
WORKING PAPER 183/2019

**Assessment of Climate Change Impacts and
Adaptation:
A Methodological Review and Application to
Indian Agriculture**

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Agriculture*

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Abstract

In the context of agriculture both crop modelling as well as statistical modelling approaches are used to assess climate change impacts. Studies comparing both approaches across developed as well as developing countries have argued that there is little or no difference in their estimates, resulting in further proliferation of statistical approaches. This paper presents a methodological review of the statistical approaches that broadly use cross-sectional and panel datasets to quantitatively assess the climate change impacts on agriculture. Arguing that adaptation is modelled differently in different models, the paper provides an estimate of the extent to which impacts could be moderated through long-term adaptation in the context of Indian agriculture. In addition, the paper provides a brief review of the vast parallel literature that exclusively uses time-series data for assessment of the impacts of climate/weather trends.

Key words: *Climate change impacts; Indian agriculture; Statistical models; Adaptation*

JEL Codes: *Q54; Q10; C10*