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## The gendered game: Effects of experiential learning on decision-making and water saving in India

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### Abstract

This paper addresses two key questions related to gender equity and sustainable natural resource management. First, given the importance of women’s decision-making in agriculture for their own empowerment and agricultural outcomes, what are effective ways to strengthen women’s participation in agricultural decision-making? Second, is women’s participation in agricultural decisions associated with more water-conserving production choices? We analyse these questions by examining the impact of a novel experiential learning intervention with games, debriefing, and crop water budgeting, designed to address groundwater depletion in India. Results of a randomised control trial in 472 communities indicate that playing the game significantly increased women’s participation in choosing the crops their household grows in the post-monsoon season, specifically their likelihood of deciding alone. Men who played the game were also more likely to make crop choice decisions alone, though the effect was smaller. Path analysis shows that women’s involvement in crop decision-making is associated with more water-conserving decisions: women who decide alone report that their household grows significantly less water-consumptive crops and irrigates less land in the post-monsoon season, when groundwater is scarce. Even when women decide jointly with their husbands, households grow less water-consumptive crops, though the effect is smaller. By contrast, when men and women decide with other relatives, households cultivate more area overall, suggesting that the learning from the game is less effective when more people are involved in decisions. Experiential learning games are thus a promising strategy to strengthen women’s agricultural decision-making, and this may also lead to more sustainable resource management.

**Keywords:** Groundwater, India, serious games, sustainability, women’s empowerment