

Authors

Esther Duflo
Massachusetts Institute of Technology

Rohini Pande
Yale University

DAMS*

Esther Duflo and Rohini Pande

Abstract

This paper studies the productivity and distributional effects of large irrigation dams in India. Our instrumental variable estimates exploit the fact that river gradient affects a district's suitability for dams. In districts located downstream from a dam, agricultural production increases, and vulnerability to rainfall shocks declines. In contrast, agricultural production shows an insignificant increase in the district where the dam is located but its volatility increases. Rural poverty declines in downstream districts but increases in the district where the dam is built, suggesting that neither markets nor state institutions have alleviated the adverse distributional impacts of dam construction.

*Pande thanks NSF for financial support under grant SES-047804. We thank, without implicating the editor, Lawrence Katz, three anonymous referees, Marianne Bertrand, Michael Greenstone, Angus Deaton, Greg Fecher, Michael Kremer, Dominic Legger, T.N. Srinivasan, Chris Udry, and, especially, Abhijeet Banerjee and Chris Hanson for comments and suggestions. We also thank James Pridemore, NIM Khandekar, Colby Smith, and Hengyi Wu for excellent research assistance, CREDES at Columbia University for GIS help, and Abhijeet Banerjee, Shantanu Chatterjee, Jayachandran, Siddharth Sharma, and, especially, Priti Topiwala for sharing their data.

Dams

This paper studies the productivity and distributional effects of large irrigation dams in India. Our instrumental variable estimates exploit the fact that river gradient affects a district's suitability for dams. In districts located downstream from a dam, agricultural production increases, and vulnerability to rainfall shocks declines. In contrast, agricultural production shows an insignificant increase in the district where the dam is located but its volatility increases. Rural poverty declines in downstream districts but increases in the district where the dam is built, suggesting that neither markets nor state institutions have alleviated the adverse distributional impacts of dam construction.

July 01, 2005