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RESOURCE

The Effects of Volumetric Pricing Policy on Farmers' Water Management Institutions and Their Water Use: The Case of Water User Organization in an Irrigation System in Hubei, China

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Description / Abstract

We use original water user group (WUG) data from a reservoir irrigation system in China to examine the effect of water pricing policies on farmers' water saving behaviors. The introduction of volumetric water pricing at the group level, to replace area-based pricing, induces institutional change to prevent each member's overuse of water when the volumetric price levels are moderate. Depending on the initial conditions, the multiple pathways of change lead to new institutional arrangements, with all of them contributing to water savings. However, when the price is set high enough, many farmers exit a WUG for private irrigation. This tendency is associated with an increased probability that the remaining members do not undertake institutional change and that they do not end up saving water. This may be due to the increased management difficulties among the remaining members whose fields are separated by former members who have now opted out for private irrigation across the WUG. As a result, we do not find evidence that the reservoir water is saved at high volumetric price levels.

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