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“Development on the margin”

## Reforming the Provision of Irrigation Services: Water Users Associations and Agricultural Production in Kyrgyzstan

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### Abstract

Decentralisation of responsibility for the operation and maintenance of irrigation infrastructure and control over the allocation of water to user groups has become a major policy trend in developing and transition countries worldwide. This policy trend has been the result of various factors, including greater awareness of incentive problems and need for local collective action in irrigation water management (Bardhan 2000; Araral 2009). The evidence on the outcome of these reforms is, however, rather mixed (Theesfeld 2004; Huang et al. 2009). Institutional reform in water management is particularly important in Central Asia, where the agricultural sector largely depends on irrigation and where local irrigation infrastructure originally was built for large-scale state and collective farms. Following the abolition of state and collective farms and the transition to an individual farming system in 1990s, the establishment and promotion of water users associations (WUAs) have important implications for improving agricultural production in the region. WUAs operate and maintain local irrigation facilities and regulate water allocation at the community level. This paper examines the impact of WUAs on agricultural performance in Kyrgyzstan. Using community-level primary data collected in 2009 through an institutional survey and official statistics from national sources, the paper provides empirical evidence on the question whether WUAs have a positive impact on agricultural production. The empirical methodology applied in the study included multilevel regression analysis and an instrumental variables approach, which makes it possible to control for heterogeneity in the relationship between water users associations and agricultural production across provinces and rural districts. The paper also considers the potential linkages between changes in irrigation water management and other agricultural reforms, and discusses existing institutional and policy constraints that hinder agricultural growth and productivity in the country.

**Keywords:** Irrigation management reform, Kyrgyzstan, water user associations