

Staring at a drought year

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Drought The situation seems worrisome in Bihar, Gujarat, Jharkand, parts of Telangana and Chhattisgarh, and in the Northeast region , Thinkstock

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The four months of southwest (SW) monsoon season, June to September, ended just three weeks back and some parts of the country are already staring at drought-like conditions. States such as Maharashtra, whose semi-arid Marathwada region is infamous for recurring droughts and has recorded a deficient rainfall of minus 22 per cent this monsoon, has already started the exercise of 'ground truthing' for drought assessment and kharif (summer) crop yield losses.

As per preliminary list, 201 blocks (179 blocks, claim some news reports) in 32 districts of the state seem affected by drought. Situation seems worrisome in Bihar, Gujarat, Jharkand, parts of Telangana and Chhattisgarh, and in the Northeast region, which have received deficient rainfall in the SW monsoon. The soil moisture index in these regions is also in the negative, thus signalling a possible onset of drought. Bihar government has already declared 206 blocks in 23 districts drought-hit with immediate drought-relief worth Rs 1,500 crore. As per the India Meteorological Department's (IMD) rainfall data, at an all India level, the rainfall departure between June 1 and September 30 this year, is minus 9 per cent, which is 'below normal' monsoon rainfall. Of the total 36 meteorological subdivisions in the country, 23 received 'normal' rainfall, whereas 12 had 'deficient' rainfall. Only Kerala, which faced unprecedented floods in mid-August, has recorded 'excess' rainfall this SW monsoon season. At the state-level, as against a 'normal' monsoon rainfall of 672.7mm, Gujarat received 484.6mm rainfall, thus 'deficient' rainfall of minus 28 per cent. Bihar and Jharkhand have recorded 'deficient' rainfall of minus 25 per cent and minus 28 per cent, respectively. North interior Karnataka and Rayalaseema subdivisions are in 'deficient' rainfall category, too. In Manipur and Arunachal Pradesh, rainfall departure is as high as minus 54 per cent and minus 32 per cent, respectively.

According to Dr M Rajeevan, secretary, Union ministry of earth sciences, this year's 'below normal' rainfall is mainly because of an unprecedented deficient rainfall over Northeast India. Only four times in the past, there has been rainfall deficiency exceeding 20 per cent over Northeast India, he added. It must be noted that in its 2nd stage long-range forecast for SW monsoon rainfall this year, issued on May 30, the IMD had predicted a 'normal' monsoon. On August 3, it issued a press release, informing "quantitatively, the rainfall for the country as a whole during the second half of the season (August and September) is likely to be 95 per cent of LPA [long period average] with a model error of ± 8 per cent." Whereas month-wise rainfall forecast for August and September (and the actual rainfall of 94 per cent of LPA received in June and July) clearly suggested the country was headed towards a 'below normal' monsoon rainfall, it wasn't officially stated. But, deficient monsoon rainfall alone doesn't lead to drought. Other indicators — agriculture, soil moisture, hydrology, and remote sensing (health of crops) — are taken into consideration for drought declaration. These are listed under the Centre's Manual for Drought Management 2016, a primary document for drought assessment and drought declaration in the country.

As per the South Asia Drought Monitor managed by Water & Climate Lab at the Indian Institute of Technology (IIT) Gandhinagar, as of October 17, several regions in the country have negative soil moisture index and heading towards short-term or long-term drought. The deficit in soil moisture can be due to deficient monsoon rainfall or an increase in temperature. Dr Vimal Mishra, associate professor at IIT Gandhinagar informed that lack of soil moisture impacts crop

growth and will affect rabi sowing this year. These impacts have already started to reflect in kharif crop yields in Maharashtra. According to Mohan Bhise, former agricultural officer of Latur, the entire Marathwada region is in the grips of drought. Soybean crop in Latur district has reported crop yield losses between 25 per cent to 50 per cent. Old plantations of sugarcane in Latur, too, have suffered 65-70 per cent yield loss. In villages of Parbhani in Marathwada, farmers have reported up to 60 per cent reduction in Bt cotton crop yield, informed Manik Kadam, president of Marathwada division of Swabhimani Shetkari Sanghatana. Official crop loss estimation is underway in the state and drought may be declared by this month end. Along with rainfall and soil moisture content, availability of water in reservoirs is also crucial.

According to the live water storage data of Maharashtra Water Resources Department, as of October 19, large projects in Marathwada have only 26.38 per cent water. Last year, same time, they were 78.70 per cent full. Majalgaon and Manjara projects in Beed district have zero live water storage. Lack of adequate rainfall and low soil moisture content is expected to translate into additional pressure on the groundwater, which largely remains unregulated and mismanaged. Various state governments have already announced incentives on agricultural pumpsets, which may lead to mindless exploitation of groundwater, a key to our future water security. Without waiting any longer, states affected by deficient rainfall and low soil moisture content, and with limited irrigation facilities need to keep their respective drought response plans ready. The existing water sources need to be secured and rationed carefully as the next SW monsoon is more than seven months away. There is also an urgent need to regulate groundwater use. With reports of building up of El Niño in the Pacific Ocean, which impacts global weather patterns, including our SW monsoon, the situation may turn more difficult next year.

The author is an independent journalist based in Mumbai. Views expressed are personal.