

# **Workshop on “Space Technology in Disaster Risk Management”**

**Jointly Organised by**

**National Institute of Disaster Management (NIDM), Ministry of Home Affairs (MHA) & National Remote Sensing Centre (NRSC), Indian Space Research Organization (ISRO)**

**December 4-5, 2023 at Delhi**

In recent years, space technology has become an integral part of disaster risk management and response efforts in the country. Satellites can provide critical data for early warning systems, real-time monitoring, and assessment of damage caused by natural disasters such as floods, cyclones, landslides, earthquakes, forest fires, agricultural drought, etc. Remote sensing technology, including synthetic aperture radar and LiDAR, provides high-resolution imagery of disaster-prone areas, identifying regions that may be at risk of flooding or landslides. Space technology has also enabled the development of innovative solutions such as unmanned aerial vehicles (UAVs), which can be deployed rapidly to gather data and provide situational awareness in disaster zones. These technologies are particularly useful in inaccessible areas.

To create awareness about the role of space technology in disaster risk management and towards promoting its role in implementing the Honourable Prime Minister’s 10-point agenda in building disaster resilient country and also to bring synergy between all the decision makers, disaster management officials and researchers in the country, a 2-day Workshop on “Space Technology in Disaster Risk Management” was jointly organized by NRSC and NIDM during December 4-5, 2023 at NIDM Campus, Delhi.

The targeted audience were scientists, engineers, managers, stake holders, researchers, disaster management authorities, decision makers working in the field of disaster early warning & response and disaster vulnerability & risk assessment. About 65 delegates have participated in the Workshop from various organizations and institutions across the country, such as, State Disaster Management Authorities, State Remote Sensing Centres, NDMA, NDRF, IMD, NESAC, NRSC, NIDM, etc.

The inaugural session was chaired by Shri Rajendra Ratnoo, Executive Director, NIDM, and in his inaugural address, he mentioned that this workshop is only the beginning and it will go a long way in developing the capacity building programs by NIDM in collaboration with ISRO. Special addresses were given by Dr K Sreenivas, Deputy Director, NRSC, Prof Surya Prakash, NIDM, and Dr John Mathew, Associate Director, EDPO, and highlighted the role of space technology and ISRO’s contribution towards disaster management.

The programme consisted of expert lectures, interactive sessions and panel discussion to make it more impactful. Scope for augmenting technology applications, research gaps, data limitations, knowledge sharing opportunities were discussed for future course of action towards promoting the technology for disaster risk reduction.



Inaugural Program of the Workshop and Shri RajendraRatnoo, Executive Director, NIDM, giving the Inaugural Address



Participants of the Workshop

The workshop deliberated on 5 themes, viz., Disaster Management & Space Technology; Hydrological Disasters; Geological Disasters; Climate Change & Meteorological Disasters; and Multi-hazard Disaster Risk Reduction for best technological solutions to disaster risk

reduction in the country addressing Prime Minister's 10-point agenda. There were 18 invited talks by experts from NRSC, ISRO HQ, IIRS, CWC, NDMA, DGRE (DRDO), IMD, IITM, INCOIS, IITB Mumbai, MNCFC and NIDM covering all disaster themes. There was also one talk by Member Secretary, Kerala State Disaster Management Authority, on 'Towards a Safer Kerala State'. The sessions chairs include Executive Director-NIDM, Advisor-NDMA, Deputy Director-NRSC, Professor-NIDM, Associate Director- EDPO, Director FF- CWC, Group Director- INCOIS, and DIG-NDRF.

During the Panel Discussions on the concluding day, Shri J Srinivasulu, Head FFRMD-DMSG gave the summary report of the Workshop. Dr KHV Durga Rao, GD- DMSG, NRSC, commended the collaboration efforts of NRSC and NIDM in successfully conducting this workshop and emphasized on more future collaborations. Dr Mruthyunjaya Mohapatra, Director General, IMD gave the address and congratulated the team for conducting this workshop very timely, as the cyclone Michaung is currently ravaging the country. He commended the role of space technology and the cooperation from ISRO since last 5 decades, which resulted in dissemination of cyclone early warning information by IMD and with the number of satellites available from ISRO. Dr Prakash Chauhan, Director, NRSC, in his special address, gave a brief overview on how the space technology is playing a crucial role in disaster management and the continued support provided by NRSC in mapping and monitoring of all the natural disasters in the country, including the early warning support provided with the help of space technology and also the support of NDEM. He has emphasised on the further collaboration between NRSC and NIDM in capacity building in DRR.



Dr Prakash Chauhan, Director, NRSC, delivering the Special Address during concluding session

Other members in the Panel include Shri Rajendra Ratnoo, Executive Director-NIDM, Prof Surya Prakash-NIDM, Shri Gambhir Singh Chauhan-DIG, NDRF, and Shri Surendra Thakur, Joint Director- NIDM. Shri Rajendra Ratnoo, ED-NIDM opened up the forum for discussions and feedback. State specific issues were shared by various state disaster management officials, such as Maharashtra, Odisha, Meghalaya, West Bengal, Ladakh, etc. and while addressing them, ED-NIDM emphasized the need for conducting the disaster theme specific training programs to targeted groups and sought collaboration with NRSC in this direction.