

NIDM Newsletter Vol. V, No. 3, July - September 2010

Executive Director

P.G. Dhar Chakrabarti, IAS

Editor

Anil Kumar Gupta

Sreeja S. Nair

HIGHLIGHTS

Cloud burst and Flash Floods in Leh

Contents

Living with Floods	1
Cloud Burst & Flash Floods in Leh	2
Chlorine leak	2
India Floods	3
Mumbai Oil Spill	3
Blended Learning Course on Environmental Statistics and Disaster Management- Preparatory Workshop	4
New Training Programmes	6
NIDM in International Forum	6
Papers	7
Major Activities of NIDM	7
Online Training Programme with WBI	7
Upcoming Events	7
Online Training Programme with WBI	8

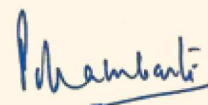
Living with Floods

Flood is the most common and recurrent natural disaster in our country. Every year, on an average, about 8 million hectares of land get inundated by flood, killing more than 1500 people and 100,000 animals, affecting nearly 7 million rural and urban households, damaging 150 thousand houses besides disrupting critical infrastructure and services and destroying standing crops over large areas. It is estimated that goods and assets worth more than 1000 crores are lost every year due to the furies of floods.

Over the years the country has invested hundreds of thousand crores on flood protection and mitigation measures. Many of these measures have protected lands and assets in many places, but the overall impact of such investments are not seen in reducing the risks of flood. In fact, the risks of flood seem to be increasing every year.

A number of factors are responsible for these developments. First, carrying capacity of our rivers and reservoirs are getting reduced due to increasing loads of silt, which again is due to the chain effects of felling of trees and landslides in the hills. Increasing silt loads are causing rivers to meander their course resulting in erosion of land. Even normal to heavy rains are swelling rivers to flood the banks. Secondly, the reservoirs are hardly able to store surplus water to buffer against floods as increasing demands for irrigation have reduced the scope for such cushion, thereby forcing many reservoirs to spill off even in normal situations, thereby creating manmade floods in many places. Thirdly, pressure of population, particularly in the urban areas, have resulted in unplanned and even planned settlements in flood panes that have exposed people to the risks of flood. Last, but not the least, the rainfall pattern itself is changing breaking past trends and records, as demonstrated during the unprecedented rainfall in Mumbai in July 2005 when a single day rain exceeded the annual average, or in Barmer in 2006 when desert areas were flooded, or more recently in Karnataka and Andhra where flood affected areas that had never seen such precipitations in the past. The devastating floods over large areas of Pakistan in July-August this year are again a testimony that climate is changing in a manner that past is no longer a guide for the future.

Scientists are yet to figure out whether these are freak events or induced by climate change; but there is now a clear consensus that it is not possible to prevent floods and there is no alternative but to live with floods.

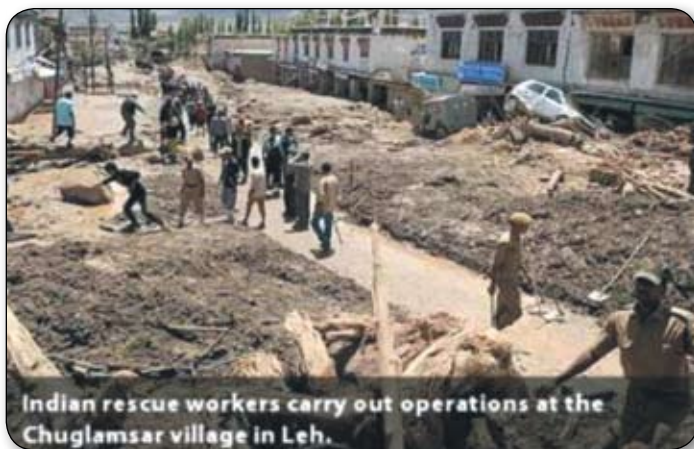


P.G.Dhar Chakrabarti

Cloud burst & Flash Floods in Leh

Jammu and Kashmir, August 2010

A massive cloud burst occurred in Leh on 6th August, 2010. Heavy rains and a cloudburst between 1 AM and 2 AM triggered flash floods in Leh Town and surrounding areas of Choglamsar, Pathar Sahib, Phyang, Hanoyogma and Nimu. The casualties were high as the event occurred during the night. 196 people died including 6 foreigners and 400 persons have been injured. The worst hit areas were Leh Bus Stand and the near by Choglamsar village. Besides the deaths and injuries to several people, there has been extensive damage to property and utilities like the telephone exchange, the civil hospital, the airport, drinking water supply works and national highways connecting Leh. BSNL



exchange and Bus Stand in Leh Town has completely been washed away and the Civil Hospital and the Leh Airport has been inundated. The pumping station has been washed away thus, disrupting water supply in Leh Township. The Cultural Institute of Buddhist Studies has also been affected.

The Nyoma-Leh road has been blocked due to heavy mud-slide and the Fayang Bridge on the National Highway between Kargil and Leh has been washed away resulting in severe disruption of traffic.

Kargil-Leh road was blocked due to landslide at Phutul-la (60 kms from Kargil). CRPF camp completely washed away. About 6,000 personnel of the Indian Army, Indian Air Force, Border Roads Organisation, National Disaster Relief Force and the Indo-Tibetan Border Police were assisting the civil administration in relief operations. Fifty civil aircraft were deployed for a week from Aug 8 to evacuate about 7,400 people stranded in Leh to Delhi and Jammu.

Normalcy in basic civic amenities, like water supply,

electricity, communication, health, transport, aviation and tourism were restored by the end of August.

Chlorine leak

July 2010

On the morning of 14 July 2010, nearly at 3:00 a.m., chlorine leak was reported from a gas cylinder referred as turner, weighing about 650 kg at the Haji Bunder hazardous cargo warehouse in Mumbai Port Trust, Sewri, affecting over 120 people in the neighborhood, including students, laborers, port workers and fire fighters.

One hundred and eighteen people, including four firemen and a police constable, were hospitalised after they inhaled chlorine gas that leaked from a cylinder in a Mumbai Port Trust godown in Sewri on July 14. Seven of them were in a critical condition. Five of the 141 cylinders lying in the hazardous goods storage facility at Haji Bunder contained liquid chlorine. The other 136 were empty. A 45-member team of the National Disaster Response Force has been brought in from Pune to figure out how to safely dispose the remaining cylinders. All the five cylinders were neutralized and the site was cordoned off and people in the vicinity were evacuated immediately. It has been observed to be a blatant case of ignorance and negligence as well as contraventions to the safety and environmental safeguard requirements under existing statutes as well as non-maintenance of fail safe conditions at the site requisite for chlorine storage. The analysis revealed significant gaps in the availability of neutralization mechanism and the chlorine stored in open increased the possibility of formation of ingress mixture due to busting of chlorine filled tankers.



Chlorine gas is a primarily a respiratory irritant and is extremely irritating to the mucous membrane, the eyes and respiratory tract. The threshold limit values (TLV) of chlorine is 1 ppm or 3 mg/m³ of air. If the duration of exposure or the concentration of chlorine is excessive, it causes restlessness, throat irritation, sneezing and copious salivation. In extreme cases, lung tissues may be attacked, resulting in pulmonary edema. The revised Immediately Dangerous to Life or Health (IDLH) is 10 ppm and the fatal dose is 1000 ppm.

India Floods

July- Sep 2010

Hheavy rainfall during the South West monsoon resulted in Floods in many states of India. 17 states i.e. Andhra Pradesh, Assam, Bihar, Delhi, Gujarat, Haryana, Himachal Pradesh, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Punjab, Sikkim, Uttar Pradesh, Uttarakhand and West Bengal were affected. As per the situation report of NDM division (dated 30 September 2010) 966 human lives lost and 56, 59, 576 people were affected.

Heavy torrential rains have lashed many parts of Haryana region, during the first week of July flooding low-lying areas. Ambala and Kurukshetra districts were worst affected by floods, Most rivers including seasonal Tangri, Ghaggar and Beng were in spate. Several villages of Kurukshetra and Ambala district have been marooned in deep waters due to a 100-foot breach in Suttlej- Yamuna Link (SYL) canal at Gulabgarh village. The Ghaggar inundated more villages due to its breach at several places. In Haryana, 636 Villages in 6 districts Kurukshetra, Kaithal, Ambala, Fatehabad, and Sirsa were affected. 38 human lives have been lost and 17, 34, 000 people were affected.

Floods situation in Delhi due to heavy rainfall and release of water from Hathnikund barrage resulting in increase of water level in Yamuna river. The water level in Yamuna had touched 206.78 meters, two meters above the danger mark of 204.83 on September 11 following huge discharge by Haryana, submerging several localities along the river. Delhi government evacuated hundreds of people from Garhi Mandu, Usmanpur Pusta, Jagatpur Village and Shastri Nagar to relief camps.

Floods were reported during fourth week of August, 2010 in Malda district of West Bengal due to heavy rainfall. The water levels of Ganga, Fulohar and Mahananda con-



Railway workers engaged in rescue operation after the railway tracks gave way causing a rail car to fall off the tracks in floods near Kasganj, UP.

tinued to rise on 29th August 2010. About 100 families of Kaoadol, Ramayanpur, Diara and Uttar Bhakuria villages in Harishchandrapur have been marooned 112 human lives were lost and 2.38 lakh people affected.

Floods were reported in Chhattisgarh in the first week of August due to heavy rains leaving many villages under water and completely isolated. Bastar has been the worst affected district in the state (www.nrsc.gov.in/dsc).

Floods hit the Andhra Pradesh during first week of August 2010, as heavy rains lashed many parts of Coastal and Central Andhra Pradesh. Srikakulam, Vizianagaram, Adilabad, Khammam, East Godavari, West Godavari and Warangal districts were reported to be affected. 57 human lives were lost and 2.7 lakh people were affected.

Heavy rains were reported also in many parts of Bihar during third week of July. By the end of fourth week July, Bagmati river at Benibad (Muzaffarpur district), Kamla river at Jhanjharpur (Madhubani district), Kosi river at Basua (Supaul district) and Baltara (Khagaria district) and Mahananda rivers at Dhengraghat (Purnia district) and Jhawa (Katihar district) gauging sites were reported to be flowing above danger level (Source: CWC reports).

Floods were reported in Uttar Pradesh during third week of July, 2010. River Ghaggra was reported to be flowing above danger mark in Barabanki district. Bahraich and Shrawasti districts were also affected.

Mumbai Oil Spill

The 2010 Mumbai oil spill occurred after the Panama-flagged MV MSC Chitra and MV Khalijia- 3 collided off the coast of India near Mumbai on Saturday, 7 August 2010 at around 9:50 A.M local time. MSC Chi-



tra, which was outbound from South Mumbai's Nava Sheva port, collided with the inbound Khalijia-III, which caused about 200 cargo containers from MSC Chitra to be thrown into the Arabian Sea. Khalijia-III was apparently involved with another mishap on 18 July 2010. It was a worrying 25-degree tilt and discharging three to four tonnes of oil by the hour after the collision barely five nautical miles off the city coast.

When the MSC Chitra collided with the Khalijia on 7.08.2010, it had a cargo of 1, 219 containers holding 2662 tonnes of fuel, 283 tonnes of diesel and 88040 litres of lubricant oil. Thirty-one containers had pesticide in them. The Chitra tilted sharply under the impact of the collision, resulting in the oil spill and now, containers of pesticide bobbing off on the sea.

Over 8.57 lakh mangroves along the coastlines of Mumbai, Thane and Raigad districts were severely affected by the crude due to tidal movements, damaging more than 6.27 lakh of the *Avicennia marina* species and 2.30 lakh of the *Sonneratia alba* species, worst-hit was in the Navy Nagar. The degradation of the quality of plant life and the water in turn adversely affects the insects and animals that thrive on it. As reported by NEERI, the oil spill during the seeding season of mangroves mainly affected Elephanta island, Vashi creek and the fringes of Mahul-Shewri. The coastal sediment affected along the shoreline included bedrock, sand and boulders, thereby affecting the ecology in the region.

India has ratified key environmental and shipping conventions, including the International Convention on Oil Pollution Preparedness, Response and Cooperation. The national coastline is about 7, 500 km long and has, in the assessment of the Coast Guard (CG), 11 major and

20 minor ports that must be equipped to combat oil pollution. It is precisely to meet such challenges that a National Oil Spill Disaster Contingency Plan (NOS-DCP) was drawn up in 1996. Based on this, all ports should by now possess functional spill response systems but they clearly do not. The proceedings of the 14th NOS-DCP and Preparedness Meeting held in 2009 highlighted the slow progress in achieving full response capacity even at the basic level.

Blended Learning Course on Environmental Statistics and Disaster Management - Preparatory Workshop

27-28 September 2010, NIDM, New Delhi

NIDM in collaboration with GTZ – InWent and Infanos India organized a two days preparatory days Workshop on Blended – learning on Environmental Statistics for Disaster Risk Management on 27-28 September 2010 at NIDM, New Delhi. Aim of the course was to introduce the blended learning approach in Disaster Management to promote the use of Statistics in Disaster Risk Management. Course objectives were

- ◆ Introduction of the blended learning methodology
- ◆ Use of available statistical information to improve mitigation, preparedness, response to disasters and relief and recovery after disasters
- ◆ Target group for the course include ATI faculty members, Administrators and Disaster Management Professionals working with State Disaster Management Authorities.

During the workshop specific features and advantages of the blended learning methodology and best practices and experiences of InWent were presented and discussed. Besides the workshop helped in promoting such courses as well as discussion of infrastructural requirements and resources needed for the same.

Dr. Klaus Roder, GTZ InWent, Germany was the key resource person (trainer) for the course. 20 participants (DM faculty members and SDMA professionals) from various states of India including faculty members of NIDM attended the workshop.

New Releases

NDMA Guidelines

National Disaster Management Authority released the following guidelines during July- September 2010

- ◆ Role of NGOs in Disaster Management
- ◆ Management of Tsunamis
- ◆ Incident Response System
- ◆ Urban Floods
- ◆ Drought Disaster Management

Besides the guidelines for Chemical Terrorism and Chemical (Industrial) disaster were also revised during the period. Salient features of the new releases are given below:

Guidelines for Incident Response System

July 2010

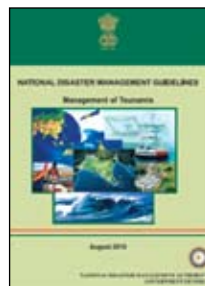
NDMA issued the National Disaster Management Guidelines for the Incident Response System (IRS) on 26 July 2010. The Government of India realising the importance of this aspect, had decided to adopt the Incident Command System (ICS) in collaboration with the USAID / USFS in 2003. The experience over the past years in implementing this system established the need of indigenising the system, meaning thereby, to align it to our administrative set up and the provisions of the DM Act. It is to this end that the Guidelines on Incident Response System (IRS) have been formulated. These Guidelines will go a long way in organising a coordinated response mechanism, at all levels of administration, reducing avoidable loss of life and suffering of the people.

Guidelines for Management of Tsunami

September 2010

The Indian Ocean Tsunami of 26th December 2004 which devastated the coastal communities in Kerala, Tamil Nadu, Andhra Pradesh, Puducherry and Andaman & Nicobar Islands prompted the Government of India (GoI) to take the pioneering step to establish appropriate institutional mechanisms for the effective management of disasters in

India. The Guidelines for the Management of Tsunamis has been prepared by NDMA with the support of experts to assist concerned Ministries and Departments of GoI and State Governments to strengthen the tsunami preparedness, im-

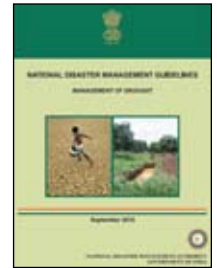


prove the tsunami mitigation efforts and enhance the emergency response capacities of stakeholder groups as well as to assist the concerned Ministries and Departments of the GoI and State Governments to prepare their DM plans.

Guidelines for Drought Disaster Management

September 2010

The National Guidelines for the Management of Drought have been formulated after a 'nine-step' process-taking on board, through a process of wide-consultation, various Central Ministries/Departments, States/ Union Territories and other stake-holders, including Scientific and Technical institutions, Non-Governmental Organizations and Community Based Organizations. These guidelines call for a participatory approach involving all the stakeholders to take forward the task of operationalizing the National Vision for securing proactive and pre-disaster preparedness and emphasizing a mitigation-centric approach.



Guidelines on Role of NGO in Disaster Management

September 2010

NGOs are increasingly advocating cause of the marginalized and vulnerable section of the society to ensure that their rights are safeguarded before, during and after disasters. 2. In spite of several constraints, NGOs reach the affected people after a disaster promptly, help in the establishment of temporary relief camps, and contribute to building community resilience to face disasters. They explore innovative ideas in preparing the community and mitigating the disaster risks. These Guidelines have been prepared to facilitate greater coordination between NGOs and Government institutions during various phases of the disaster management cycle, within the framework of the Disaster Management Act 2005.

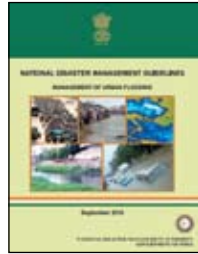
Guidelines on Urban Flood Disaster Management

September 2010

Urban flooding is increasingly affecting the cities in India over the last one decades but sufficient attention was not given to specific efforts to deal with it. In the past, strategy on flood disaster management largely focused

on riverine floods affecting large extents of rural areas. Urban flooding is significantly different from rural flooding as urbanisation leads to decreasing permeability and in the event of heavy rainfall there is higher runoff which increases the flood peaks from 1.8 to 8 times and flood volumes up to 6 times.

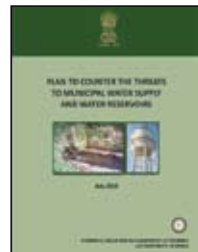
Consequently, flooding occurs very quickly due to faster flow times, sometimes in a matter of minutes. Taking this into account, NDMA has de-linked Urban Flooding from the subject of (riverine) Floods for the first time and commenced its efforts and formulated a separate guideline.



Plan to Counter the Threats to Municipal Water Supply and Water Reservoirs

July 2010, NDMA

Supply of safe water has long been a key public health and environmental issue. Recognition of the importance of water quality for health dates back to ancient times. Water security means development, protection, management and sustainable use of fresh water resources in a way to provide equitable access to adequate and safe water at affordable cost to live a healthy and productive life free from the risk of water-related hazards. The importance of freshwater and water infrastructure to human and ecosystem health and to the smooth functioning of a commercial and industrial economy makes water and water systems targets for terrorism. Of growing concern is the risk of contamination of water systems. This contamination could result either due to natural / accidental contamination, or due to sabotage wherein water-soluble contaminants can be introduced into a publicly water supply system. Looking to the need of guidelines, standards, procedures and scientific interventions of environmental systems of water resources safety from disaster risk, NDMA brought out a plan to counter the threats.



Strengthening Safety and Security for transportation of Petroleum, Oil and Liquid (POL) Tankers

July 2010 NDMA

NDMA in its approach towards disaster management firmly believes that man-made disasters which include the incidents involving POL tankers can be very well minimized, if prevention and preparedness practices are adopted to a level

that National Disaster Management Guidelines: Strengthening of Safety and Security of POL Tankers there is no chance left of slippage. The safe and secure transportation of POL tankers require full coordination of all the participating organizations / agencies to overview each and every aspect of safe functioning from the starting point at the consigner place, en route to consignee place. Looking to the need of a guidelines on the subject, NDMA developed a plan for strengthening safety and security in transportation of POL tankers.

New Training Programmes

Health Information Systems and Disaster Management

20-24 September 2010

First Training Programme on Application of Health Information Systems in Disaster Management was organized at NIDM from 20 September to 24 September 2010 for Strengthening the capacity of health sector professional on availability and application of Health Information Systems is essential for better disaster preparedness and effective response. When comes to disaster mitigation, preparedness and response, hospitals and health care professionals require systematic information due to the vital functions they perform, their high level of occupancy and role they play during a disaster situation. The systematic organization and easy mobilisation of the staff, equipment and supplies to the appropriate place and mapping of nearby health care resources/facilities are crucial for health service providers. If information technology particularly geo-informatics tools such as GIS, GPS are used, this would be more easily and efficiently done and can effectively maximize the scope of meeting the quick response time/golden hour concept. Training as a part of capacity building is an integral component of health sector preparedness during disasters.

The objectives of the programme were (i) to Provide an orientation and overview of, and exposure to, the use of spatial and non-spatial data in disaster health care management (ii) Describe, and demonstrate the use of space based data/information and communication technology in disaster preparedness and health care management during and after the disasters (iii) Provide hands on training on using health related data such as data collection, analyses, representation and uses of health data and information (iv) make the trainees to practice on specific GIS applications and software such as **Health Mapper** (WHO developed software).

NIDM in International Forum

- ◆ Shri P.G. Dhar Chakrabarti, Executive Director NIDM participated in the two day workshop on 'Drought Risk Management in South Asia' organized by SAARC Disaster Management Centre (SDMC) in collaboration with the Afghanistan National Disaster Management Authority during 8-9 August 2010 at Kabul, Afghanistan.
- ◆ Shri P.G. Dhar Chakrabarti, ED, NIDM attended the Expert Group Meeting on the Regional Mechanism on Cooperative Drought Disaster Monitoring & Early Warning in Nanjing, China, 14-16 September, 2010
- ◆ Prof. Santosh Kumar participated in the "Regional Consultation on Integrated Drought Management" to review drought situation and prepare an Integrated Regional Drought Management Program for South Asia 24 - 26 July 2010 – Colombo, Sri Lanka
- ◆ Dr. Anil K. Gupta participated in the UNEP International Workshop on 'Ecosystems, Livelihoods and Disaster Risk Reduction' organized by PEDRR at United Nations Institute for Environment and Human Security (UN-EHS), Bonn, Germany, 21-23 September 2010.

Papers

- ◆ Nair, Sreeja S. and Gupta Anil K., Industrial siting in Multi-hazard Environment – Applications of GIS and MIS, International Geoinformatics Research and Development Journal, Vol 1, Issue 2, June 2010

Major Activities of NIDM

Training Programmes

(July- September 2010)

- ◆ Urban Community Based Disaster Risk Management, NIDM, 5-9 July
- ◆ Role of Police in Disaster Management (for IPS Officers), NIDM 12-16 July
- ◆ Earthquake Risk Mitigation & Management, ATI –Sikkim, Gangtok, 13- 17 July
- ◆ Training Programme on Role of Media in Disaster Management, NIDM, 19-20 July
- ◆ Earthquake Risk Mitigation and Management, ATI-West Bengal, Kolkata, 19-23 July
- ◆ Disaster Safe Hill Area Development, ATI Manipur, 19-23 July
- ◆ Comprehensive Disaster Risk Management Course,

SIRD-MP, 19-23 July

- ◆ Transportation of Hazardous Chemicals, NIDM, 22-23 July
- ◆ Gender and Disaster Management, NIDM, 26-30 July
- ◆ Climate Change and Disasters, ATI-Nagaland, Kohima, 2-6 August
- ◆ Training for Members of SDMAs and DDMA's, NIDM, 2-6 August
- ◆ Role of GIS and Remote Sensing in Disaster Management, Mizoram, 2-6 August
- ◆ Minimum Standards of Relief, NIDM, 9-13 August
- ◆ Comprehensive Disaster Risk Management Course, SIRD, Rajasthan 9-13 August
- ◆ Management of Industrial and Chemical Disasters, NIDM, 16-20 August
- ◆ Cyclone Risk Mitigation and Management, Orissa, 16-20 August
- ◆ Drought Mitigation and Management, Karnataka, 23-27 August
- ◆ ToT on Urban Risk Mitigation and Management, NIDM, 23-27 August
- ◆ Mass Casualty Management, NIDM, 30 August -3 September
- ◆ Formulation of District Disaster Management Plan, BIPARD, Bihar, 6-10 September
- ◆ Urban Risk Mitigation, DMI Bhopal, Madhya Pradesh, 6-10 September
- ◆ Flood Risk Mitigation & Management, NIDM, 6-10 September
- ◆ Management of Road Accidents, NIDM, 8-10 Sept.
- ◆ Comprehensive Landslide Risk Mitigation and Management, Uttarakhand, 13-17 September
- ◆ Environment and Disasters, NIDM, 13-17 September
- ◆ Health Information Systems and Disaster Management, 20-24 September
- ◆ Climate Change & Disaster Risk Management, Haryana 20-24 September
- ◆ Damage, Loss and Needs Assessment, Gujarat, September, 27-October 1

Online Training Programme with WBI

- ◆ Comprehensive Disaster Risk Management Framework, July 26 – September 4
- ◆ Comprehensive Disaster Risk Management Framework, September 13 – October 23

Upcoming Events

Training Programmes

(October – December 2010)

- ◆ Drought Mitigation and Management, Maharashtra, 4-8 October.
- ◆ Comprehensive Landslide Risk Mitigation and Management, Jammu & Kashmir, 11-15 October.
- ◆ Risk Assessment & Vulnerability Analysis, NIDM, 20-22 October.
- ◆ Gender Issues in Disaster Management, NIDM, 25-29 October.
- ◆ Integrated Emergency Management Course (IEMC) on Earthquake Response and Recovery, Himachal Pradesh, 26-28 October.
- ◆ Effective Dissemination of Early Warning, NIDM, 25-29 October.
- ◆ Management of Industrial and Chemical Disasters, Chhattisgarh, 25-29 October.
- ◆ SATCOM based CBDM, Madhya Pradesh, 26-29 Oct.
- ◆ Formulation of District Disaster Management Plan, ATI, Punjab, 8-12 November.
- ◆ Flood Risk Mitigation & Management, AMRAPARD, 8-12 November.
- ◆ Comprehensive Disaster Risk Management, SIRD, ODISHA, 8-12 November.
- ◆ Disaster Management for NDRF officers, NIDM, 8-12 November.
- ◆ Disaster Health Care, NIDM, 22-26 November.
- ◆ Management of Serial Bomb Blast, NIDM, 29 November to 1 December.

- ◆ Earthquake Risk Mitigation and Management, ATI –Tripura, 29 November- 3 December.
- ◆ Comprehensive Landslide Risk Mitigation and Management, NIDM, 6-10 December.
- ◆ Integration of DRR in JNNURM, NIDM, 6-10 December.
- ◆ Forest Fire Management, FRI Dehradun, 6-10 December.
- ◆ Community Based Disaster Risk Management (CBDRM), HCMRIPA, Rajasthan, 6-10 December.
- ◆ Geinformatics in Disaster Management at MIRSAC and ATI- Mizoram, 13-16 December 2010
- ◆ Management of Stampedes, NIDM, 15-16 December.
- ◆ Retrofitting of Lifeline Structures: Technical and Managerial Issues, Kerala, 20-24 December.
- ◆ Mitigation of Risk of Cultural Heritage Properties, NIDM, 20-24 December.
- ◆ Disaster Psycho-social Care, NIDM, 27-31 December.
- ◆ Blended learning course on Environmental statistics for Disaster Risk Management , November 16 , 2010 to 10 January 2011, GIZ Inwent (globalcampus21)

Online Training Programme with WBI

- ◆ Risk Sensitive Land Use Planning, October 4 -30, 2010
- ◆ Earthquake Risk Mitigation, 1-30 November 2010
- ◆ Community Based Disaster Risk Management, December 6, 2010– January 1, 2011

We welcome comments / responses / articles from readers of our Newsletter
NIDM Newsletter – Vol. V, No.3, July - September, 2010



Address for communication: Executive Director
National Institute of Disaster Management
5-B, IIPA Campus, I.P. Estate, M.G. Road, New Delhi – 110 002
Fax: 011 – 2370 2446, Phone: 011- 2370 2445
Website: www.nidm.net