Analyzing Indian farmer suicide rates

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Arguments about the causes of Indian farmer suicides have been widely aired in recent years, both in the media and in academic papers. It is plausible to suppose, as Carleton (1) does, that climate change has an indirect causal effect on the farmer suicide rate via reduced crop yields and increasing debt. It is, however, much less plausible to suppose that there will be a causal link for nonfarmers. Hence, the author’s choice of the overall suicide rate as the response variable in her modeling is open to question. The National Crime Records Bureau dataset she uses does break down suicides by state, occupation, and gender. The data on suicides for “self-employed farming/agriculture” have been widely used (e.g., ref. 2), although most authors have used suicide numbers rather than the more appropriate rate. However, Plewis (3, 4) generated farmer suicide rates for men and women based on different sources of estimates of farmer numbers as the denominator. His data show, for the nine cotton-growing states that account for over 40% of India’s rural population, male farmer suicide rates initially rose and then fell between 1996 and 2011 and female farmer suicide rates fell markedly for the same period. There is, however, spatial heterogeneity, with male rates increasing in Andhra Pradesh and Haryana but falling in Gujarat, with no consistent evidence for a trend in the other six states. These more disaggregated data do cast some doubt on the author’s claim, based on an increasing overall suicide rate, that climate change has caused nearly 60,000 suicides in India between 1980 and 2013. The question is an important one, but a more disaggregated analysis is needed to answer it.


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Author contributions: I.P. wrote the paper.
The author declares no conflict of interest.
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