A National Round Table
on
Climate Change and Disaster Management

Context

Impacts of disasters have long been considered tragic interruptions to the development processes. Disasters, in the past two decades, in general have spread their wings all across Asia and India in particular. Disasters, over the years, have consumed millions of lives and precious infrastructure. Because of disasters, development infrastructures, created over the years in different sectors - health, education, roads, communication, power, irrigation, housing, agriculture etc., generally have premature death (without giving intended services). The affected countries begin their development activities from the same point where they started, by diverting their development funds to reconstruction of infrastructure. Additional aid is directed to relief and reconstruction needs to get the country 'back on track' toward economic and social development. Disaster losses include not only the shocking direct effects that we see in news, such as the loss of life, housing and infrastructure but also indirect effects such as the foregone production of goods and services caused by interruptions in utility services, transport, labour, supplies, markets, etc. are lost; social networks are disrupted; and capital investments are destroyed. And when development plans are laid and disaster strikes, development funds are diverted to the emergency. Funds targeted for development are reallocated to finance relief and reconstruction efforts, jeopardizing long-term development goals (Prof. S. Kumar. Yojna 2010).

In the recent past, a few sudden onset high and low frequency natural catastrophes in India such as flooding, windstorm, earthquake, etc. have had significant stock (direct) and flow (indirect) impacts. Flooding triggered by torrential and heavy monsoon rains has been a significant source of losses, reported at more than $13 billion over the past decade. Strong tropical storms and cyclones have inflicted disasters losses of approximately $6.6 billion while earthquakes have inflicted damages of close to $5 billion over the past ten years (WB Report, 2002).

The unique geo-climate conditions of the Indian sub-continent make this region among the most vulnerable to natural disasters in the world. Disasters occur with amazing frequency and while the community at large has adapted itself to these regular occurrences, the economic and social costs continue to mount year after year. Floods, droughts, cyclones, earthquakes and landslides are regular phenomena in India. Out of the total geographical area of 33 lakh sq. km, about 60% of the landmass is prone to earthquakes of various intensities; over 40 million hectares is prone to floods; about 8% of the total area is prone to cyclones and about 68% of the area is susceptible to drought. Of the 35 States\Union Territories in the country, 22 are disaster prone. During the last two decades of the 19th century (1982-2001), natural disasters in India had claimed a total death toll of 1,07,813 people, on an average more than 5,390 death toll every year. India is getting impacted more by hydro-meteorological disasters than the geological disasters.

Climate Change and Vulnerability

Climate change is expected to increase the frequency and intensity of current extreme weather events, greater monsoon variability and also the emergence of new disaster i.e. sea level rise and new vulnerabilities with differential spatial and socio-economic impacts on communities. This unprecedented increase is expected to have severe impact on the hydrological cycle, water resource (drought, flood, drinking water, forest & ecosystems, sea level/coastal area (losses of coastal wetlands and mangroves), food security, health and other related areas. The impact would be particularly catastrophic for developing countries, including India. This would further reduce the resilience of poor, vulnerable communities, which make up between one quarter and one half of the population of most Indian cities. In the process of development, rapid development of coastal areas, urbanization, agriculture expansion, increasing population, rapid industrialization, and , more areas/populations are becoming vulnerable to climate risk and many have no choice to migrate to safer places.

Our country is witnessing a serious change in the profile of disasters related to water. If we just refer a few disasters occurred in the past such as **Leh floods 2010** coupled with land slide, **Karnataka** and **Andhra Floods 2010**, **Kolkotta Floods, Visakhapatnam floods** and **Mumbai floods in 2006**, It raises many questions regarding its nature, intensity, timings and extremities . We need to examine them in the frame of new climatic conditions of the country. Changing climatic conditions are posing new challenges in terms of high flood, drought and cyclone scenario with increased intensity and frequency. These events also raise a fundamental scientific question regarding climate change phenomenon. Are we really going to be affected by this global phenomenon? Whether India's rain fall pattern is going to change or remain unaffected? And, is this changing pattern would affect our agriculture and allied activities? If so, how much increase in global temperature would intensify the severity of disasters like floods, cyclone, heat wave, cold wave and other health related issues. And the most fundamental question would be of socio-economic impact.

Climate change only makes the challenge more complicated. First, the impact of a changing climate are already being felt, with more droughts, more floods, more strong storms, and more heat waves-taxing individuals, firms, and governments. These incidences are drawing resources away from the development. Second, continuing climate change, at current rates will pose increasingly severe challenges to development. By century's end, it would lead to warming by 5 degree C or more compared with pre-industrial times and to vastly different world from today, with more extreme weather events, most ecosystem stressed and changing. Many species doomed to extinction, and whole island nations threatened by inundation. Even our best of efforts are unlikely to stabilize temperatures at anything less than 2 degree C above pre-industrial temperatures, warning that will require substantial adaptation.

India is home to an extraordinary variety of climatic regions, ranging from tropical in the south to temperate and alpine in the north Himalaya. The country's climate is strongly influenced by the Himalayas and the Thar deserts. As recorded in the fourth assessment report of Inter Governmental Panel on Climate Change (IPCC), climate change is expected to increase frequency and intensity of extreme weather events and give rise to new vulnerabilities with differential spatial and socio-economic impacts on communities. In

India, in the span of 124 years, the probability of occurrence of drought was found maximum in Rajasthan (25%), Saurashtra and Kutch (23%), followed by Jammu & Kashmir (21%) and Gujarat (21%). The drought of 1987 in various parts of the country was of unprecedented intensity resulting in a serious crop damages and an alarming scarcity of drinking water.

The country is influenced by two seasons of rains, accompanied by seasonal reversal of winds from January to July. Consequent to the intense heat of the summer months, the northern India becomes hot and draws moist winds over the oceans causing a reversal of the winds over the region called the summer or the south west monsoon. Large variations have been observed on the accounts of rainfall received at different locations. The average rainfall is less than 13 percent over the Western Rajasthan, while Mausiram in Meghalaya has as much as 1141 cms. During 1871-2009, there were 27 major drought years in India (Mall, R.K) One of the major reasons for these droughts has been a strong link with the EL Nino-Southern Ocillation pattern and its linkages with the Indian food grain production.

The Emerging Challenges

Thirty years ago, half the developing world lived in extreme poverty and today it is one-third (World development Report 2010). Now, a much smaller share of children are malnourished and at risk of early death and access to modern infrastructure is much more wide spread. Critical to the progress : rapid economic growth driven by technological innovation and industrial reform, particularly in today's middle–income countries, where per capita incomes have doubled. Yet the needs remain enormous, with the number of hungry people having passed the billion mark in the year 2010 for the first time in the history. With so many still in poverty and hunger, growth and poverty alleviation remain the overarching priority for developing countries. Climate change further makes it more complicated.

World is caught in the dichotomy. High income countries can and must reduce their carbon footprints. They cannot continue to fill the up an unfair and unsustainable share of the atmospheric commons. But the developing countries- whose average per capita emissions is a third of the income of developed countries, needs massive expansion in energy, transport, urban systems, and agricultural production. If pursued, it will produce more green house gases and, hence, more climate change. The question, then how to make development more resilient to climate change and consequently disaster free society. It is how to pursue growth and prosperity without causing **"dangerous" "climate change".**

Societies have always been depended on the climate but are only now coming to grip with the fact that climate also depends on human actions which they take. The steep increase in green house gases since the industrial revolution has transformed the relationship between people and the environment. In other words, not only does climate affect development but development affects the climate. Development that is socially, economically and environmentally sustainable is a challenge. Economic growth is needed, but growth alone is not enough if it does not reduce poverty, protect people from disasters and increase the equality of opportunity.

By 2050, the global population will reach 9 billion, barring substantial change in demographic trends, 2.5 billion more people in the developing countries. Larger population would put more pressure on eco system and natural resources, intensify the competition for land and water, and increase the demand for energy. Most of the population will rise in the cities. In India too, by 2050, more than 50% of the population will occupy the urban space. With increased impact and stress on natural resources, it is a challenge to draw a new strategy and a JUST strategy for development in the changing environment.

The National Round Table

Along with the policy makers, planners, common citizens are now looking at the scientific community and professionals of disaster management, development and climate change specialists for an appropriate answer so that their future strategies may incorporate these changing realities. At this stage probably we do not have the definite answer. Hence, there is a need to have a national discussion on the subject and come up with integrated strategy. Also, Govt. of India has set up National Panel on Climate Change for making strategies for mitigation and Adaption to reduce climate risks in the country and at the same point of time for disaster risk reduction National Act and National Policy on Disaster Management are being implemented by federal as well as State governments. Hence, it is appropriate to think and act together with all the stakeholders. Many questions raised above in the paper will have place for discussion in the proposed round table and come out with the recommendations which may be taken by disaster management, development and climate professionals.

The Organizers

India Water Partnership along with its host institution, Institute for Human Development in collaboration with National Institute of Disaster Management (NIDM), Ministry of Home Affairs, Govt. of India would organize a one day National level Round Table with the scientific community, disaster management professionals, civil society groups, corporate sector, media and senior policy makers from the government on 26th November, 2011 at New Delhi .

India Water Partnership (IWP)

India Water Partnership (IWP) is the Country Water Partnership functioning under the overall framework of Global Water Partnership (GWP) headquartered at Stockholm, Sweden. IWP became a legal entity on November 28, 2001 with its Memorandum of Association registered in the State of Haryana under the Societies Act, 1860. It was first hosted by Water and Power Consultancy Services Ltd. (WAPCOS), New Delhi. Institute for Human Development, New Delhi is the present host institution of IWP.

IWP has been active in promotion of Integrated Water Resource Management (IWRM) principles and practices through IWP network partners to support national development priorities. Some of the core priority areas are: promoting IWRM approach effectively through workshops and consultations to address adaptation to climate change with the support of zonal water partners across the country; encouraging use of innovative low cost water saving technologies by the farming communities; sustainable natural resource management; integrated domestic water management; promoting Area Water Partnership

(AWP) for river basin management; conflict resolution on water sharing; inter-state trans-boundary water sharing issues, gender mainstreaming, etc.

Institute for Human Development (IHD)

The Institute for Human Development (IHD) is a non-profit autonomous institution that undertakes studies in human development and related issues. It has established itself through its corpus of research, analysis and policy recommendations, and made contributions in a range of areas such as labour, employment and livelihoods, social security and social protection, poverty, marginalization and exclusion, food security, gender, markets, governance and decentralisation.

IHD is guided by the underlying philosophy that the basic purpose of development is to create an enabling environment for people to develop their full potential, lead productive lives, exercise their choices and participate in decision-making processes. Using the tools of intellectual inquiry, the Institute aspires to integrate quantitative and qualitative analyses with micro and macro-level policy initiatives towards restructuring the framework of governance for greater empowerment of the people. The Institute is registered under the Societies Registration Act, 1860, and recognized by the Ministry of Science and Technology, Government of India, as a scientific and industrial research organization.

National Institute of Disaster Management (NIDM)

The National Institute of Disaster Management (NIDM) is a premier national organization working for human resource development at national level in the area of disaster mitigation and management. The NIDM came into existence since October 16, 2003 by a Government of India order upgrading the National Centre for Disaster Management (NCDM), which was located at Indian Institute of Public Administration, New Delhi. The NCDM was established by the Ministry of Agriculture, Department of Agriculture and Cooperation, Government of India, in March 1995. The NCDM had been functioning as a nodal Centre for the human resource development in the area of disaster management. Over a period of time, it has emerged as a premier institution specializing in disaster management in South Asia.

Key Issues for the discussion

a) Scientific explanation of Increasing extreme events turning into disaster in India (hydro meteorological);
b) Risk Reduction strategy for changing vulnerability profile of the country at the local level;
c) Capacity of the stakeholders to cope with mitigation, adaptation and Disaster Risk Management;
d) Innovation for unconventional strategy for sustainable development;
e) Food Security, poverty and safety with inclusive strategy; and,
f) Land and Water Management

Date

The National Round Table is scheduled to be held on the **Saturday 26th of November 2011** at National Institute of Disaster Management, IIPA Campus, I.P. Estate Ring Road, New Delhi-110002.

Participants

Participants would be drawn from the Ministry of Home Affairs, National Disaster Management Authority, Indian Meteorological Department, Medium Range Weather Forecasting Department, experts from Universities, IWP network and zonal water partners, FICCI, CII, ASSOCHAM, UNDP, World Bank, ADB, JAICA,UNICEF, print and electronic media, selected members of the state Disaster Management Authorities.

Outcomes

The National Round Table would bring out with a strategy document for future policy and programme interventions for different stakeholders.

Contact us

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