

**Hotting Up! Reducing heat wave risks in Odisha**

Thursday, May 08, 2014

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**By Jyotiraj Patra;**The coastal state of Odisha is reeling under severe heat wave conditions since last couple of weeks. The daily average temperatures reported from most of the cities in Odisha have surpassed all time records of last couple of decades. Most of the cities in the state have been recording an average daily temperature above 40 degrees Celsius. Is this going to be a one-off case of extreme heat waves or an early indication of things that the state and its population are likely to face in times to come?

Odisha is not new to heat waves. The 1998 heat waves in Odisha claimed more than 2042 human lives. The 2014 heat waves in the state are intense and severe. Heat waves related deaths have been reported from many parts of the state. Although the official numbers of confirmed heat-related human causalities are 15 more than 50 deaths have been reported in the media.

In a recently held high-level meeting to take stock of the situation the Government of Odisha’s Special Relief Commissioner ascertained the state’s preparedness measures to tackle any heat wave-related exigencies. He presented a set of measures that the state is taking to protect the lives of its citizens. Actions taken so far span a wide spectrum; from closure of schools to adequate provision of cold (and clean) water in buses.

Loss of human lives and increase in heat-related health illnesses and complications are one of the many impacts that such extreme heat events have on society. Most importantly, it is the poor, elderly, children, sick, and people with lack of access to adequate healthcare facilities, who suffer the most. The other major impact is on agriculture and livestock; the mainstay of livelihoods and economic well being for many in the agrarian state of Odisha. Industrial production and other economic sectors also suffer because production systems and the workers cease to work and function beyond a threshold. Work sites become unbearable and chances of negative health effects on the workers go up in such extreme heat condition. The worst suffers are the daily wage labourers and small-and-petty business owners who can’t work for long hours in such sweltering heat. Movement of people, goods and services goes down and this impacts the health of the economy. The total economic losses in the deadly heat waves of 2003, which resulted in more than 70,000 human deaths, mostly the old and sick, were estimated to exceed 13 billion Euros!

Social impacts of such temperature extremes are varied and context-specific. One of the major impacts is with regard to competition, and often conflict, over scarce and critical life-saving natural resource such as water. Drying rivers and declining groundwater tables in many parts of Odisha have severely impacted the lives and livelihoods of tens of thousands people in many parts of Odisha. Instances of water shortage and pollution are most acute in the industrialized belts of Jharsuguda, Talcher, Jajpur, and Keonjhar. The perennial conflicts over water for industrial purpose with that of water needs for agriculture and human consumption often become intense and widespread during these times of the year. Water, the basic survival need of humanity, is at greater risk from such extreme heat wave conditions. Decline, both in quantity as well as quality, further intensifies existing competition within communities and also among economic sectors (such as irrigation for agriculture versus water for industry). One could very well understand the emerging water needs of people with the unprecedented increase in the number of Jal Chaatras in villages and towns of Odisha. Energy is the other sector that is impacted the most. The present day lifestyles which are so much dependent on electricity and energy-intensive systems find it difficult to cope with reduced and erratic supply of energy.

Extreme temperature incidences like this one which Odisha is facing at the moment are predicted to become intense and more frequent in future. The latest scientific evidence published by the Intergovernmental Panel on Climate Change (IPCC), the highest scientific body on climate change, unequivocally confirms this increasing trend. More importantly, how and when, and to what extent these extreme events will unfold is very uncertain. Heat impacts are more pronounced in urban centers because of higher levels of air pollution and rampant encroachment of greener spaces and water bodies.

Reducing the risks of such extreme heat waves on human population, economic sectors, and ecosystems is a daunting task. The disaster prone state of Odisha has stood to the challenge of time and has demonstrated unparallel commitment to reduce the loss of lives and protect its citizens from natural disasters. The Government of Odisha’s leadership in successfully evacuating more than ten lakh (one million) people before severe cyclonic storm Phailin had a land fall at Gopalpur is a glaring testimony of the government’s capacity to tackle any weather-related extreme. Evacuation of this scale in a disaster situation is unprecedented. This couldn’t have been possible with the highest level of political will and administrative capacity and commitment of the government of the day. Supporting the government’s effort is a pro-active regional centre of the Indian Meteorological Department (IMD). The Bhubaneswar centre of the IMD and its officials have ensured that the nitty-gritty of complex weather forecasts and alerts are communicated to the state government authorities, as well as to the public at large, well in advance and in the most easy-to-understand format and language. The media, both print and electronic, in Odisha has been at the forefront to reduce disaster-related vulnerabilities and losses of its people and its key economic sectors. Many non-governmental agencies (NGOs), including some international agencies, are facilitating these disaster risk reduction efforts of the state through community mobilization, awareness, investment in community-level activities, and technical support to the government. This multiple channels of collaboration with the state is crucial in mobilizing greater administrative responses as well as actions, both individual and collective, to tackle such situations. While awareness generation initiatives of the state to protect oneself during such deadly heat waves are crucial, the larger part of supporting the poor and vulnerable people, including the children and elderly, mostly comes from such non-governmental sources.

Private sector participation in and contribution to the development of the state has been significant. The state of Odisha has become one of the favorite destinations for private sector investments. But the potential of private sector leadership and innovation in reducing such extreme weather related losses and damages haven’t been fully explored in the state so far. The Confederation of Indian Industry-Eastern Region (CII-ER) and the Orissa Chamber of Commerce and Industries are two of the nodal industry bodies which could further work towards innovative Public-Private Partnership (PPP) mechanisms to support the state’s effort in reducing such extreme-weather related risks to the state and its economy. Their collaboration with the Orissa State Disaster Management Authority (OSDMA), the nodal agency of the state for disaster preparedness and response, and the Office of the Special Relief Commissioner (SRC) could help explore new avenues to tackle this emerging situation.

The 2014 heat wave conditions and the unprecedented challenges before the state government could also open a policy window for the state. The Orissa State Disaster Management Policy  (2005) and the Disaster Management Plan (2013) are two of the policy and planning frameworks that could further mobilize innovative approaches and actions to reduce risks of such extreme heat waves. One such action could aim at further refinement of existing measures to tackle heat waves at various levels and across departments. The government’s Panchayati Raj Department and the Department of Housing and Urban Development could take up appropriate measures to reduce such risks in the rural and urban settings respectively. Cross-sectoral planning and coordination involving the departments of Revenue & Disaster Management, Health & Family Welfare, Education, Fisheries and Animal Resources Development, Water Resources, Rural Development, Forest & Environment, and the Commerce & Transport will help to identify the commonalities through which these departments can work together to address the challenges of extreme heat waves in the state. Since impacts of such extreme weather phenomena are severe and most prominent on public health, an integrated Odisha Heat-Health Action Plan (OHHAP) could be worked out to design specific guidelines and actions to tackle such unforeseen situations in the future. While the primary emphasis would be on human health, the notion of health also includes measures to address the health of the economy, ecosystems and the society at large. OHHAP could be institutionalized as an inter-departmental coordination mechanism to streamline actions and ensure coherence in planning for heat wave related vulnerabilities across sectors and levels.

(The author is a disaster risk reduction and climate change researcher. He is presently a Research Award Recipient (RAR-2014) with the climate change programme of the International Development Research Centre (IDRC), Canada. Views expressed are personal and don’t reflect those of IDRC. He can be contacted at jyotirajpatra@gmail.com)

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