

Resilient Water?



Photo: AIDMI.

Can water be resilient? We know that water is essential for our survival but it can be destructive in an equal measure too. One of the possible ways of thinking about resilient water is to think of drought in the times of floods. Imagine a house surrounded by a plenty of flood waters without clean water to drink inside. And for a while there has not been a more flooded monsoon in India, nay in South Asia, in fact in the world, than the past three months. But let us focus on India where over 35 million people have been affected by floods in the recent months covering over estimated one-third of its land mass.

There is more rainfall. There are more rainy days. The rivers have narrowed and river beds are increasingly full of landfill. The trees that slow down and retain rain water from running off into the rivers have disappeared. And cities, small and large, come in the way of the rain

water to flow. All this leads us to believe that there will be more floods and the flood water will not be retained to reduce the chances of possible droughts.

It is the water in its source—dams, tanks, ponds, wells, lakes, and canals in addition to rivers and streams and deltas—that need to be viewed from the perspective of climate compatible development in India. Both, surface water conditions as well as the groundwater situation is deteriorating fast. According to the World Bank¹, more than 60% of irrigated agriculture and 85% of drinking water supplies are dependent on groundwater now.

Based on its sub-national work in drafting District Disaster Management Plans (DDMPs) in 9 states of India, the All India Disaster Mitigation Institute (AIDMI) has found that a national review of water insecurity and water infrastructure

is warranted. Such a review will help in assessing how resilient is India's water programme.

India has more people in rural areas—63.4 million—living without access to clean water than any other country, according to *Wild Water, State of the World's Water 2017*, new report by WaterAid², a global advocacy group on water and sanitation. The most effective and efficient approach of conducting such a review will be one that is bottom-up from block, district, state and up to the national level. Such a review also necessitates a participatory approach to be jointly conducted by the State Disaster Management Authority (SDMA) along with Water Resource and Irrigation Departments as well as with civil society organizations.

Another important finding from AIDMI's work with IDS in UK and University of Norway in the Sunderbans and the Kutch desert is

1 <http://www.worldbank.org/en/news/feature/2012/03/06/india-groundwater-critical-diminishing>

2 <http://www.hindustantimes.com/india-news/6-3-crore-indians-do-not-have-access-to-clean-drinking-water/story-dWIEyP962FnM8Mturbc52N.html>

that there is no simple and effective communication mechanism of top to bottom and bottom to top on climate risks and uncertainty. Evolving a mechanism that facilitates such a communication will be the first step in the right direction. Dr. Shibaji Bose of Indian Institute of Health Management Research, Jaipur has developed a method, Photo Voices, which gives a voice to the bottom and the top to communicate with each other. Such DDMPs in fact represent an opportunity for conducting such a national review at local level.

Key systems such as water supply, health, power, communication, housing and agriculture need to be taken into account when reviewing water insecurity and infrastructure. This can be done well if the hazard and risk mapping of potential disasters is scrupulously conducted. Since the DDMP drafting process depends upon a detailed hazard, risk and vulnerability assessment (HVRA) of the above stated systems, it surely represents a formative building block to conduct the national review. National Institute of Disaster Management (NIDM) under the leadership of Dr. Santosh Kumar is best suited to initiate such a review with a competent team of institutions. This will be a one more concrete step towards

implementation of India's National Disaster Management Plan (NDMP) launched by the Prime Minister of India in June 2016.

Another important step is finding and involving the right stakeholders at all stages of such a process. Such stakeholders may be the authorities or people's movements or unions or cooperatives or universities and beyond. Recently Inter Agency Groups (IAGs) have played a key role involving the right stakeholders in each state affected by floods. AIDMI's work of risk reduction for the poor and marginalized communities of India and South Asia is based upon local systems of risk reduction that emerge from traditional knowledge of communities that have been coping with extreme events for too long.

There is a considerable body of scientific evidence that suggests that climate change has been a major contributing factor for the increasing severity and frequency of weather extremes like floods and droughts. However, the line departments of the government possess only a limited understanding on this issue. Capacity building of these line departments on understanding the concepts and impacts of climate change can also improve the understanding of these 'decision-

implementers' to better coordinate between the varying climate extremes of floods and droughts at the sub-national level in India. Odisha has already worked on this sensitive area through a Training Needs Assessment (TNA) through it's the Odisha State Disaster Management Authority (OSDMA).

The coastal state of Andhra Pradesh in India is often ravaged by floods, droughts and heatwaves. These climate extremes affect different regions of the state at different seasons all around the year. Government of Andhra Pradesh in collaboration with UNDP India drafted departmental disaster management plans for all the major departments of the state government. Among the departments included were those of agriculture, animal husbandry, cooperatives, fisheries, rural development, urban development, panchayati raj and water resources. A common theme in all these plans was to plan for the efficient usage of water so that it benefits the state in a wide range of extreme weather.

Next step is for more nurturance of the points of entry to such a process of building resilience of water infrastructure.

The key gap is the institutional capacity for such ongoing assessments, for existing and new infrastructure as well as limited capabilities for design and finance. Water security or the lack thereof, can push the column of vulnerability for entire communities. The above organisations, authorities and institutions have been consistently working to transform this vulnerability into resilience. Perhaps it is time that these measures are scaled up by many more relevant stakeholders. ■

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Photo: AIDMI.

Dam on Kharun river, Munrethi, Raipur, Chhattisgarh.