The Declining Impacts of Climate on Crop Yields during the Green Revolution in India, 1972-2002

Abstract

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This study explores the changing impacts of climate and the availability of irrigation, among other things, on crop yields in India from 1972 to 2002. District-level panel data are constructed, and the yield functions of five major crops (i.e., wheat, rice, maize, millet, and sorghum) are estimated. It is found that the dependence of crop yields on climate generally decreased over time, indicating that the Green Revolution technology mitigated the impact of climate on crop yields. It is also found that irrigation is the key variable affecting the yields of wheat and rice, but not of maize, sorghum, and millet.