

The importance of reliability improvement in irrigation services: application of rotational water distribution to tertiary canals in Central Asia

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Abstract

The land reforms in Central Asia have brought about numerous new water users at the on-farm level. The methods for water distribution as applied under the former large-scale collective farming system have become irrelevant, leading to much chaos, inequity and unreliability in water supply to farmers. Given this, alternative water distribution methods including traditional ones are revisited and explored to meet the new challenges and provide reliability, transparency and equity in local water use. With this in mind, an action research to introduce and study an arranged intermittent (rotational) water distribution was undertaken in a typical distributary canal of a Water Users Association (WUA) in the Kyrgyz Republic, during 2003 and 2004. The rotational water distribution method employed was performed in a truly participatory manner and allowed farmers involved to always be aware of their specific time schedules including when to irrigate their fields and for how long. The whole exercise resulted in overall improvement in the water situation in the study canal. Thus, the difference between the sum of actual-to-planned ratios for water withdrawals by the four most upstream off-takes and that for the four most downstream sub-commands dramatically decreased from 1304 percent in the year before the intervention to only 136 percent one year after, resulting in far more equitable water distribution among the distributary off-takes.

The findings of the trial clearly suggest that the rotational distribution method employed, while ensuring greater equity and transparency in water supply to farmers is most likely to reduce the number of water-related disputes, save farmers' time when irrigating as well as improve Irrigation Service Fee (ISF) collection from a rising number of individual farmers.