sand NGO's.

c) Social protection of girl child and Women empowerment and at the same time gender equality is to be maintained.

d) Various Disasters happened and the role played by the NSS volunteers and youth.

e) Increasing public awareness about mental health.

f) Basic information about Covid-19 and the transmission.

g) Sick students, teachers and other staff are advised not to come to school.

h) Update or develop school emergency and contingency plans.

DRR Youth Centric Coastal DRR&R, 11-13 August 2021

Key Takeaway/Recommendations



a) Students and young professionals brought together to exchange ideas and knowledge on reducing disaster risk, building resilient communities, and advocating for the inclusion of youth priorities within the Sendai Framework for Disaster Risk Reduction 2015–2030 (SFDRR).

b) Support and empower children and youth with the skills and knowledge to strengthen resilience in their communities, recognizing their unique abilities, needs, and priorities.

c) Meaningful intergenerational activities are needed to transfer state-of-the-art knowledge to those that will be implementing DRR initiatives in the future.

d) There is a need to build and Exchange Knowledge on DRR to increase Youth Action in DRR Post-Sendai.

e) Empower local actors in the management and resolution of their problems.

f) Integrate common interests and motivations among the community, authorities, and support agencies, related to youth-led processes.

g) Promoting youth volunteerism for social entrepreneurship, gender justice and equality, social inclusion and disaster risk reduction and environment management.

h) Creating awareness on the linkage between disasters and environment and how protecting the natural environment can be strengthen.

Youth and Mental Health - Basic of Psycho-social skills, 12-14 August 2021

Key Takeaway/Recommendations



a) Mental health promotion and prevention interventions aim to strengthen an individual's capacity to regulate emotions, enhance alternatives to risk-taking behaviours, build resilience for difficult situations and adversities, and promote supportive social environments and social networks thus mental health and basic of psycho-social skills must be mainstreamed into education.

b) Community, and young people, being the first responder, must be trained to support the psychological needs of the affected population.

c) Future collaborative training and awareness programmes on Mental Health and Basic of Psycho-social Skills for the youth must be conducted on a regular basis moreover universities must also get themselves involved in teaching about mental health.

d) Childhood behavioural disorders are the second leading cause of disease burden in young adolescents aged 10-14 years and the eleventh leading cause among older adolescents aged 15-19 years. Childhood behavioural disorders include attention deficit hyperactivity disorder.

e) Multiple physical, emotional and social changes, including exposure to poverty, abuse, or violence, can make adolescents vulnerable to mental health problems. Promoting psychological well-being and protecting adolescents from adverse experiences and risk factors that may impact their potential to thrive are critical for their well-being during adolescence and for their physical and mental health in adulthood.

f) Discussion on risk factors for suicide are multifaceted, including harmful use of alcohol, abuse in childhood, stigma against help-seeking, barriers to accessing care and access to means. Communication through digital media about suicidal behaviour is an emerging concern for this age group.

Role of DRONES in Disaster Management, 16-18 August 2021

Key Takeaway/Recommendations



a) Drones and IoT are increasing in application, as experience is gained, and costs fall. Older technologies such as satellite imagery and seismometers are still the most important methods for detecting, monitoring and accessing disasters, and text messaging has the widest reach for communicating with the public.

b) While there is evidence that AI can accurately predict some types of disasters before they happen, the application of disruptive technologies today has a more incremental effect. These technologies are refining processes by spreading critical information more quickly, improving understanding of the causes of disasters, enhancing early warning systems, assessing damage quickly, and adding to the knowledge base of the social behaviours and economic impacts after a crisis strikes. Disruptive technologies are improving situational awareness by providing the crisis community with a clearer understanding of the extent of damage and where to prioritize resources.

c) Reach of digital technologies must be factored into disaster management strategies. In respect to communications among stakeholders, this includes considering the purpose and audience.

d) A global repository featuring information on how digital technologies are being applied for disaster management would raise awareness and understanding. Hundreds of applications of disruptive technology are underway around the world, but experiences are often buried in news articles and research reports.

e) Partnerships with the private sector and academia will be critical for understanding and applying digital technologies for disaster prediction, detection, response and relief. Numerous uses of disruptive technologies are being developed by the private sector. In addition, the private sector controls significant amounts of personal information in Big Data sets that are of immense use for the disaster community. Similarly, considerable relevant research is being undertaken by the academic community. Ties between the disaster community, private sector and academia need to be strengthened.

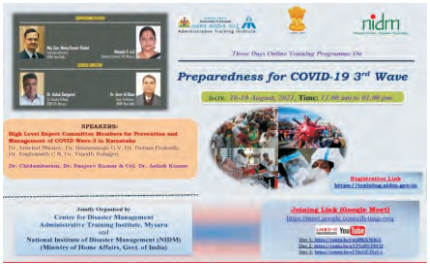
f) Training is indispensable for the disaster community to understand how to properly deploy new and emerging digital technologies in crisis settings. Manuals are needed for different technologies.

g) Legal ramifications of technological research and interventions for disasters need to be understood. The disaster community has developed codes of conduct in certain areas, including data protection that can help when laws are vague, such as blurring images of people when filmed by drones.

h) Adequate capacity remains fundamental for properly planning and deploying relevant digital technologies. While digital technologies show great promise for all phases of disasters, on-the-ground planning, management and operations are critical to their success. Disaster agencies do not need to be experts in digital technologies, but they do need to understand enough about them to develop proactive blueprints for deploying them. Disaster agencies might also consider creating a chief technologist post to better understand how to apply disruptive technologies.

Preparedness for COVID-19 3rd Wave, 16-18 August 2021

Key Takeaway/Recommendations



a) The vulnerability of youth and children during COVID-19 is found higher. There is need of more paediatric still we get vaccination for children in future.

b) The dire need of making our children mentally prepared for 3rd wave and follow all COVID appropriate behavior rigorously.

c) The role of children for the transmission of COVID-19 is not clearly known however studies show transmission from children is less than getting COVID from the elders in the family.

d) All COVID-19 protocols should be kept in mind while opening the schools for children.

e) It is important to understand the signs of mental health issues in children and to understand that how their behaviour is different from adults.

f) Increase in the manpower and resource mobilization is required to be prepared for 3rd wave of COVID and to manage adverse events following immunization.

g) All educated citizen should help the rural population in registration process at Cowin for vaccination.

h) Social media should always be used as information and not as misinformation by critical assessment and double checking of the source before sharing.

Youth: Future Assets in Disaster Risk Reduction, 16-18 August 2021

Key Takeaway/Recommendations



a) Youth need to be empowered, encouraged and promoted besides giving them adequate resources that would be required to undertake responsibilities for disaster risk reduction and reduction.

b) Youth should go ahead take the steps needed to go for disaster risk reduction and resilience and help the society, humanity and nature or environment at large in their conservation, preservation, protection and management.

c) Youth is the golden period of life and this is the time when one can contribute the maximum and can take up that most severe challenge in life or take up adventures.

d) Looking youth from a perspective of an asset is highly interesting because then by that means we are focusing on something that works well rather than focusing on something that doesn't work.

e) The role of youth should not be restricted only to response and recovery actions or rehabilitation or relief distributions rather they can be better utilized for risk assessments at the community levels in their own surroundings.

f) By effectively reducing the risk of disasters for this demographic group, we can help in promoting social justice, sustainability and resilient future.

Child Centric Disaster Risk Reduction (CCDRR), 18-20 August 2021

Key Takeaway/Recommendations



a) Alphabetical learning of the precautions.

b) Basics of Covid-19 precautions and actions of the individual.

c) Types of cyclones and causes and effects of them.

d) Risk governance, disaster response, management, and preventive actions such as spatial planning and remedial measures.

e) Social protection of girl child and Women empowerment and at the same time gender equality is to be maintained.

f) Explanation of Activities with live examples and tasks.

g) Establishment of systems to collect and share sufficient and relevant knowledge and to coordinate organizations for long-term post-disaster post interventions would be desirable.

h) Ensure Water sanitation and waste management facilities, and follow environmental cleaning and decontamination procedures.

River Dynamics, Flood and Sediment Hazards Assessments in Indian Rivers, 23-25 August 2021

Key Takeaway/Recommendations



a) Segregation of river hazards.
- The river hazards need to be segregated into various categories such as flood hazards, sediment and scour hazards, hazards due to failure of hydraulic structures and hazards due to climate change.
- Inculcating the idea of segregation of river hazards at national level.

b) Strengthening informal sector.
- Provide a suitable drainage system and river training works.
- Require a proper maintained of reservoirs and other hydraulic structures
- Social integration and inclusion of informal sector.

c) River disaster management plan.
- Sediment control measures.
- Water extraction and storage systems plan.

d) Enhancing circular economy.
   - Use of circular economy pathway of generating resources from river and hydraulic structures (dams and barrages) by utilizing the river water.
   - Creating extended producer Responsibility policy awareness.

Prime Minister's Ten Point Agenda for Disaster Risk Reduction, 23-25 August 2021

Key Takeaway/Recommendations



a) Dissemination of information related to national and local strategies for coastal disaster risk reduction and resilience as well as to develop a network mode roadmap for addressing the gaps by engaging with the institutions, researchers and experts.

b) Implementation of the Prime Minister's 10-point agenda and Sendai Framework for Disaster Risk for key sectors with highest concentration of risk identify concrete measures is the need of the hour.

c) Mainstream DRR in flagship schemes of Government of India.

d) Establish a mechanism to ensure that standards for disaster resilience are periodically upgraded and disseminated.

e) Development of disaster insurance mechanisms for home-owners in disaster prone area and insurance products to cover major infrastructure projects along with parametric insurance for weather and climate related disasters is must.

f) Assess the efficacy of India Disaster Resources Network (IDRN) and revive it with modifications.

g) Develop an e-platform to map expertise and resources on highly specialized aspects of disaster response.

h) Increase the efficacy of early warning systems for all major hazards through the application of technology.

Child Centric Disaster Risk Reduction (CCDRR), 24-26 August 2021

Key Takeaway/Recommendations



a) Work with officials to guarantee schools are not used as shelters, treatment units, etc. Consider cancelling any community events/meetings that usually take place on school premises, based on risk.

b) Reinforce frequent hand washing and sanitation and procure needed supplies.

c) Stay informed about COVID-19 through reputable sources such as UNICEF, WHO and national health ministry advisories. Be aware of fake information/myths that may circulate by word-of-mouth or online.

d) Role of mental health professionals in disaster situation.

e) Collaboration with local and NGO's and role of the NSS and NCC volunteers.

f) Types of disasters and types of effects on different age groups.

g) Building of strong network and coordination with local govt.

h) Educating of Children regarding the Disasters and making them aware

Disaster Management, 24-26 August 2021

Key Takeaway/Recommendations



a) Economically and socially disadvantaged sections of the community suffers during disaster.

b) The natural hazard of flood turns into a long persisting socioeconomic disaster.

c) Satellite technology plays a vital role in detecting drought condition of a region.

d) While managing drought in a region ground water management & surface water management are solely involved for the preparation of contingent plan in that area.

e) Public and Private investment in disaster risk prevention & reduction is the present requirement for strengthening the disaster risk.

f) Technical innovation, Broadcasting techniques and better data collection are the requirement for strengthening disaster risk governance.

g) GPS uses satellites and ground equipment to determine position & time anywhere on Earth.

h) Scientific observations and understanding can lead to actions in order to better protect our world today and for future generations.

Disaster Management Plan, 24-26 August 2021

Key Takeaway/Recommendations



a) Planning is the key for better execution of ideas and it becomes all the more important to have planning for management of disasters as it is directly linked to saving of life.

b) The approach towards disaster management should be holistic and must include all concerned.

c) Climate change has increased the intensity and frequency of disasters and community must be capacitated to adapt to changing climatic situations.

d) Hazard, Vulnerability and capacity analysis is the key to any DM plan and hence must be done with due diligence and ground truthing is a must for it.

e) The patience of psycho-social counsellors is a must as identification and venting of needy taken time.

f) The basic protocols issued by various government agencies to curtail COVID 19 pandemic must be followed in its true spirits.

Urban Flood Risk Mitigation and Management, 25-27 August 2021

Key Takeaway/Recommendations



a) All individuals should take action on the catch the rains concept.

b) Various scheme and missions Govt. is planning and working currently with such as AMRUT, Jal Jeevan mission etc. work on the issues of urban areas.

c) Need to integrate SDG goals in urban developmental at master plan to observe where the city stand and work on their weakness.

d) The eastern Rajasthan Canal project for 13 districts is undergoing to give drinking water supply scheme without any disruption.

e) The smart city command and control centers now placed at smart cities where they monitor and map the infrastructure are working efficiently.

f) Sufficient provisions and norms with ample resources given to SDRFs from relief department, however, lack of knowledge and how to process the norm accurately and timely has been an issue due to which the funds are never used for many problems like infrastructural development, building damage and other preparedness and relief operations.

g) Poor implementation of building codes and settlements encroachment at low lying area is our vulnerability.

h) Institutional management for village panchayat and department wise action plan for urban flooding need to be adopted.

Women led Sustainable and Decentralised Water Resource Management – A Multi Stakeholders Perspective, 25-27 August 2021

Key Takeaway/Recommendations



a) Main streaming the gender perspective in Water Resource Management:
   - Recognizing that the interests and needs of women as well as those of men must be systematically pursued in the development of all national/regional policies and programs.
   - Legal frameworks and institutional reform to incorporate gender considerations, so that women and men have equitable access to productive resources.

b) Providing women equal access to and control of resources:
   - Understanding to what extent do women have equal access and control of natural resources such as water as well as land and economic resources which can impact water access.
   - Access to training, tools, resources, and support for land and water-related activities by women and marginalized people.

c) Exploring the untapped potential of women in urban water management:
   - Requires collective action of municipal governments, the private sector, nongovernmental organizations, and civil society.
   - Women water users have invaluable insights about the design, operation, and maintenance of water systems, which reflect their needs and preferences as the sector's primary customers.

d) Enabling women leadership in water management:
   - Within local government, women's participation and leadership have led to greater investment in women's issues, such as safe drinking water, sanitation, child care services, drainage, and street and village lighting.
   - Within communities, women's leadership has led to improved water security and greater efficiency.

Early Warning and Communication for DRR&R, 25-27 August 2021

Key Takeaway/Recommendations

a) Systemization and standardization are needed to improve the application of technology interventions.

b) A repository of emerging technology-featuring information on how emerging technologies are being applied for disaster management needs to be setup which would raise awareness and understanding.

c) Training is indispensable for the disaster managers to understand how to properly deploy mew and emerging technologies in crisis settings.

d) NDMA/NIFM and SDMAs might also consider creating a chief technologist post to better understand how to bring in relevant technology for deployment to improve community disaster resilience.



e) We need to promote a future in which we are all highly connected- brain to brain via the cloud-sharing thoughts, knowledge and spatial data.

f) Creation of forest fire research centres in each state collaborated with NRSC, FRI and FSI needs to be initiated.

g) Massive awareness to rural masses on importance of forest ecosystem and services needs to be carried out.

h) Incentives to villagers in forest fire control must be put in place to encourage people.

Fire & Emergency Prevention in the Public Buildings: Hospitals & Health Facilities, 25-27 August 2021

Key Takeaway/Recommendations

a) Understand the purpose, uses and gaps Fire & emergency safety measures as circulated in various Acts, Rules & Regulations, Code and Standards for public buildings.

b) To explore the fire safety related challenges faced by existing public buildings- with special reference to the health facilities.

c) To address the key fire and emergency issues in the case of India.

d) To discuss fire safety guidelines, fire & emergency prevention measures.



Basic Principles on Disaster Management, 25-27 August 2021

Key Takeaway/Recommendations

a) Information dissemination among the students, researchers, academicians and stakeholders with reference to basic disaster management concept, institutional mechanism and need for DRR for a disaster resilient society;

b) Knowledge sharing about various natural and manmade disasters covered in detail

c) Providing information about climate vulnerability indices and its crises in future.

d) Basic learning about the need for disaster management plans and how a district disaster management plans are prepared and used;

e) Knowledge sharing about how geospatial technology can be done for the disaster management and response.



f) Message to the society for having a clear-cut understanding and making a fine balance between development and nature conservation for sustainable inclusive growth.

Ecosystem Restoration through Spatial Planning for Resilient Settlements, 25-27 August 2021

Key Takeaway/Recommendations

a) Institutional collaboration is needed for making eco-restoration as a Pan-India movement. Institutes like NIDM, UNEP, UNDP, UN Habitat and Spatial Planning Schools can come together for achieving the same.

b) For scaling of ecological restoration effort, spatial planning role is important.

c) There is a need to bring back the lost ecological integrity of natural resources in urban areas.

d) Computing environmental externalities is important in managing and monitoring environmental quality in cities.

f) Valuation of services offered by Ecosystem needs to be introduced to the professional training and educational



institutes for related informed policy decision-making.

g) In professional training programmes, emphasis should be given on hands on exercise for comprehensive learning of the set objectives of the program. This will enable on-field successful implementation of learnings from the training.

h) Inclusive landscape restoration planning for multiple ecosystem benefits is important and to be explored by practitioners and professionals.

Present and Future Trends of Disaster and Pandemic Mitigation through Technology, 25-27 August 2021

Key Takeaway/Recommendations

a) The deliberations of keynote speakers and resource persons in the training program fetch to light the subsequent prominent points in the context of COVID-19 Pandemic future preparedness and future response and role of Technology in mitigating disaster effects.

b) Discussion on Risk assessment and the Probabilistic Modelling and Statistical Modelling methods that are employed to accurately assess the impact of the disaster.

c) Elaborate discussion on the key challenges posed by natural disasters in minimizing the loss for property as well as life.

d) Identification of several ways of prevention and control and to innovative prototype models using radar and wireless sensor technology.

e) Insight into the prototype models using radar and wireless sensor technology.

f) Demonstration of the Engineers' role in the mitigation of disasters and pandemics.

g) An urgent need to focus on micro containment and monitoring and responding to the progression of pandemic leveraging on real time data and community testing.

h) Estimation and planning required for the Post COVID scenario.

i) Awareness on the spread and surge of corona virus through biomedical waste.

j) Significance of Communication Engineer's role in developing cost effective products such as oxygen concentrators, test kits for COVID-19.

k) Recognition of ways of prevention and control of natural disasters using technology.



Sustainable adaptation to the pandemic and climate change with respect to gender empowerment along the coastal regions of India, 25-27 August 2021

Key Takeaway/Recommendations

a) Coastal communities are most vulnerable due to climate change and pandemics. They were affected due to a lack of proper infrastructure during adverse situations including this pandemic.

b) Women are more vulnerable to the effects of climate change than men, primarily as they constitute the majority of the world's poor and are more dependent for their livelihood on natural resources that are threatened by climate change.



c) Gender inequalities persist in fisheries and aquaculture, where women represent half of the workforce in seafood sectors, but are often assigned the most unstable and poorly or unpaid positions.

d) Further, they are particularly at risk to job loss – especially for those informally engaged and female migrant workers in the seafood processing factories. They were thus very unlikely to be eligible for access to social protection benefits offered by some governments to handle the COVID-19 outbreak.

e) More than one billion of the world's poor rely on fish and seafood as a primary source of protein and ocean acidification poses a substantial threat to food security.

f) The effects of ocean acidification on women have been understudied, but as food resources dwindle and livelihoods are threatened, women are often responsible for finding replacement resources and may receive a disproportionately small share of those resources.

Child Centric Disaster Risk Reduction (CCDRR), 26-28 August 2021

Key Takeaway/Recommendations

a) There should be clear communication among the members.

b) There should be comprehensive training by the experts.

c) There should be knowledge of the assets that are to be used during the disasters.

d) There should be clear knowledge about the technology and safety and protocol.

e) There should be proper leadership among the person involved in the disaster management.

f) Continuous improvement is needed for better management.

g) Receive and manage information from the public and other source.

h) Pass information and requests for assistance to the District Disaster Coordination Centre (DDCC).



Emerging Cyber Threats and Strategies for Resilience, 31 Aug-02 September 2021

Key Takeaway/Recommendations

a) More stringent government regulations and monitoring.

b) Mandated strong cyber security practices for organizations.

c) Effective SOC and NOC with an efficient team of responders.

d) Identification of rogue organizations/individuals and monitoring.

e) Enhanced BCP planning aligned to current and expected disruptions.

f) All available safety system should maintain, tested regularly, need proper audit at least third-party audit, all associate should be fully trained to handle the situation to cover 24x7.

g) Training on the said subject should be made mandatory.

h) Certification course may be looked at so as to ensure that appropriately trained and certified candidates undertake the necessary activity.



Basic Principles on Disaster Management, 01-03 September 2021

Key Takeaway/Recommendations

a) Different types of disaster and their basic concepts such as resilience, disaster damage, vulnerability.

b) Current pandemic situation in world wide.

c) The salient features of Disaster Management act 2005 in National, state and district level more briefly.

d) The three tier mechanism in disaster management was very informative. 'The seven Pillars' –overall strategy of Disaster Management.

e) Need for strengthening collaboration, command, control, and communication systems for efficient, prompt, and graded response and recover.

f) Structural and non-structural form of disaster management.

g) Different types of Government act to be passed during disaster.

h) Current activities of the disaster management team.

i) The importance of inclusion of disaster management in school.

j) The women and children were the highest population to get affected in disaster.



Disaster Psycho-social Care, 01-03 September 2021

Key Takeaway/Recommendations

a) As disasters impact behaviour of many affected people, need for Psychosocial care counsellors becomes a must.

b) Team of counsellors must be made out of community and training for counselling must be given to the team. This will enhance the capacity of community counsellors and identification of needy will become easy.

c) Creation of such counsellors will generate a pool of counsellors which will in turn strengthen the very purpose of psycho-social care.

d) College students also have stress regarding their future in present pandemic situation and need stress busters. Specialized trainings to counsellor teams would enable them to address issues pertaining to college students.



e) Colleges having psychiatry department must also run Disaster Psychosocial courses to create a pool of counsellors.

f) NIMHANS, Bangalore which is running Disaster Psycho-social courses should decentralize such trainings.

g) Best practice case studies being conducted in this field by various stakeholders must be shared with all concerned.

Localization of Climate Resilience Agenda: 2050 and 2100 Visions, 02-03 September 2021

Key Takeaway/Recommendations



a) It is important to anticipate the disaster risk issues and challenges for future generation.

b) It is important that we make sure that people have rapid access to information that encourages preventive measures and enables quick response to protect lives and livelihoods.

c) Use of science innovation and technology may emerge as a key to planning sustainable and disaster resilient infrastructure and systems in present and future.

d) Traditional knowledge and wisdom and indigenous innovation is equally important as it may provide many cost effective solutions.

e) Localized planning at municipal level is important.

f) Need to integrate science, technology, institutions and culture to solve society's problem.

g) Establishing well distributed longitudinal data collection centres and long term monitoring system.

h) Creation of young volunteers to collect data and bring awareness among masses.

i) Proper implementation of guidelines and capacity building programmes.

j) Preparedness and capacity building at all the level is crucial.

Online Content Orientation Training Program on CCDRR, 06-08 September 2021

Key Takeaway/Recommendations



a) Independent children (0-12 years) should be the focal point of safety practice.

b) Importance of avoiding self-medication and treatment.

c) Risk assessment of civil engineering, buildings, and infrastructure.

d) Rehabilitation plans should focus on reducing the impact of children.

e) Inclusion of children in the disaster mitigation planning phase.

f) Reinforce frequent hand washing and sanitation and procure needed supplies.

g) Update or develop school emergency and contingency plans.

h) School Disaster Management Committees are needed for a better management.

Capacity Enhancement for Disaster Risk Reduction and Resilience, 06-08 September 2021

Key Takeaway/Recommendations



a) Capacity building approaches purposefully minimize an over-reliance on outside experts as sources of knowledge, resources, and solutions to community issues. By preventing a dependency relationship on outsiders from forming, capacity building encourages local people to take action on local issues themselves.

b) Capacity Enhancement is the development of an organization's core skills and capabilities such as leadership, management, finance and fund raising in order to build the organization's effectiveness and sustainability.

c) Capacity Enhancement is about developing the skills, knowledge, and the capacity of a workplace to respond to employee challenges and conflicts. It is about each person doing their part to make a positive impact in the workplace.

d) Vulnerability and capacity assessment (VCA) is a process of participatory investigation designed to assess and address major risks affecting communities. It aims to determine people's vulnerability to those risks, and their capacity to cope and recover from a disaster.

e) Some steps of capacity enhancement are- Assess capacity needs and assets, engage stakeholders on capacity development.

f) The combination of all the strengths, attributes and resources available within an organization, community or society to manage and reduce disaster risks and strengthen resilience.

Online three days training on "Post-Disaster Housing Reconstruction: Lessons from the Past & Future Aspects" in collaboration with ADPC, 08-10 September 2021

Key Takeaway/Recommendations

a) Mr. Kamal Kishore, Member, National Disaster Management Authority, Government of India highlighted the thought that 'housing is not a product, housing is a process', the policies, schemes need to choose wisely as per the context. He presented seven points which are important to ensure resilient housing in a post disaster situation which are as follows:



- There is a need to decide upon the technology & design of disaster affected houses as resilient and sustainable house from future disasters;
- Need to bring women's & children's perspective in housing reconstruction as new construction would affect to their household chores and way of life;
- Need to prepare a realistic timeline for the reconstruction program in conjunction with provision of temporary (transition) housing;

b) Lastly, importance of relocation aspects of the affected houses to the safer places.

c) There are social, economic and governance impact of disasters on the housing sector and house owners; Financing Recovery and Reconstruction (R&R); Scientific Innovation in assessing need and implementing resilient housing programs.

d) The key challenges for risk informed housing reconstruction efforts are urgency of reconstruction, limited pre-disaster arrangements, additional cost needed for risk reduction, lack of technical know-how and implementation of new building codes.

e) After a disaster the prime objective is to get the families together as people get dispersed and need of temporary housing arises within 72 hours of the event.

f) The housing reconstruction process requires prior- planning focusing on - location, sanitation food/kitchen facility and other resources. When we talk about restoring the lives of the people, there is also a need to restore the social hierarchy of the affected people. With the reference to the case studies from Turkey earthquake, Japan Earthquake & Indian Tsunami, it was explained that how social dimensions are important part of making temporary shelters and permanent housing liveable.

SDGs and Onshore and Offshore Blue Economy in Indian Ocean Island, 08-10 September 2021

Key Takeaway/Recommendations

a) Many participants felt this programme would be useful to understand the concept and SDGs and Onshore and Offshore Blue Economy in Indian Ocean Island.

b) Explores the possible ways to generate new carrier options in Indian Ocean island environment.

c) Community engagement and intervention in carrying out sustainable Onshore and Offshore Blue Economy process.

d) This training program also inspired many of them to take up new research / study related to Onshore and Offshore Blue Economy process in Andaman Islands.

e) The interaction with the resource persons and fellow participants benefitted many of them.

f) The participants understood the current scenario of vulnerable Onshore and Offshore Blue Economy in Andaman and Nicobar Islands.

g) Capacity Fisheries & Fish process programme & community welfare programme can be conducted to increase the local community involvement since the participants were understood about its positive benefits.



h) All of the above, the overall impression of the program gained more votes which adds credit to this training program.

Socioeconomic Drought Management through Community Engagement, 14-16 September 2021

Key Takeaway/Recommendations



a) The drought impact around 50% of the economic loss in the country there should be short, medium and long term strategies for mitigating drought. Drought is not an issue of water but it is also an issue of land, so land resource management is very important in addressing drought.

b) The district wise forecasting services provided to 694 districts are quite remarkable and the fact that they're looking at impact based forecasting crowd sourcing information.

Youth engagement in Early Warning and Dissemination, 15-17 September 2021

Key Takeaway/Recommendations



a) Student and young professionals needs to bring together to exchange ideas and knowledge on reducing disaster risk, building resilient communities, and advocating for the inclusion of youth priorities within SFDRR.

b) We need to support and empower children and youth with the skills and knowledge to strengthen resilience in their communities, recognizing their unique abilities, needs and priorities.

c) Meaningful intergenerational activities are needed to transfer state-of-the-art knowledge to those that will be implementing DRR initiatives in the future.

d) We need to build and exchange knowledge on disaster risk reduction to increase youth action in DRR post-Sendai.

e) Empowering local actors in the management and resolution of their problems needs to be promoted.

f) Integrate common interest and motivations among the community, authorities, and support agencies related to youth-led processes.

g) Innovative approaches and technological responses in DRR need to take account of underlying disaster risks such as inequality, climate change, urbanization, the increase in population density, and environmental degradation.

h) We need to have a multi-hazard approach as COVID-19 demonstrates the need for a systemic, multi hazard approach in an increasingly globalized and interconnected world.

Strengthening Role of Communities in Disaster Risk Management: Rethinking Community Based Disaster Risk Management (CBDRM), 15-17 September 2021

Key Takeaway/Recommendations

a) The definition and understanding of 'community' are continuously evolving in alignment with the changing concerns and situations.

b) The idea of CBDRM is primarily to empower communities across all phases of disaster management.

c) The role of communities in CBDRM is not limited to the post-disaster phase alone.

d) CBDRM entails not only response to disasters. It also constitutes the involvement of communities in pre-disaster phase.

e) CBDRM can be implemented successfully only when there is a humane connection with the communities. This will enable us to place communities need to be placed in focus in the research process with an aim to address local issues, challenges and problems, from the perspective of those who are experiencing disasters.



f) CBDRM is not limited to rural areas alone. The scope of CBDRM is expanding to urban spaces also.

g) CBDRM and Citizen Science are different concepts. While CBDRM can take into account the indigenous knowledge of communities for DRM and DRR, citizen science is a concept where the already existing organizations/institutes partner with the local communities for gathering data, on the basis of parameters set by the institute itself.

h) CBDRM is responsibility of everyone, and not limited to Government or NGO's.

Fundamentals of Disaster Management, 15-17 September 2021

Key Takeaway/Recommendations

a) Speakers comprised of Civil Engineers and Defence Personnel involved in Disaster Management and one of the speakers was from Japan who extensively worked in Disaster Management.

b) All the Speakers were of high quality and were from reputed institutions.

c) The focus of the program was to cover most of the natural disaster and hence, earthquakes, floods, tsunami, cyclone, urban flood, landslide were covered



d) The lectures included many case studies in which the resource persons were involved.

e) Each of the resource person emphasized that Civil Engineers play major role in disaster management. And hence they will involve before, during and after the disaster.

f) All lecture focused on fundamental basics plus future scope for research for effective implementation of disaster management.

Child Centric Disaster Risk Reduction (CCDRR), 15-17 September 2021

Key Takeaway/Recommendations

a) Reducing vulnerability and potential losses of hazard.

b) Building up capacity in every sector like- individual, social, economic, environmental, regional, national and international.

c) Reducing the damage, death, sufferings and destruction of any natural and human induced disaster.

d) Applying efficient, effective, sustainable relief (food, shelter and money), medical and other facilities in disaster affected people thus they can survive.

e) Assessing, reviewing and controlling the risk.

f) Ensuring the availability of local emergency equipment and transportation.

g) Ensuring safety, equity, equality to all organisms specially human beings.

h) Giving warning before disaster thus people can be prepared and safe from that.



Role of Digital India in Pandemic & Anthropogenic Hazards and Disasters: Impact Assessment, 16-18 September 2021

Key Takeaway/Recommendations

a) To pointed out the physical, chemical, and biological hazards that are external to a person. Hazards can be natural or human-made Physical hazards include activities or natural substances in a work environment that pose health risks.

b) Biological hazards come from organisms, including people, animals and plants, and threaten human health. Examples of biological hazards include mold, sewage, blood and bodily fluids. These dangers can result in diseases and allergic reactions and limit employees' ability to carry out their work.

c) To global warming is just one aspect of climate change. “Global warming” refers to the rise in global temperatures due mainly to the increasing concentrations of greenhouse gases.

d) To Base on data he held that most of the hazards are man-made and made a humble request to all participants to stop further degradation of the environment at least in the interest of mankind.

e) To detailed explanation about different types of AI like Artificial General Intelligence, Artificial Super intelligence etc. Some of the prominent areas where AI is used extensively are in Manufacturing Robots, Healthcare, Finance and e-Commerce.

f) Scanning temperature using contactless thermometers was a boon to mankind and is an important non-medical intervention to build next-generation epidemic preparedness and move towards a resilient recovery.

g) An extended period of working from home will not only kill office productivity but is building a mental health crisis.



Disaster Risk Reduction Strategies in Coastal Community, 20-22 September 2021

Key Takeaway/Recommendations



a) The rising number of coastal hazards along the world coastlines throws light on the need of better and efficient methodologies for the assessment of coastal knowledge about tools and methodologies to assess vulnerability.

b) Socio-economic factors are important as the data related to these aspects vary across the study area since these parameters are associated with humans, land use, transportation, and cultural heritage and hence can prove to be essential in terms of the reaction of a particular area to a natural disaster.

c) This webinar presents an objective methodology to analyze and illustrate the vulnerability linked with various coastal hazards and can be used effectively by coastal managers and decision makers to devise better coastal zone management plans as well as to ensure efficient mitigation measures to lessen the losses during disasters.

d) Vulnerability maps produced can be used as broad indicators of the susceptibility of the people living along the coastline to coastal hazards.

e) Physical Vulnerability Index presented in this session has been calculated by using seven variables of coastal slope, geomorphology, regional elevation, shoreline changes, sea level rise, significant wave height and tidal ranges.

f) A global index of the relative vulnerability of any watershed to erosion throughout the tropics and connect that to deposition in individual coastal zones using open-source datasets.

g) The factors behind the behaviors of people on health environment include knowledge, the availability of facilities, and the support from the health personnel and local government.

Climate Change, Urbanization & Multi-hazard Management, 20-22 September 2021

Key Takeaway/Recommendations



a) Municipalities are well advised to spend adequate resources for comprehensive flood risk assessments.

b) Community participation in flood risk assessment as well as in planning and implementation of risk management measures.

c) Flood management measures have to be planned across administrative and sectoral boundaries.

d) Finding an adequate compromise between storm water drainage and source control needs profound consideration and consultation with all stakeholders.

e) There is need to combine structural and non-structural, spatial and organizational measures.

f) Recognizing sustainable, flood aware urban planning.

g) Monitoring and evaluation of implemented measures.

Disaster Risk Reduction in Himalayan Region with Specific Reference to Ladakh, 21-23 September 2021

Key Takeaway/Recommendations



a) Drass region of Ladakh UT has highly sensitive environment which makes them highly vulnerable to many hazards.

b) Implementation of DRR into developmental activities will help to reduce the impact of hazards and disasters.

c) Conversion of disaster into usefulness can be achieved by harnessing the kinetic energy of flash-flood into production of electricity.

d) The community needs to be at the forefront since disaster and climate change phenomena directly impacts their life and livelihood.

e) Risk sensitive planning is required to develop disaster safe development in Hilly regions.

f) Poor vegetation in high altitude region like Drass makes them more susceptible to erosion and land degradation.

g) Coordination with different stakeholders for effective enforcement of policy and plans.

h) In border areas like Ladakh, international peace parks can be a way forward to save the wildlife of the Himalayan region.

Disaster Risk Vulnerability Assessment and Management, 22-24 September 2021

Key Takeaway/Recommendations



a) The influence of snow physical properties on snow reflectance and demonstrates the potential of hyper spectral data over multispectral remote sensing to improve our understanding.

b) With the planned future missions and improved advanced image processing techniques, space borne hyper spectral data availability will definitely address many issue of Himalayan Cryosphere to improve our understanding for hydrologic and climate applications.

c) Studies in other parts of the Himalayan terrain are required for assessment of possible GLOF hazards, so that measures to mitigate flash floods from the outburst of MDLs may be planned well in advance.

Child Centric Disaster Risk Reduction (CCDRR), 22-24 September 2021

Key Takeaway/Recommendations

a) Appropriate actions at all points in the cycle lead to greater preparedness, better warnings, reduced vulnerability or the prevention of disasters during the next iteration of the cycle.

b) Capacity to obtain, analyze, and communicate information on risks, relief needs and lessons learned from earlier disasters in order to formulate strategies for mitigation in future scenarios with the ability to clearly present and discuss their conclusions and the knowledge and arguments behind them.

c) Coordinating and collaborating with all disaster management and related organizations, NGO's, local and international agencies and creating strong network among them.

d) Reporting, analysing and monitoring risk performance, intensity etc.

e) Formulating and implementing disaster management policy, plan, law and regulations in regional, national and global sector.

f) Shifting exposure from vulnerable area into safe place.

g) Long-term planning for particular disaster to reduce its risk.

h) To make the efforts for conservation of environment.



Virtual National Conference on Disaster Management with focus on Geohazards, 23-24 September 2021

Key Takeaway/Recommendations

a) Event clustering is of significant practical concern for the aggravated risk boost and for the added pressure on a resilience societal response since particularly building vulnerability to multiple events is not very well analyzed.

b) So called Black Swan events or unknown or extreme rare events that toggle without apparent historical precedent, or passed Geological evidence are of grand challenge for the whole subject area of geo-hazards and geo risk.

c) Gray Swan events, which are known, but are difficult to model also merit, special attention.

d) Coordination of various agencies can be a great help in serving the human lives and the loss to the property.

e) If we have the good number of for intellectuals, and we can train them, we can awaken them than so many losses can be saved in the form of live or any other things.

f) The potential impacts of hazards tend to be ignored in the planning of land-use, development of structures, infrastructure, utilities, services and social economic processes.

g) The biggest challenge for all of us is when we deal with disasters, how we prevent the loss of lives and damages.

h) Proper monitoring of slopes potential to fail should be monitored appropriately. The slide was reactivated for third time. The dearth of proper monitoring of the slope led to the catastrophe.

i) There is need to incorporate the local knowledge in development planning process.

j) Documentation of disastrous events is crucial in strengthening the strategies to reduce the adverse impacts/risks of the landslides in our hilly slope.

k) Need to check the slope health status. Before any construction activities we need to check the slope health status, whether the proposed construction is feasible or not, if not what should be the measures to ensure the safety of the slope.



Food Processing Industry Resilience during Pandemic Disaster, 23-25 September 2021

Key Takeaway/Recommendations

a) Classification of Disaster:
- Classification of disaster as per disaster management act with special focus on Sendai framework.
- Need for food processing during disaster/pandemic period.



b) Value addition and quality control in food processing:
- Raise income and increase product shelf life.
- Can be moved longer distances for more profit.
- Availability throughout the year.
- Create employment opportunities.

c) Drought resilience, ecosystems management and climate change:
- Correlation between drought and diseases.
- Economic loss.
- Need for establishment of national drought resilience.
- Increased risk governance.

d) Development of food processing industry in North East Region:
- Small/ Micro level processing units.
- Mobile processing vans to combat lack of transportation.
- Effective marketing policy.

e) National Agriculture Disaster Management Plan and Sustainable food waste management:
- Small/ Micro level processing units.
- Mobile processing vans to combat lack of transportation.
- Effective marketing policy.
- Protection of infrastructure, asset, property and resources.

Climate Change and Disaster Management related Challenges in Polar Region, 27-29 September 2021

Key Takeaway/Recommendations



a) Type of disasters commonly seen in polar regions are- Blizzards, Ice crevasse and shelving, fire, aircraft and ship accidents, oil spillage.

b) Himalaya as third pole is prone to many types of natural and man-made hazards and vulnerability has increased due to overexploitation.

c) Effect due to Climate change snow avalanche pattern has changed significantly- shrinked season, exposed new locations for hazards, shows increased rain on snow events etc.

d) Antarctica the sleeping continental cryosphere giant has

colossal old ice preserved, can contribute to massive sea level change if melting occurs, about 60 m of sea level rise.

e) The Antarctica shows clear cut effects of global warming with significant increase in rate of melting in west Antarctica.

f) The possible range of temperature that would increase with more CO2 emissions will vary from 0.3 to 4.8 degree Celsius.

g) It is high time to immediate policy planning to reduce total CO2 emissions in the coming decades which very much require educating students about Social and Economic reforms and Science for Policy.

h) Management- resource mobilization, coordination, communication, risk assessment and contingency plans.

Basics of Disaster Management, 27-29 September 2021

Key Takeaway/Recommendations



a) People should be empowered with information at the pre-disaster, during disaster and post-disaster level for disaster preparedness.

b) Institutional structures/appropriate chain of command will be required

c) Appropriate training imparted to disaster managers at various levels to ensure coordinated and quick response at all levels;

d) Development of inter-State arrangements for sharing of resources during emergencies.

e) A culture of planning and preparedness is to be inculcated at all levels for capacity building measures.

f) There is a need to develop an evacuation plan for getting out of your store and/or shopping center, and a plan for sheltering in place if necessary.

g) Create a plan to secure property and equipment if receive advance warning of an approaching disaster.

h) Regularly review the disaster plan to make sure information and contact list is up to date.

i) Provide disaster training for reliance employee at least once a year, and whenever hire a new employee.

j) There is a need to have a compulsory discussion to address the gaps and challenges in disseminating the information to the last person in the society.

Vulnerability Assessment and Resilience Development for Human Habitats, 27-29 September 2021

Key Takeaway/Recommendations

a) Disruptive technologies with design perspective are key to develop climate change resilience and organise disaster management in habitats.

b) Web based Geographic Information Systems (GIS) tools are key for disaster management.

c) Vulnerability Assessment and Resilience Mapping using GIS and Remote sensing technology is aiding the resilience development and disaster management efforts.

d) The flood management model with web-based spatial system is efficient for information exchange and knowledge sharing in evacuation phase of disaster management.

e) The use of natural elements is the most sustainable approach to build resilience to human habitats located in sensitive and vulnerable locations.

f) Methods and tools of spatial analysis, their integration and application aid the coastal zone management.

g) The Climate change detection and attribution studies are required to perform vulnerability assessment of human habitats under the influence climate change impacts.



h) Reach-scale River sustainability assessment is a promising approach for researching and managing regional and trans-boundary rivers.

Disaster Resilient Infrastructure & Way Forward, 28-30 September 2021

Key Takeaway/Recommendations

a) Significance of resilient infrastructure; current status & available National & International Frameworks covered in detail.

b) Infrastructure as a set of domains that include resources, people and coordination mechanism hence not only structure but functionality of infrastructure is important.

c) Disaster Risk Management for Architecture & Heritage Infrastructure is the need of the hour as these infrastructures once destroyed cannot be recovered.

d) Coalition for Disaster Resilient Infrastructure (CDRI)-United Nations (UN), banks, private sector and research agencies, is focusing on resilience of infrastructure through capacity building, partnerships, and research and knowledge management.



e) Various dimensions of Hospital Infrastructure Protection & DM Plan- disaster scenarios for hospitals-i.e. Community affected-Hospital unaffected, community unaffected-hospital affected & community affected-hospital affected.

f) Community based approach & traditional wisdom facilitate effective implementation of resilient infrastructure on ground level.

g) DM Plan, Act & Policy Intervention, Significance of Hazard & Risk Assessment, prevention & mitigation plans, preparedness plans, response plans, recovery plans, evacuation plans, emergency access plans, emergency management plans, regular monitoring and evaluation etc.

h) District disaster management plans, powers & function with important salient features, roles and responsibilities of the stakeholders, important components of such plans, how they are regularly monitored and reviewed etc.

Flood Risk Management, 28-30 September 2021

Key Takeaway/Recommendations



a) There is a need to explore the ways to manage water resources under changing climate conditions.

b) The innovative ways to communicate both flood risk and uncertainty to public awareness should be encouraged.

c) The spatial planning guidelines should be adopted according to the changing climate conditions.

d) The integrated problems for flood risk assessment with technologies and collaborative and coordination mechanisms should be identified.

e) Regular monitoring and flood preparedness in the vulnerable areas, collection and compilation of post disaster data, documentation of best practices and lessons has to be done by the state/districts for future lessons.

f) Use of technology and smart solutions for a better flood risk management.

g) Adoption of traditional and indigenous techniques can be adopted for better engagement of citizens in the Flood risk management.

h) Public and private investment in disaster risk prevention and encouraged.

Incident Response System: Basic & Intermediate, 28-30 September 2021

Key Takeaway/Recommendations



a) Many agencies come forward for providing response during emergencies and hence coordination becomes key. IRS as a system provides for coordinated response.

b) As positions under IRS are performed by different trained stakeholders, the efficiency of response increases.

c) Clear roles and responsibilities ensure negligible confusion in performing response activities.

d) IRS functions as a part of larger response process and hence its effectiveness lies in effectiveness of other ingredients of the process such as DM Plan, EOC, IDRN and ESFs.

e) IRS is always based on the fact that functions being mentioned in IRS system must be performed even though the position is not activated.

f) One of the salient features of IRS is accountability and hence it must not be compromised.

g) Emergency Operations Centre (EOC) must function as facilitator to the site operations for effective response.

h) Videos pertaining to Planning Meeting, Operations meeting Pre=planning meeting must be prepared and made part of such trainings.

New Emerging Challenges For Disaster Risk Reduction & Climate Change, 28-30 September 2021

Key Takeaway/Recommendations



a) The sixth assessment report by the Intergovernmental Panel on Climate Change (IPCC) is revealing that Kerala is highly vulnerable to the impacts of climate change. Kerala state has developed a State Action Plan on climate change recently.

b) The sea level rise, global temperature increase, warming oceans, shrinking ice sheets, declining Arctic sea ice, ocean acidification, are directly affecting coastal states like Kerala.

c) Active involvement and coordinated effort of the academic institutions, research institutions and the administrative mechanism is essential for responding to the impacts of climate change.

d) The incidents such as earlier dates of flowering of trees, the emergence of insects and the occurrence of extreme weather events are the impacts that are directly visible. Initiatives to combat the impacts of climate change are in progress.

e) Community engagements will reduce the risk of disasters in the emerging scenario of climate change.

f) Climate change induced disasters are increasing globally. Eco-DRR solutions are the best adaptive techniques to combat the impacts of climate change.

g) Planning process has to be strengthened and all stakeholder departments have to have their own financial components for their annual plan allocation.

h) The social movements such as Kudumbasree, Nav Kerala mission etc are green initiatives to increase resilience and minimize the impacts of disasters which may be modelled for the entire country.

i) The capacity-building activities has to be continued as a routine programmme to sensitize the community as well as the officials to tackle the impacts of climate change.

j) The interaction of academics, administration and research is an essential component in building resilience to climate contingencies.

Child Centric Disaster Risk Reduction (CCDRR), 28-30 September 2021

Key Takeaway/Recommendations

a) Hazard Analysis: Identification of the hazards and assessment of the magnitude and probability of their occurrence.

b) Analysis of vulnerability of individuals, populations, infrastructure and other community elements to the hazards.

c) Capacity of the system to manage the health risks, by reducing hazards or vulnerability, or responding to, and recovering from a disaster.

d) A multi-sectoral forum promoting and coordinating the development of research methodologies in disaster risk management.

e) Enhanced multi-sectoral and coordinated communication and data sharing.

f) Ensuring learning is used to influence decision making at all levels of civil society.

g) Safer and prepared hospitals, health facilities, infrastructure and organisations.

h) Information, education and communication networks to promote healthy behaviours in communities at risk of disasters.



Fire & Emergency Prevention Measures for Industries, 28-30 September 2021

Key Takeaway/Recommendations

a) The objectives of industrial fire safety is to prevent fire hazard to minimum and to eliminate fire accidents which cause human loss and stoppage of work & production. Fire safety also helps in building confidence in the workers by promoting safe work practices and good working conditions. The data of last 13 years, indicated about Rs. 3409 crore loss is reported in last 13 years in a total 102 types of industrial occupancies. Each incidence causes about loss of Rs. 2.55 crore per unit on an average. These figures highlight the urgent need to adopt proper mitigation measures and fire safety norms by the industries.

b) We have fire prevention norms, standards and international standards in place, but we would require to strengthen our institutional system to implement those norms. We need to protect the labourers, workers and the precious infrastructure built by industrialists which is the second most of important sector contributing to our country's economy.

c) Adoption of fire preparedness, prevention and mitigation measures are important for reducing the risk induced due to fire. The International Code definitely provide a systematic approach for eliminating potential hazards by planning, checking &monitoring, internal audit and action for corrective action.

d) For industries, preparation of Industrial Disaster Management plan cannot be ignored. There is a need to train the staff on regular basis. Mock drills and table top exercises for conducting mass evacuation is another important aspect of it. We need to ensure the safety of structural aspects of the building as well as non-structural elements from the various disasters.



Community-based Disaster Preparedness, 28-30 September 2021

Key Takeaway/Recommendations



a) Mobilizing and engaging the community people is every crucial for ensuring sustainable community practices for disaster management.

b) Empower the communities to make every one in each community an efficient stakeholder in the disaster management.

c) Documentation and dissemination of successful practice are essential for designing more effective systems and practice of disaster management.

d) Technology up gradation for CBDP is very much essential for empowering the communities with new advanced knowledge and practices.

e) At the community level training on different advance technologies of rescue, relief, warning are essential to build resiliency. Effective use of warning system, preparedness, and evacuation strategies can help to achieve the commitments for Zero-death in disaster.

f) Culturally sensitive measures in disaster management are very much essential for effective use of the knowledge by the community people at the time of crisis or disaster.

g) The housing societies, units of living, should have enough common places and infrastructure that can be converted for better use to deal with the disasters and emergencies.

h) Preparedness of community using the local resources and capacities are crucial to use the indigenous knowledge and practices.

Geohazards and Disaster Resilience Infrastructure in the Himalayan Region, 28-30 September 2021

Key Takeaway/Recommendations



a) Ecoengineering in Himalayan terrain is already practiced well for geohazard management. Results are quite good but the monitoring and maintenance is not well practiced. The conventional engineering design for Geohazard risk management can be well accumulate with ecoengineering.

b) Ecoengineering is not all-time solutions for each geohazard mitigation. There are limitations depending on scale and type of function necessary. The session was quite informative and interesting.

c) GIS can be used for landslide hazard zonation mapping on different scales. Different rock mass classification techniques can be studied for slope stability assessment along hill roads.

d) Mitigation approaches for landslides may include avoidance of steep slopes and caution during development activities,

insurance for risky constructions in risky areas, land use zoning and restrictions imposed in unsafe zones and structural design incorporating additional safety regulations in sloping land.

e) There is a need to review the alignment of existing roads in the hilly regions in consultation with Geological Survey of India and other scientific agencies.

f) The evaluation of the stability of the natural slopes is very essential for the safe operations of transportation routes and construction practices in the mountainous terrain.

g) There is a high importance and usefulness of pre and post-event images/videos obtained from the locals to locate and map the lost and damaged structure and qualitatively gauge the damage incurred.

Capacity Building and Resilience for Cultural Heritage Disaster Risk Reduction, 29 September-01 October 2021

Key Takeaway/Recommendations



a) While constructing the structure, it is necessary to consider earthquake safety features and building regulations.

b) It is critical to repair, refit, and rehabilitate heritage buildings on a regular basis.

c) During an emergency, people should ask for assistance.

d) In everyday life, it is vital to take simple precautions and to be vigilant.

e) It is necessary to identify regions that are prone to disaster.

f) It is essential to stimulate the youth and the community to assist in the event of a disaster.

g) It is necessary to motivate local volunteers and youth, as well as to provide appropriate training.

h) We must participate in the creation of a disaster management strategy and communicate it to all family members.

i) Prevention, conservation, and detailed documentation of heritage culture is essential.

j) There is a need to identify the proper heritage culture.

k) There is a need to emphasize on preserving agriculture's living heritage.

l) It is critical to keep the important aspects in mind while looking after heritage conservation.

m) The District Disaster Management Plan should be understood by everyone, and the elements at risk must be protected first.

Thematic Write-up

Rebuilding Livehoods in Post Pandemic Era: Lessons Learnt

Dr. Ajinder Walia

The global COVID-19 pandemic has brought unprecedented disruption to lives and livelihoods around the world. However, it has been severe for the developing countries like India. The irony of the situation was that while there was an acknowledgement of the need for social distancing and self-isolation for the wellbeing of citizens of the country, there was a growing concern over adding to the severity of economic and social impact that the lockdown and physical distancing protocols would have on the country.

Informal sector in India is the backbone of pour economy. The absence of informal economy in periods of lockdown and social distancing was deemed to directly and negatively impact the more vulnerable group and their families. Informal economy workers were particularly vulnerable during this pandemic as majority of them lacked social protection and access to health care. Without the means to earn an income during lockdowns, they were not able to feed themselves and their families. The Centre and State governments made appeals to the private sector to not lay off or cut the salaries for the workers during the early days of the lockdown. Financial relief packages were announced by the states during the initial phase of the pandemic. However, the efforts required to address the livelihood needs of a huge population was always a challenge for the government.

Beyond survival, stabilization and recovery, there are also opportunities and lessons in this crisis, which need to be captured by the country. Firstly, there is a need for registration of the poor and migrant population involved in informal jobs or sectors such as vegetable vendors, construction workers, rickshaw pullers, auto-rickshaw drivers and temporary staff, etc. It has to be institutionalized and updated using latest digital technologies and innovations, along with a dynamic unemployment registry to provide direct economic (universal basic income), health (universal coverage) and other necessary contingency protection and security support in time of emergencies. Secondly, we can promote our 'Make in India' campaign which could be turned into reality, if we can begin manufacturing for world markets as large international firms. Finally, it is a wake-up call for the country to work and improve upon our social infrastructure on public health, which would help in saving lives and promoting health of citizens. Good health of citizens is imperative to individual livelihoods as well as economy of the country.

"Rebuilding Livelihoods in Post Pandemic Environment: Lessons Learnt"

Dr. Sushma Guleria

The COVID-19 pandemic severely affected people's lives especially health. Also, it has been having unprecedented economic and social consequences for all the suffering countries. Countries have responded with concerted efforts to upgrade their public health systems and social and economic response measures. The spread of COVID-19 has, however, also demonstrated the consequences of a lack of resilience and preparedness to deal with such a long-run pandemic. Climate change, water pollution and the drivers of biodiversity loss, such as deforestation, habitat loss and the illegal wildlife trade, may increase the risk of further pandemics, or outbreaks of vector-borne or water-borne infections, while adding to a complex risk environment through potential cascading impacts to the systemic consequences of a pandemic crisis. Needless to say, Governments' first priorities in tackling the COVID-19 pandemic have been to overcome the health emergency and to implement rapid economic rescue measures, the latter mostly aimed at providing essential liquidity and protecting livelihoods in the face of abrupt losses of income. As the health crisis gradually abates in most countries, attention is now turning to preparing stimulus measures for triggering economic recovery.

Juxtapose, we are faced with a present and future where risks and vulnerabilities are growing, more frequent heat waves and drought will expose communities to heat stress, reduce access to safe water, diminish food supplies, devastate livelihoods on which families depend, and threaten the progress towards the SDGs. Floods and extreme weather will damage infrastructure critical to survival. Changing patterns including trajectories of cyclones (hurricanes/typhoons) as well as their intensity and frequency challenge risk-management processes. More frequent landslides due to more intense weather events like heavy rainfall threatens the most remote communities and urban dweller alike. Environmental risks due to increasing GHG emissions, unsustainable energy consumption, air pollution is on the rise and impact survival and well-being of people. All this will create further social, economic and environmental shocks, including a loss of livelihoods, security, and potentially forcing families to migrate. This will in turn further threaten the health, education and safety of children, as well as their future opportunities.

For the economic recovery from the COVID-19 crisis to be more durable and resilient, a return to 'business as usual' or maintain continuity and environmentally destructive investment patterns and activities must be avoided. Unchecked, global environmental emergencies such as climate change and biodiversity loss could cause social and economic damages far larger than those caused by COVID-19. To avoid this, economic recovery packages should be designed to "build back better". Other key dimensions for assessing whether recovery packages can "build back better" include alignment with long-term emission reduction goals, factoring in resilience to climate impacts, slowing biodiversity loss and increasing circularity of supply chains.

Many governments have recognized the need and opportunity of a sustainable recovery. For example, in April 2020, the G20 Finance Ministers agreed to "commit to support an environmentally sustainable and inclusive recovery". Encouragingly, an international poll covering developed and developing countries also suggests that a majority of citizens see a focus on environmental issues as a continued priority as we emerge from the COVID-19 crisis.

The term **"Building Back Better" has been increasingly and widely used in the context of the economic recovery from COVID-19 and** even at the global level, there is still an emphasis on prevention, as the investments and behavioral changes made will pay dividends in the future through

reduced exposure and increased resilience to costly future disruptions – whether due to climate change, disease, or a confluence of these or other factors. **Strengthening resilience to the impacts of climate change** is one specific aspect of improving the overall resilience of economies and societies. In particular, infrastructure networks will face increasing pressures from the impacts of climate change, but also play an important role in building society's resilience to those impacts.

Integrating more ambitious policies to halt and reverse biodiversity loss and restore ecosystem services, including through nature-based solutions are fundamental to economic activities and human health as deforestation and other land use change have been linked to the spread of diseases. Investment in natural infrastructure such as reforestation and wetland and mangrove restoration are not only a cost effective and sustainable way to improving resilience to climate impacts, but offer employment opportunities similar to man-made infrastructure investments.

Therefore, both short-term and longer-term measures in countries' recovery plans should aim at delivering human rights, economic prosperity, decent jobs and wider well-being, along with an effort to address pressing environmental challenges and improve the environmental health and resilience of societies. There are several key arguments why governments should use this unique opportunity to focus on the transformation to low emission, resource efficient, resilient and environmentally sustainable socioeconomic development

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3) Reimagining our Future: Building Back Better from COVID-19 Solutions to reduce the impact of COVID-19 can at the same time create a foundation for a greener, more sustainable future for children; UNICEF

Rebuilding Livelihoods in Post Pandemic Environment: Lessons Learnt

Shekher Chaturvedi

The present pandemic has left many people in the state of shock and distress. The ongoing and changing nature of this pandemic has created a sense of fear not only for health conditions but also for future and livelihoods of construction workers, daily wage earners, street vendors and to group it all unorganized sector. This pandemic gave rise to issues of migrant labourers, tenants, small factory workers, domestic violence, psychological impact on children, drivers of school vans in addition to the sectors listed above.

This article talks about lessons learnt from rebuilding of livelihoods of those impacted. There have been distress stories all around for closure of earnings for unorganized sector, delay in possession of construction sites, Loan EMIs being deducted without even getting possession of premises, etc. However, people as there fighting capabilities were, resorted to rebuilding their earnings in addition to various steps being taken by Government at all levels. Many people resorted to vegetable and fruit selling, direct selling of farm products to Government agencies (example of Telangana), preparation of face masks, face shields and sanitizers and their door to door selling, etc. are few such activities which flourished during the pandemic period. After unlocking started, it was a sigh of relief for such sectors. Pending marriages and functions were organized which also gave associated activities platform to get back to earnings. People started to get back to normalcy and many activities were allowed although with Covid related behaviour. When we discuss about lessons being learnt from such hinderances, we come across our traditions and societal bonding. Banking on savings even when you are a daily earner came to rescue of many. Knowing knowledge about strengths of your neighbours and workers was also a lesson which could be utilised at the time of distress. Resorting to cheaper ways of safety such as use of soap and water in place of extensive use of sanitizers, using local made masks, etc. helped many to sustain.

People also joined hands for fighting against this pandemic. Governments also took various steps for providing long-term livelihood options to the community through continuum in education, digital marketing, door to door supply of daily and medical needs, relief in rent and EMI payments and making provision of free vaccination and testing camps, etc.

Responding to such a massive disaster, needed close coordination between all stakeholders including livelihood seekers. We saw this in a true sense when everybody stood up to fight against this disaster like waging a war.

Covid-19 and youth unemployment: Build Back Better

Dr. Balu I

Background

The novel coronavirus crisis has turned from a global health crisis into a severe economic crisis. The responses of government to fight against the pandemic have resulted in economic shutdown, leaving people out of work closure of schools and with young people, women and less-skilled people worst affected. .The economic shutdown has been severely devastating our country with negative GDP forecast, unemployment and set reverse of progress in poverty reduction. The effects of the COVID 19 have been mainly skewed against the youth (18-29 years) as they face a trilemma of drastic unemployment, disruption in education, and failing education system.

Youth unemployment amidst Covid-19

As per the report of International Labour Organization (ILO) and the Asian Development Bank (ADB) prepared jointly, about 41 lakh youth in the India lost their jobs due to the COVID-19 pandemic while construction and farm sector workers account for the majority of job losses. The young people are affected in the current crisis are job disruptions in the form of reduced working hours and earnings, and job losses for both paid workers and the self-employed; disruptions in their education and training; and difficulties in transitioning from school to work, and moving between jobs in a recession. (Global Survey on Youth and COVID-19, ILO)

The young people were differently affected by the crisis depending on their situation in the labour market. Some youth faced difficulties in balancing education and training with the need to complement family income. The youth also faced the challenge of searching for their first job in a labour market of severely constrained demand. Large number of youths faced challenges in transit from irregular and informal work to decent employment. And a growing number of youth not in employment or in education or training (NEET) were increasingly detached from the labour market.

Voices of youth

Meenakshi, a top post graduate of a Economic degree program, was preparing to join an financial sector before the Covid 19 pandemic hit India The company then revoked the offer, and the economic havoc caused by Covid 19 led to rejections from several other companies. Meenakshi is just one of millions of young people who have recently joined the vast pool of freshly minted graduates who are still struggling to find jobs.

India has one of the youngest populations in the world. Almost one Indian in two, are under 25. And, like Meenkashi, many are now finding it hard to enter the labour market.

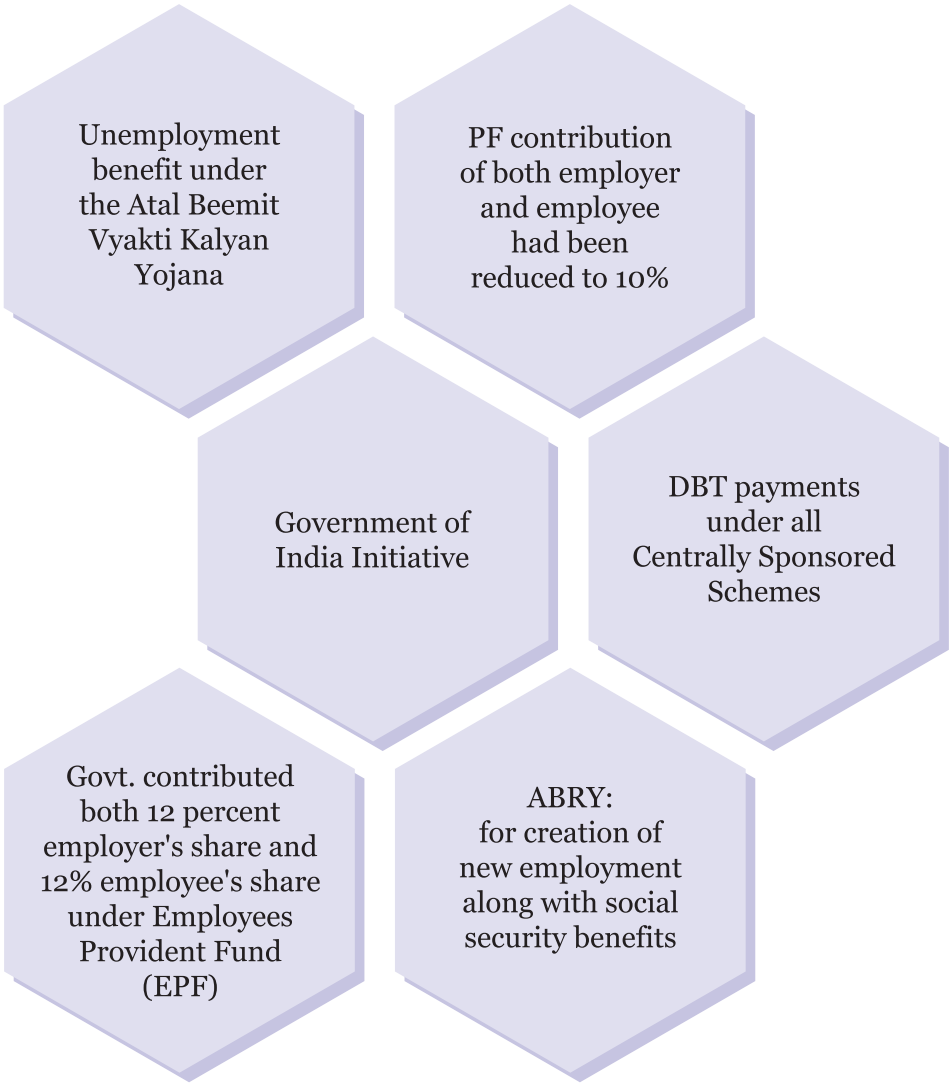
Jancy Rani, 22, completed her commerce degree through state university in Andhra Pradesh. But she has been struggling to find a job for over a year now, as news commerce industries across the country have downed with drastic layoffs and salary cuts. “Chances in the industry are very limited in the current situation. Economic stress caused by the pandemic has left me unsure whether a job in media is feasible at all, "Said by Jancy Rani.

According to the report of Centre for Monitoring Indian Economy (CMIE), almost one in four urban women holding graduation and one in five women holding postgraduate education are unemployed. There is insufficient job opportunities for young graduates and annually 10 million young graduates entering in to a job market in India. Many studies found that loss of jobs and economic situation in the

country show no sign of slowing. The impact of covid continues in all sector. The path of economic recovery may long and challenging.

Government initiatives

Government India has taken various initiatives to increase the employment opportunities for the betterment of youth. The union government has launched Atmanirbhar Bharat scheme. The Atmanirbhar Bharat is based on the Economy, Infrastructure, System, Vibrant Demography and Demand to create jobs for the youth in the nation.



Recommendation

- Urgent, large-scale and targeted responses, including youth-targeted wage subsidies and public employment programmes, and measures to mitigate the impact on students of the disruption to their education and training.
- The stakeholders should stimulate new employment creation and entrepreneurship development, focusing on the most vulnerable young people and make them to get job.

- Balancing the inclusion of the youth in wider labour market and economic recovery measures, with youth-targeted interventions to maximize effective allocation of resources.
- Prioritizing youth employment in the COVID-19 recovery process to improve future prospects for inclusive and sustainable growth, demographic transition and social stability.
- The priority and policy should be to given a basic income to everyone and give support to unemployed youth
- Supporting apprenticeship programmes and focusing on demand-driven skills development and increasing funds for upskilling and reskilling, especially in growth sectors.
- Investing in digital inclusion for equitable access to education, training and entrepreneurship; and supporting young entrepreneurs through access to capital combined with non-financial services.

Improving Resilience of Micro, Small and Medium Enterprises (MSMEs) after Covid-19

Dr. Kumar Raka

Global pandemics have intensified risks worldwide and its impacts have also reached across the globe, directly affecting millions of people and also intensifying existing development challenges around the world. The negative impacts of global crises had adversely affected all sphere of life and have had economic, political, social and psychosocial consequences on all age group of people. Recently, since its emergence in late 2019, the COVID-19 epidemic have had not only a disastrous impact on human health but have also caused drastic negative effects on the economies of countries.

The condition and restrictions which have been imposed by many countries for reducing the virus spared among the people had led to distortion in the system of supply and demand for goods and services and slowed down many countries' economies and its repercussions felt across all economic sectors and institutions including micro, small and medium enterprises (MSMEs) industries. While some industries have found a certain level of resilience and some converted towards a new operating niche, most of the small and medium-sized entrepreneurs in the goods and services industry found themselves in "new normal" operating environment.[1] MSMEs have been confronted with various difficulties and challenges due to the COVID-19 pandemic. Due to longer periods of closure and movement prevention policies adopted by governments in many countries have greatly affected MSMEs, paralyzing their operations, weakening their financial positions, and exposing them to financial risks. The MSMEs also have faced the challenges of a shortage of workers and production inputs because of distortions that marred supply chains, which negatively affected their business continuity.[2]

In India, Micro, Small and Medium Scale Industries are the second largest employment generator after agriculture and act as a propagating ground for entrepreneurs and innovators in support of strengthening business ecosystems. As per the MSME Ministry data, as on May 16, 2021, India has approximately 6.3 crore MSMEs. The Indian MSMEs sector contributes about 29% towards the GDP through its national and international trade. The small and medium enterprise platform is expected to witness over 60 MSMEs entering the market in one year (2021-22) to bring up equity funds for meeting their business requirements. The initial public offering (IPO) route witnessed 16 MSMEs enter the market; they raised Rs. 100 crore (US$ 13.74 million) in 2020. In June 2021, Bombay Stock Exchange (BSE) announced that it has collaborated with the Electronics and Computer Software Export Promotion Council (ESC) to build awareness among small businesses and start-ups about the advantages of listing.[3]

MSMEs sector has been one of the most vulnerable sectors during pandemics because of its size, scale of business and availability of financial resources. A study and survey published in 'Times of India' last month shows that approximately 95 percent of firms were impacted negatively due to the national lockdown imposed in April 2020, 70 percent of businesses remained disrupted till August 2020. Even after progressive unlocking, report suggests that almost 40 percent of businesses remained interrupted till the end of February 2021. The three critical barriers faced by MSMEs are market access, overall

[1]Nawal Abdalla Adam & Ghadah Alarifi (2021):Innovation practices for survival of small and medium enterprises (SMEs) in the COVID-19 times: the role of external support :https://innovation-entrepreneurship.springeropen.com/articles/10.1186/s13731-021-00156-6
[2]ibid
[3]India Brand equity Fund:https://www.ibef.org/industry/msme.aspx accessed on 12November 2021

productivity and getting access to more finances. An average 11 percent decline in business volume of Indian MSMEs has been recorded because of lockdown in 2021 in comparison to 46 percent decline during nationwide lockdown in 2020. According to Survey conducted by all India Manufacturers Organization, 35 percent of MSMEs units have no scope of recovery for their businesses and have already started winding up their businesses.[4]

The influence of COVID-19 motivates MSMEs to rethink their core competencies, seek new opportunities, and redefine sustainable business models in a more intense and timely manner. Strategic ambidexterity in shorter cycles, balancing between measures and concentrating on building innovation is not limited to only MSMEs in this period. Developing new competencies, improving experience management, and enhancing the experience of professionals (including DM professionals, academia, consultants, etc.) regarding the application of new technologies within business models during this period is an essential regional development need over the long-term. By focusing on this, MSMEs will not just survive such disruptions; but also, they will emerge capable of adopting new technologies, and become more innovative, competitive and resilient under these challenging future situations.

There is an urgent requirement to assess their financial status and security of MSMEs and accordingly develop systematic planning and policies for them to recover from the negative impact of pandemic crisis. The government should also step forward and provide soft loans with longer term of repayment and increased credit limit for strengthening the MSMEs industry in the country. MSMEs need to re-strategize its overall value proposition, through improving quality of products, strengthening distribution channels and using innovative promotion methods etc. There is a need to create a strong digital ecosystem to increase the outreach among buyers and suppliers in the market.[5]

For achieving the Sustainable Development Goals (SDGs) proposed in the United Nations 2030 Agenda, MSMEs need to focus more on innovative solutions such as inclusion of digital technologies, uses of artificial intelligence in developing strategy for creating sustainable business models, goods &services delivery, channels of service delivery, remote operations, means of substitution, innovative collaboration environments, new ways of service consumption opportunities, and overall enabling and improving the value proposition. MSMEs also need external support and inputs from various stakeholders including the Government to revive, recover and become sustainable & resilient against the ongoing and any future crisis.

[4]Times of India (October 21, 2021,);MSMEs in India – Post Covid Scenario Agyeya Tripathi in Agyeya, India, TOI accessed on 12 November 2021
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Improving Livelihood Crises of Migrant Workers after COVID-19

Ranjan Kumar

Migrant's workers have played an important role for strengthening the economy of country by working in various sectors i.e agriculture, production and other labour-intensive jobs. In India, the migration is more induced by push factors like penuriousness, unemployment, regional disparities, family movement, marriage, natural calamities, etc. those in developed nations are more pull factors like prosperity, safety, freedom, etc.[6] About 100 million internal migrant workers are in India and most of them are daily-wage labourers who have travelled out from different states like Uttar Pradesh, Bihar, Jharkhand, Odisha, West Bengal, etc. to other states in search of unskilled or semi-skilled jobs (Hazarika, 2020). Pandemic have long term impact on their livelihood. The vulnerability of labour migrants manifested itself in extreme ways in India, with disadvantages of work, identity and migratory status reinforcing each other.

The corona virus has long impact. It is difficult to determine how long and what extent it will impact on the lives of people and the economy of the country. More action is required for dealing with such crises and for the well-being of the migrant workers. The government has to come up with a well-crafted strategy to deal with this crisis. At the national level, greater coordination is required between government agencies separately tasked with migration and health mandates. There is also a need to relook at the national migration policies, which should accommodate the assistance and protection of migrants arriving from, or faced with the prospect of returning to, the areas affected by health crises.[7]

As per an IOM Report, India has witnessed its second largest mass movement of people during COVID-19 crisis since its independence in 1947. By May 2020, 7.5 million people had left crowded urban centers and returned back to their rural homes in order to find food, space and safety for themselves and the dependents during the pandemic. It was a struggled to house, feed and maintain sanitary conditions for the wandering masses. Country have also had to respond to an influx of migrant workers returning from abroad as well as managing internal migratory flows, by February 2021, India had repatriated more than 4.5 million stranded Indians from all over the globe.[8]

Migrant workers constitute quite a large proportion of such a vulnerable population. The impacts are most troubling for low-income households, which are less well positioned to cope with earnings losses during a recession, have no alternative earnings and have no social security available. Most of these workers earn little more than a subsistence wage and have no other means to protect their incomes if they lose their jobs. Millions of migrant workers are anticipated to be left unemployed in India due to the lockdown and subsequent fear of recession. Many of the migrant workers have returned to their villages, and many more are just waiting for the lockdown to be lifted. The risk is particularly higher for those who are working in unorganized sectors. The lockdown and the subsequent recession are likely to first hit contract workers across many of the industries.[9] There is a need to deal with circular migration and their psychological impact to foster greater awareness among the public and to introduce new

[6]"Migrant workers and human rights: A critical study on India's COVID ...."
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measures that can be adopted to safeguard the rights of the migrants. It is important to plan how to deal with the economic fallout and rebuild a more inclusive economy in a post Covid-19 world, and much of that hinge on how to revive labour markets and livelihoods.[10] In order to alleviate the suffering of migrants it is necessary to investigate, understand, and analyze the hardships they have been undergoing.

According Census data 2011, India has about 450 million internal migrants in which 150 million migrants were blue collar workers who have moved interstate in search of work. The pandemic has had a profound impact on labour migration patterns and this could shape work in rural as well as urban centers.[11] There has been about 10 percent decline in blue collar workforce moving to cities for jobs. This is enough to choke the labour supply lines to major industries. As per Economic Times report, there is a quantum drop in the number of migrant workers after the pandemics. This occurred due to a combination of several factors.

The government has started number of employment scheme for livelihood generation. The government's rural employment schemes such as MGNREGA and Pradhan Mantri Rojgar Yojana helped people earn a livelihood closer to home and also work for rising opportunities in rural infrastructure projects, such as roads and highways, health centers and other public amenities. Meanwhile, the state governments have also taken initiatives for filling up thousands of posts that are lying vacant. All government subsidies, handouts and loan waivers have put down the need to migrate at least in the short-term. The government has earmarked nearly Rs 5.5 lakh crore to be spent on various welfare and rural development projects. As per the Periodic Labour Force Survey 2019-20, roughly 32 million people moved back to the agricultural sector; this translates to a 3 percent net rise in the share of workers in agriculture. About 71,000 migrant workers have been provided skill training under a central government initiative, announced in the wake of the migrant crisis last year. The Ministry of Skill Development and Entrepreneurship (MSDE) had targeted training 3 lakh migrant workers from 116 districts identified across Uttar Pradesh, Bihar, Rajasthan, Odisha, MP and Jharkhand.[12]

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