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WHY FARMS OF EVERY TYPE AND SIZE HAVE TO BE CLIMATE SMART

Relevant for: Environment & Disaster Management | Topic: Environmental Conservation, Sustainable Development & EIA

An annual review by the Indian Council of Agricultural Research (ICAR), a wing of the agriculture ministry, has said that crops, plantations and livestock in 151 districts, or slightly more than one-fifth of the total districts in India, are susceptible to the impact of climate change. Using data sets created by the University of Delaware and India Meteorological Department, the review projected that climate change could reduce annual agricultural incomes in the range of 15-18% on average and up to 20-25% in unirrigated areas. About 54% of India's sown area has no access to irrigation. The report is shocking, but is in line with earlier climate warnings --- the 2018 National Economic Survey found a long-term trend of "rising temperatures" and "declining average precipitation" ---- and anecdotal evidence from farmers across the country. This climate impact on agriculture is a cause for worry: the sector accounts for a large share in gross domestic product (16%) and employment (49%). Poor agricultural performance can lead to high inflation, rural distress, and political restiveness, as recent rural agitations and farmer suicides have shown.

Even as the agriculture sector deals with this, it has to work on ways to maximise productivity, returns to farmers, and optimise the use of soil and water. To face this challenge, farms of every type and size have to be "climate smart". A paper on 'Climate change and Indian agriculture' by Arvind Subramanian (Peterson Institute of International Economics), Parth Khare (University of Chicago), and Siddharth Hari (Virginia Tech Department of Economics), published in Ideas for India (IFI) outlines three policy interventions. The first is to increase irrigation cover. "The central challenge here is that this spread of irrigation needs to take place against the backdrop of diminishing ground water reserves, particularly in parts of north India," says the authors. Second, increase research in agriculture technology to develop crop varieties and cropping techniques which are more climate-resilient. Third, rationalise subsidies (power and fertiliser) that favour the indiscriminate use of water.

While the authors don't expand on the second, genomic profiling of Indian millet varieties such as finger millet, pearl millet and sorghum suggest that they are climate-smart crops ideal for environments prone to drought and extreme heat. The growing of climate-resilient crops needs to be encouraged, instead of providing state support for water-guzzling crops. There should also be better linkages between scientists and farmers. The latter need improved techniques to conserve soil moisture, appropriate seeds and farm inputs, and also access to short-term climate information such as weather advisories. Farmers must also have better access and control over water resources. Finally, long-term climate information must be incorporated into decision making.

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