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Institutions for Irrigation Water Management, Irrigation Technologies And their Impact on Irrigation Performance in Ethiopia

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Abstract

The Ethiopian Government has considered irrigation agriculture as a primary engine of economic growth in general and to the rural economy in particular. The government plans to increase the current level of irrigation infrastructure three-fold by the end of 2020. However, there has been a concern regarding the performance of existing irrigation systems. Thus, the current study has two interlinked objectives the first is to understand the nature and diversity of irrigation technologies and water management systems at different levels and identify the existing gaps in the sector. Second, it investigates the determinants of irrigation performance and farmers' satisfaction in using and managing irrigation water. Our analysis utilises a comprehensive and unique household and plot-level survey conducted recently in ten districts of the country. In addition, focus group discussion and key informant interview was conducted to gather qualitative data. Nested approach was employed as an analytical framework to examine the existing institutional arrangements related to irrigation water development and management. Our findings show that even if the policies, strategies and the legal instruments are very well specified, and the relevant institutions and organisations have been established, there has been weak enforcement capacity among executed organisations at each level. Moreover, horizontal and vertical communications between ministries and bureaus belonging to different sectors is very weak. Thus, organisations of ministries, bureaus and departments attempt to fulfil their responsibilities without an interdisciplinary and integrated approach which is fundamental in the field of water resource management at each level. At plot level, using ordinal logit model, we analysed factors which affect irrigation performance, using farmers' satisfaction level in using and managing irrigation water as an indicator. In addition to household, plot and village characteristics, water management systems and irrigation technologies significantly affect the performance of irrigation. The results suggest that plots in farmers' and private management systems, that river water is their source of irrigation, apply manual and diesel pump to withdraw water from a source and use drip and furrow irrigation type on their field are found more likely to be in a higher satisfaction category.

Keywords: Institution, irrigation, technology, water management system

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