**THE SECOND INDIA DISASTER MANAGEMENT CONGRESS**
**4-6 NOVEMBER 2009**
**THEMATIC CLUSTER - I: EMERGENCY HEALTH MANAGEMENT**
**SESSION-1: Public Health Emergencies**
**Concept Note**

## A. Introduction

India's unique geo-climatic conditions make it vulnerable to natural disaster like floods, draought, cyclones, earthquakes, and outbreak of diseases leading to a sizable number of human casualties. The super cyclone in Orissa in October 2009 caused more than 9,000 deaths, the Bhuj earthquake in January 2001 resulted in 14000 deaths, while the Tsunami in December 2004 left behind 15,000 dead in India. The Bhopal Gas tragedy of 1984 accounted for more than 15,000 deaths over a period of more than two decades. The above events underline the mass casualty potential of natural and man-made disasters.

The increased vulnerability to man-made disasters due to industrialization and probability of terrorist attacks using 'dirty bombs' and/or chemical bombs underscores the need to adopt a multidisciplinary and multi-sectoral approach for preparedness, prevention/mitigation strategies and develop capacities to improve response. Equally important are the 'peripheral emergencies' which result in mass casualties. These include road, rail and air accidents, fire, drowning, stampede, and epidemic outbreaks. These incidents occur more frequently than natural disasters. The deaths due to man-made disasters, between 2001-03 were nearly 12 times higher than those caused by natural calamities. This establishes the importance of setting up an institutionalized mechanism for medical preparedness across the nation. The analysis of mortality data of the last decade also revealed more han 1,20,000 deaths with economic losses of approximately Rs.1,50,000 crore.

Complex socio-economic environmental problems may arise due to occurrence of such events and public health emergencies with mass casualty potential.This situation calls for the need of an institutionalized mechanism having an 'all hazard' approach.

As India experiences a rapid health transition, it is confronted both by an unfinished agenda of infectious diseases, nutritional deficiencies and unsafe pregnancies as well as the challenge of escalating epidemics of non-communicable diseases. This composite threat to the nation's health and development needs a concerted public health response that can ensure efficient delivery of cost-effective interventions for health promotion, disease prevention and affordable diagnostic and therapeutic health care.

## Need for appropriate capacity building in Public Health in Emergencies in India

This is one area which needs appropriate attention in terms of capacity building and pro-active steps specifically in the context of Indian subcontinent, being a theatre of disasters. Public Health in Emergencies addresses the need to develop capacities to manage health risks of emergencies. The approach includes development and delivery of training courses, and project implementation while promoting excellence in public health management in emergencies in the country. This is to reduce the impact of disaster on communities through preparing health services and by raising awareness and enhancing knowledge and skills, strengthening sustainable institutional mechanisms and facilitating exchange of information, experience and expertise.

For one reason or the other, disasters have been contributing to the outbreak of some specific public health emergencies as the disease transmission risk factors increase when a disaster hits a particular geographic area. Lack of clean water and the suspension of public health programmes, all health illnesses, such as cholera or dengue or malaria to multiply after natural disasters. Often these illnesses can be more deadly than the original disaster. Rapid changes in the human environment and health may occur also as a result of natural disasters or acts of war or of other man made circumstances including major

industrial accident. However, health problems arising out of the disasters may vary in types and degrees depending upon particular type of a disaster.

The increased man-vector contact in shelters and temporary camps and the disruption of control activities may be more important causes for epidemics after disasters caused by natural hazards, in particular. More importantly, disasters caused by natural hazards (hurricanes, floods, earthquakes, cyclones and volcanic eruptions) can contribute to the transmission of some diseases provided the causative agent is already in the environment. Although major health epidemics are rare in the aftermath of these disasters, but some disasters are so great that large numbers of the population are displaced, creating perfect conditions for the spread of disease.

While earthquakes, avalanches, and landslides may result in enteric epidemics due to improper water supply and sanitation; volcanic eruption can lead to respiratory epidemic; and unprecedented amounts of rain leading to disastrous flooding and flash floods, and cyclone can result in pneumonia as well as other waterborne/communicable diseases. In the period immediately following a cyclone, the risk of acquiring malaria, dengue or encephalitis may decrease as a result of the destruction of breeding places of the local vectors. Similarly, industrial accidents can cause respiratory problems. Viral agents during the time of nuclear, biological and chemical warfare can cause diseases like, Anthrax, vibrio cholera, and plague requiring immediate treatment.

### Areas of relevance include:

- Inter-regional and National Public Health and Emergency Management .These would focus on improving the management and coordination abilities of public health emergency managers in their roles as risk managers, program managers, operations managers and leaders.

- Public Health in Complex Emergencies would attempt to chisel the skills of health personnel working with refugees and internally displaced persons in complex emergencies.
- Hospital Emergency Preparedness & Response course would assist health service managers and medical personnel with health facility planning and managing large numbers of casualties.
- Basic Emergency Response Course which combines training of trainers and community level training to build health and medical emergency response capability in communities.
- Capacity building on the psychosocial and disaster mental health aspects
- Nutrition of Children and Mothers in Disasters which enables participants to train other health staff on managing nutritional needs in disasters.
- Disasters and Development course for health and development professionals and focusing on integrating health emergency risk management and sustainable development.
- Epidemic and pandemic preparedness could also be one of the areas of capacity building specifically in the context of community based Management and Health Care Facility Emergency Preparedness and response
- Emerging Zoonotic Diseases which focuses on the development and testing of tools for assessing risk and capacity assessment tools.
- Development of a training package for managing health risks of deliberate use of biological, chemical and radiological agents (CBRN)
- Short training modules on Health problems related to disasters, Coordination of relief activities and assessment of the health needs, Epidemiologic surveillance and disease control, Management of mass casualties ,Hospital disaster preparedness plan ,Medical supply management, Hospital communication, etc.

B. **Context**

However, it is important to remember that epidemics do not spontaneously occur after a natural disaster**.** The more likely cause of disease is the lack of potable water and adequate sanitation. In country like India where cholera is prevalent, general assumption is that disease will spread after any disaster affecting water supply, food quality and

sanitation. However, the health problems in natural as well as man-made disasters could be due to one or many such factors

Disasters can contribute to the transmission of some diseases triggering an epidemic in three ways:

- By increasing transmission of local pathogens
- By changing the susceptibility of the population
- By introducing a new pathogen into the environment

The epidemiologic factors that determines the potential of communicable disease transmission is influenced by six types of adverse changes during disasters:

- Changes in pre-existence levels of disease
- Ecological changes as a result of disaster
- Population displacement
- Changes in population density
- Disruption of public utilities
- Interruption of basic public health services

C. **Objectives** – the broad objectives of the session would be to:

- Discuss the case studies of various PHE during past disasters
- Share the experiences of health practitioners from hospitals and filed.
- Discuss the issues pertaining to research & development, and capacity building in PHE
- Discuss good practices in management of PHE in India

D. **Sub Themes** – The broad areas that would be dealt during the session are:

i. Case study of PHE following disasters
ii. Preventive and preparedness measures at national, state, district and community level
iii. Innovativeness in treatment modalities at hospital Triage protocol

iv. Emerging public health issues

E. **Expected Outcome**

While the session is expected to bring together bounds of knowledge and practices in the sub theme areas from various scholars, researchers and practitioners across the country, one of the key expected outcomes would be to put these collated deliberations in a formal manner through a printed and updated compilation of the papers presented.

F. **Session Plan** – the tentative broad session plan would be as follows:

Date: 5th Nov 2009, Duration: 10:00-13:00, 3 hours/180 minutes, Hall No-5, Second Floor, Vigyan Bhawan

Chair- Dr. K S Reddy, Director, Public Health Foundation of India, Co-chair – to be decided, Rapporteur – to be decided

**Session plan**

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| Sub Themes-4 | Duration:35minutes each |
| Inauguration-closing, & Discussion | Duration: 40 minutes |
| Total papers- 10 | Duration of presentation- 12 minutes |