

# Drought (2009): A Public Health Challenge in India

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## Abstract

Sir,

Poor monsoon this year (2009) has resulted in half of India to face the dreadful situation of drought. "Ten states in India have declared 246 districts as drought-affected. There is 29 per cent less rainfall in 2009 till date <sup>1</sup>.

Drought is a climatic anomaly, characterized by deficient supply of moisture resulting either from sub-normal rainfall, erratic rainfall distribution, higher water need, water resource mismanagement or is a combination of all the factors <sup>2</sup>. Occurrence of drought is a gradual process posing threat to food security, health of population and accelerates human morbidity and mortality. Drought leads to water and food shortages and is likely to have a long-term environmental, economic and health impact on the population.

In India, agriculture has been considered a necessary gamble as the agricultural productivity is strongly influenced by the vagaries of the monsoon (seasonal rain pattern). In the light of the present situation of emerging and re emerging diseases, the scenario of drought is much more complex. To make this situation worse, the global food security crisis has set in and in India; the food prices have reached a 32% hike as stated by the Ministry of Consumer Affairs <sup>1</sup>.

The factors affecting vulnerability of the population to drought include rising demographic figures, food insecurity, economy dependent solely on agriculture, poor irrigation and water conservation systems, displacement and migration of populations, absence of warning mechanisms, absence of rain during the harvest season and other concurrent issues like economic crisis and social instability<sup>1&3</sup>.

Inability of the poorest to afford healthy food, forcing them to buy low-quality products, and negatively changing dietary patterns is a significant contributor to the burden of existing

diseases and other health related problems. Children and the elderly are the worst hit which increases the morbidity and mortality rates during drought <sup>4</sup>. Reduced food intake results in protein energy malnutrition and deficiency of several micronutrients which in turn sets off the vicious malnutrition associated reduced immunity and infection cycle<sup>4</sup>.

To overcome the problem, providing food aid is an answer but food aid is a complex issue involving strong political and social will. Ensuring food safety, quality and distribution depends largely on the economic, political and logistic support <sup>4</sup>. If the food supply is not handled properly, then contamination becomes a probability and the population may be consequently at risk of outbreaks of food borne diseases, including diarrhoea, dysentery, cholera, hepatitis A, and typhoid fever. Food aid should include distribution of food to general population, supplementary feeding to correct moderate malnutrition among children, prevent nutritional status deterioration amongst high risk groups like children, pregnant and lactating mothers and the elderly and therapeutic nutrition for the severely malnourished individuals <sup>4</sup>.

In addition to this, lack of safe potable water supply and poor sanitation facilities will accelerate the risk of contracting communicable diseases like cholera, diarrhoea and acute respiratory infections. In addition, displacement and migration of population with their apparent burden will lead to more contamination and stretching of existing water sources which will add to the burden of communicable disease<sup>5</sup>.

The key to adequate water management in drought lies in pre-drought preparation. like developing a good water system maintenance program, periodically evaluating emergency water sources, establishing a plan for managing water demands, building public information programs on conservation of water, system to purify water and provide

safe drinking water<sup>5</sup>. Developing alternative ways to recycle used water and desalination of sea water has to be thought over and programmes should be implemented during the period of drought<sup>5</sup>.

All disasters cause psychosocial stress in the affected population. Mental health needs are to be considered part of the health care during all phases of assistance<sup>3</sup>. Health services can also be directly affected. Health posts may run out of water; community health workers will be affected by shortages and economic distress and may be forced to leave their villages<sup>3</sup>. Poor access to health care can also make a significant contribution to the burden of morbidity and mortality and the reasons for this are social mobility, decline in buying capacity and financial losses<sup>2</sup>. The health care facilities may not be adequately prepared to handle the emerging diseases assuming epidemic proportions in localized regions<sup>2</sup>.

To strengthen the mechanisms functioning during this emergency, an integrated approach is vital. Health sector can work in conjunction with food and transportation sectors. The mass media and communication can be of immense

utility in combating rumors and disseminating appropriate information regarding preventive measures for the general public. Anticipation of this emergency by enhancing the hazard identification procedures, accelerating water conservation projects and improving the preparedness seem to be the possible solutions to tackle this disaster<sup>5</sup>.

The need of the hour is to manage the danger by providing food aid, ensuring water supplies and adequate sanitation measures and by minimizing population mobility. At the managerial level, strengthening of the existing surveillance and control of communicable diseases and nutritional surveillance to gauge the problem of malnutrition is of prime importance.

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