

Simulated Games for Stimulating Improved Water Management

Outcomes of IFPRI's Work in Using Experimental Games to Manage Water Resources



World Water Day, held annually on March 22, focuses on the importance of freshwater and advocates for the sustainable management of freshwater resources. Water is a vital, shared and limited resource, so managing it in a way that ensures sufficient access to all users requires coordination. IFPRI has been using experimental games on the ground to measure collective action and test theories about behaviors regarding common pool resources.

In 2013, IFPRI, in collaboration with Arizona State University (ASU), Foundation for Ecological Security (FES) in India, and the University of Andes in Colombia, conducted a research project under the **CGIAR Research Program on Water, Land and Ecosystems (WLE)**. In this study, 180 villagers from India and 265 from Colombia participated in experimental games that simulated real-life water resource decision making, such as selecting the most efficient irrigation techniques. In addition, researchers collected water consumption data to measure the games' impact on behavior and attitudes of water users.

Results from the experimental games and subsequent discussions at community workshops helped change the views of water users on the value and management of the resource, even changing behaviors. Research results in India published in "**Games for groundwater governance: field experiments in Andhra Pradesh, India**" showed that some households installed drip irrigation to save water after engaging through the games. The games also helped women in India recognize the linkage between crop choice, underground water irrigation, and falling

groundwater levels. Because of the success of the approach, FES adopted experimental games as a community facilitation tool in the National Bank for Agriculture and Rural Development Hydrology Project and the HUF Project on Water Commons that covers 700 communities in five states. Moreover, FES is continually working with ASU and IFPRI to develop new games for other commons that can potentially reach 7,000 villages. In Colombia, positive changes in players' attitudes and behavior were **observed** after they participated in the games.

These innovative experimental games helped communities understand the connection between individual use and collective water availability, which reinforces positive attitudes towards cooperation.

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