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Information Is the First Step  
Towards Disaster Reduction.**Contents...**

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**From the Editor's Desk...**

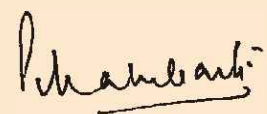
Disaster management is not merely a one-time activity undertaken during disasters but a way of life, to be practiced by each individual for a resilient society. Unfortunately, we still tend to equate disaster management with relief, or at the most with some structural mitigation measures. Though the crucial importance of these measures cannot be overlooked, they need to be buttressed by sustained and all-round efforts at preparedness and prevention to the extent they become a part of daily activities.

Rituals play important role in mobilizing communities towards the norms and ethos of its culture. Traditional rituals are either losing their importance or they are not geared to the needs of a modern society, thus highlighting needs to develop new rituals and idioms, for bringing people together, to focus attention to emerging issues that concern mankind.

The United Nations system has been playing a pivotal role in this direction. The second Wednesday of October every year is observed as the International Day for Disaster Reduction. For the past five years the day is being observed to focus global attention on a specific theme of disaster reduction. The theme chosen for the year 2005, also designated as the International Year of the Microcredit, is Reducing the Impact of Natural Disasters through Microfinance.

In order to observe both the International Day for Disaster Reduction and also the International Year of Microcredit, the National Institute of Disaster Management, in collaboration with UN International Strategy for Disaster Reduction Geneva and All India Disaster Management Institute Ahmedabad, organized two-day International Workshop on Microcredit and Disaster Mitigation: Potential of Micro Finance for Tsunami Recovery on 14-15 October 2005. Professionals, specialists, practitioners and activists from various Tsunami affected countries of South and South East Asia attended the workshop which churned out new ideas and experiences on micro-finance and micro-insurance options for disaster risk mitigation. This opened global debate on microcredit as a tool of disaster risk reduction in developing countries.

We propose to publish the proceedings of the Workshop in the shape of a book for wider dissemination of these ideas and options



**P.G. Dhar Chakrabarti**  
Executive Director, NIDM  
Editor

## National Disaster Management Authority set up!

Government of India vide notification no I/15/2002-DM (I)/NDM. (III) A dated 28th September 2005 has constituted the National Disaster Management Authority (NDMA) with the following members:

- i) Prime Minister of India  
Chairperson
- ii) General N.C Vaj  
PVSM, UYSM, AVSM (Retd)  
Vice Chairperson
- iii) Shri K.M Singh  
Member
- iv) Shri M Shashidhar Reddy, MLA  
Member
- v) Lt. Gen (Retd) Dr JR Bhardwaj  
PVSM, AVSM, VSM, PHS  
Member
- vi) Dr Mohan Kanda  
Member
- vii) Shri N. Vinod Chandra Menon  
Member

The Vice-Chairperson of the Authority will have the status of Cabinet Minister and Members of the Authority will have the status of Ministers of State in Union Government.

## Asian Conference on Disaster Reduction, Beijing 27<sup>th</sup>-29<sup>th</sup> September 2005 A Step towards Regional Cooperation

The Asian Conference on Disaster Reduction was convened in Beijing, People's Republic of China on 27-29 September 2005. A total of 385 participants attended the conference, which included delegations from 42 Asian & South Pacific countries, of which 33 were represented at the ministerial level and 13 UN agencies and international organizations. The meeting was organized to facilitate the implementation of the World Conference on Disaster Reduction (WCDR) outcome viz the Hyogo Framework for Action 2005-2015: Building the Resilience of Nations & Communities to Disasters (HFA).

The Beijing Action for Disaster Risk Reduction in Asia was prepared as a follow-up to HFA to enhance regional cooperation in its implementation. Composing the most disaster prone region of the world and home to more than a third of the world's population, Asian countries suffer from a multitude of disasters every year. The impact of such catastrophic events as the frequently occurring typhoons and tropical cyclones, annual floods of increasing severity, the recent earthquakes in Iran and India and the Indian Ocean Tsunami 2004 underline the costs of loss of lives, livelihoods and material damages. To break the negative cycle and sustain socio-economic development, disaster risk reduction should become an integral part of sustainable development. It is widely acknowledged that disaster reduction perspectives should be incorporated into every country's national development plans and related implementation strategies.

The Asian Conference on Disaster Reduction provided a platform for Asian countries to share and exchange best practices and lessons learnt from disaster risk reduction, elaborate priorities of action

for implementation as identified under the HFA and promote regional cooperation for disaster risk reduction in Asia.



**The recommended priority areas for implementation for Asian countries that emerged from the Conference were as follows;**

- **Ensure disaster risk reduction is a national and local priority with strong institutional basis for implementation**

This includes activities promoting interdisciplinary and multi-stakeholder coordination and collaboration representing comprehensive skills and knowledge needed for disaster risk reduction and mainstreaming it into development planning and practice. Enhancing the resilience of the vulnerable societies and promotion of national and local ownership of disaster risk reduction processes and providing resources as an investment for sustainable development are other priority risk reduction strategies

- **Identify, assess and monitor disaster risks and enhance early warning**

This includes communicating disaster risks to decision makers and people at risk equally in order to link all the main actors required for improved

early warning systems starting from politicians, scientists, information providers and people at risk.

- **Use knowledge, innovation and education to build a culture of safety and resilience at all levels**

This involves integration of disaster risk reduction efforts into formal and informal education systems for changing the community's attitudes and behaviour towards risk reduction and inculcating knowledge and skills among policy makers, practioners and communities alike through exchange of information and knowledge.

- **Reduce underlying risk factors**

Addressing disaster risk reduction in the socio-economic development process including poverty reduction and risk transfer, enhancing resilience of critical facilities, promoting integration of climate-related disaster risk reduction into climate change adaptation for effective utilization of limited resources and reduce future losses are some of the imperative measures to be undertaken by the Asian community.

- **Strengthen disaster preparedness for effective response at all levels**

Effective and efficient disaster response needs advance contingency and preparedness planning regional, national, sub-national and community levels. National governments need to regularly prepare, review and modify plans for effective response as well as enhancing the capacities of designated government responders and community leaders.

Asia has the benefit of the services of regional mechanisms and capacities to support and facilitate disaster risk reduction apart from the national governments like the UN System, ISDR,

ADPC, ADRC, World Bank, ADB, ASEAN, ICIMOD etc. Collaboration with these agencies for implementation of the Beijing Action for Disaster Risk Reduction, while its monitoring can be facilitated through the ESCAP (Economic & Social Commission for Asia & the Pacific) as a regional mechanism. To implement the HFA the existing mechanisms need to be strengthened including their service fields. Efforts should also be made to explore the possibility of establishing regional/sub-regional technical supporting capacities and facilities to help build the resilience of nations and communities. In these processes national governments are encouraged to work with relevant international organizations, development, technical assistance and funding agencies and to avail of the experience and opportunities presented by other existing mechanisms.

## International Workshop on Disaster Risk Mitigation: Potential of Micro Finance for Tsunami Recovery, 14-15 October 2005

NIDM organized this workshop to commemorate the International Year of Micro Credit. This workshop was organized in collaboration with UN International Strategy for Disaster Reduction (UNISDR), Geneva and All India Institute of Disaster Mitigation Institute (AIDMI), Ahmedabad on October 14-15, 2005 at The



Executive Director, National Institute of Disaster Management with Mr Jia Zhibang, Chinese Deputy Minister of Civil Affairs in Beijing on 28.9.2005



India Habitat Centre, New Delhi. This workshop, which dwelled upon various issues relating to Micro Finance and Tsunami Recovery, was inaugurated by Shri Shivraj Patil, Hon'ble Union Home Minister. International experts from Bangladesh, Sri Lanka, Japan and Philippines share their experiences with Indian delegates. ISDR also donated a filed library to NIDM and promised for 20 odd additional sets for dissemination in the vulnerable districts. Hon'ble Home Minister showed keen interest in the filed library and promised all support towards the cause of disaster risk reduction in India

**The government of the Republic of India has offered to host the Second Asia Conference on Disaster Reduction in 2007 to review the progress achieved in the further implementation of HFA and Beijing Action for Disaster Risk Reduction in Asia**

# MUMBAI FLOODS - 2005 ISSUES FOR DEVELOPMENT

*A Report by NIDM*

After lean monsoon and drought conditions for two years, the year 2005 saw unexpected floods in Gujarat, Maharashtra and Karnataka, all drought-prone states. However, the year 2005 was different as excessively heavy rainfall and subsequent floods crippled the entire region, hitting Gujarat in late June, Maharashtra in end July and Karnataka in early August. The Maharashtra floods of 2005 have brought to the fore some lessons to be learnt and also good practices in response that can be emulated in similar situations.

On July 26-27 2005, unusually heavy rains battered suburban Mumbai and Thane, causing one of the worst floods in the history of the state. The floods were caused by the eighth heaviest ever recorded 24 hour rainfall figure of 944 mm which lashed Mumbai on 26 July and continued intermittently over the next day. The previous record high rainfall in a 24 hour period in Mumbai was 575 mm in 1974.



Photo courtesy : Shri Krishna S. Vatsa, Secretary (R&R) Govt. of Maharashtra

## **Flooded Bandra-Kurla Complex, Mumbai**

The rainfall data from the Santa Cruz stations from 0830 hours of July 26 to 0830 hours of July 27 shows that within a period of 18 hours, the precipitation level

rose to 944 mm in the suburban area, a phenomenon that has never occurred before. The maximum rainfall occurred between 1430-1730 hours on 26<sup>th</sup> July, a staggering amount of 380.8 mm in three hours.

In Mumbai, it was a case of urban flash flooding. Water levels rose rapidly within 3-4 hours, submerging roads and railway tracks. One third of the city got flooded; the metropolis was practically cut off from other parts of the country.

Of the 1100 human casualties in the state, the maximum numbers were reported from Mumbai and Thane. According to the Govt of Maharashtra, 447 deaths were reported in Mumbai and 180 in Thane. Rail Services were entirely disrupted for days. Konkan Railway track was entirely submerged and heavily damaged and all three lines closed down for over 18 hours for the first time. The All India Radio reported that 150,000 people were stranded across different railway stations of the Mumbai Suburban Railway, which partially commenced operations after 36 hours.

## **Some Issues for Development**

In the last few decades, the pressures of population and soaring demand for real estate resulted in unplanned and uncontrolled development, even by the government agencies.

### **Early Warning**

The meteorological department projected heavy to very heavy rainfall on 26<sup>th</sup> of July and projected between 80-160 mm of rainfall. The actual rainfall received was 944.2 mm. The rainfall varied from over 105 cm in Vihar to 5 cm in Tansa Lake area.

### **Antiquated Drainage System**

The city has been surviving on a century old drainage system, built during the British era. The stormwater drainage system presently at place is capable of draining only 25 mm of water per hour. There are 105 outfalls of the drainage system into the

sea. Of these only 3 have sluice gates, so there is absolutely no way to stop the water in high tide from rushing into the city drains. As the present floods showed, this effectively hinders outflow of flood water into the sea.

### **Uncontrolled & Unplanned Suburban Development**

In the last two decades, huge real estate development projects have been taken up in the northern suburbs without comprehensive planning. 730 acres of mangrove were filled for Bandra-Kurla Complex. Systematic destruction of the mangroves that provided the environmental and climatic lifeline has had a major impact on the flood vulnerability of the area.

### **Disruption of the Natural Drainage System**

The natural drainage of Mumbai is provided by three main rivers viz Mithi River Oshiwara (Poisar) and Dahisar Rivers. The integrated system of rivers, mangroves and wetlands were a part of the ecosystem and provided a natural cushion to heavy rains and high tides. The Mithi river has been encroached throughout its length and its course diverted at many places. It is contaminated with domestic discharge, garbage and sewage. The problems of river diversion have greatly impacted the flow of Mithi. The Airport Authority diverted the natural meandering course to almost 90° to build a runway and a boundary wall. More diversions have been caused by MMRDA while constructing the Jogeshwari-Vikhroli Road and by private developers at Filterpada, Bhandup.

We need to critically examine each of our actions that played a part in aggravating the hazard into a disaster. All actions ranging from mere littering the streets, choking the drains with waste and construction of wall to divert a river have played a major role in creating this disaster. Unplanned, uncontrolled and mindless activities in the name of development with short-term gains manifest in long-term disaster events.

## **NSS MEET ON DISASTER MANAGEMENT IN KOLKATA**

A day long meet of NSS officers of the Colleges and Universities of West Bengal was held on 3<sup>rd</sup> September 2005 in the campus of Jadavpur University. Prof Satya Sadhan Chakrabarti Hon'ble Minister for Higher Education Government of West Bengal was the Chief Guest while Dr. A.N.Basu Vice Chancellor of the University presided over the function.

In his inaugural address Hon'ble Minister called for more active and dedicated involvement of the college and university students for creating awareness among the community about the various do's and don'ts in disaster and impending disaster situations.

In his Presidential address Vice Chancellor called for more effective utilization of the recent developments of science and technology for disaster management. He informed that Jadavpur University has developed a low cost technology for recycling riverine water in flood-affected villages for drinking purposes.

Shri P.G.Dhar Chakrabarti Executive Director NIDM in his Keynote Address made a detailed presentation on the emerging disaster management framework in India and outlined four fold strategies for involving NSS in disaster management. These are (a) inculcating mindset of disaster preparation, mitigation and preparedness, (b) strengthening capacity of community for disaster preparedness, (c) promoting higher state of disaster readiness in schools, colleges and universities and (d) assisting administration for speedier and more effective disaster response.

He further outlined the Action Plan that each NSS unit should develop in their respective colleges and universities. The components of such action plan should include studying hazard profile of local area and identifying the needs of community, facilitating development of community disaster management plans, building capacity of community to manage

emergency situations, creating Disaster Management Teams at community level and training Team members and holding special camps to conduct mock drills.

## **ASSOCHAM Seminar on Disaster Management**

The Associated Chambers of Commerce and Industry of India (ASSOCHAM) organized a seminar on disaster management in New Delhi on 15<sup>th</sup> September in collaboration with National Institute of Disaster Management (NIDM).

Union Defence Minister, Shri Pranab Mukherjee who was the Chief Guest in the function stated "The Government wanted to pass the Disaster Management Bill in the Monsoon session itself but it was decided to await the recommendations of the Standing Committee, which is looking into improvement and modification of the Bill. The panel's recommendations have been submitted to the Government and the final draft is also ready for its smooth sailing in the Parliament in the winter session". Giving details of the proposed policy, Mukherjee said "Every year, the Government is loosing 2% of GDP due to natural disasters, which in fact is a waste. Therefore, the policy will lay stress as to how the future disasters can be prevented from happening through proper warning and other mitigation measures".

Speaking on the occasion, P.G. Dhar Chakrabarti, Executive Director, National Institute of Disaster Management said that India is one of the most disaster

prone countries in the world with 58% of its land mass located in seismic zones of different magnitudes, 8% prone to recurring flood, 68% of net area sown susceptible to drought and 8,000 km of coast lines sensitive to cyclones. Much of these disasters which cause enormous loss to life and property could be avoided through proper prevention, preparedness and mitigation measures. He said that a comprehensive framework covering every aspect of disaster management cycle has been developed and a legal and institutional mechanism is being put in place for proper management of disasters in the country.

## **INSTITUTE NEWS**

### **Major Activities of NIDM**

- Satellite based Training programme on Disaster Management in collaboration with ATI, Mysore and Government of Karnataka August 11-12, 2005
- Workshop on Earthquake & District Disaster management Plan in collaboration with ATI, J & K and Oxfam September 21, 2005
- Workshop on 'Disaster Management Planning Should Jaipur Learn Lessons from Mumbai' in collaboration with Social Policy Research Institute, Jaipur October 1, 2005
- Consultative workshop on disaster management in Fisheries and Aquaculture in collaboration with ICAR on October 6-7, 2005.
- International Conference on Spatial data Infrastructure and its Role in Disaster Management in collaboration with FICCI at Mumbai on October 24-26, 2005

### **NIDM participated in:**

Executive Director & faculty members of NIDM participated in national and international fora in various seminars, conferences, workshops and gave their inputs. The major events were:

- International Search & Rescue Advisory Group (INSARAG) Asia Pacific Regional Group meeting held at Vigyan Bhawan, New Delhi on 12-13 September 2005.



- 11<sup>th</sup> Technology Summit and Technology Platform organized by the Confederation of Indian Industries (CII) in New Delhi on September 21-22, 2005. A Canadian delegation also participated in this event and deliberated on issues on international cooperation in Disaster Management.
- Symposium on Seismic Hazard Analysis & Microzonation at IIT Roorkee on September 23-24, 2005
- Conference of Director Generals & Inspector Generals of Police on Disaster Management at New Delhi on 5<sup>th</sup> October 2005

#### Visits of International Delegations to NIDM

- Three Tropical Cyclone Forecasters from Maldives, Oman and Thailand visited NIDM on October 21, 2005 to get acquainted about the Initiatives taken by the Government of India.
- Iranian delegation, headed by Deputy Minister of Housing visited the Institute to share the experiences about Bam earthquake. Gujarat earthquake experiences were also shared in this meeting.

- Executive Director, Asian Disaster Preparedness Centre (ADPC), Bangkok, Thailand visited the Institute to discuss the possible areas of collaboration

#### Visits of NIDM Faculty to International Events

- Executive Director, NIDM led Indian delegation to Asian Conference on Disaster Reduction at China from September 27-29, 2005
- Executive Director, NIDM attended the Thirteenth SAARC Summit as a member at Dhaka, Bangladesh on 12-13 November 2005 as a member of the Indian delegation.
- Ms Chandrani Bandyopadhyay, Assistant Professor, attended a training workshop on Basics of International Humanitarian Response organized by UNHCR at Narita, Japan, from October 17-27, 2005.
- Shri Binod Doley, Assistant Professor, attended a refresher course under phase 2 of CASITA (Capacity Building in Asia using IT Applications in DM) from 14-25 November 2005 at Hanoi, Vietnam.

## NIDM in International Forum

### NIDM designated as SAARC Centre for Disaster Preparedness & Management

Executive Director, NIDM attended the SAARC summit as a member of the High Level Delegation headed by Hon'ble Prime Minister of India at Dhaka, Bangladesh on 12-13 November 2005. Heads of States and Governments of SAARC countries have agreed that the SAARC Centre for Disaster Preparedness & Management shall be located at NIDM, New Delhi



### Upcoming Events

- Training Programme on Disaster & Gender issues at ATI Mysore, November 28-30, 2005-12-20
- Annual Training Conference, December 12-13, 2005
- Workshop on District Disaster Management Plan at ATI Guwahati, December 15-17, 2005
- Training Programme on Gender Issues, January 4-6, 2006
- Training Programme on Disaster Management for Fisheries Sector Scientists at NIDM January 30-February 3, 2006.

We welcome comments/responses/articles from readers of our Newsletter