

Income diversification through improved irrigation

This summary is based on RiPPLE Working Paper 14: **Income diversification through improved irrigation: Impacts, constraints and prospects for poverty reduction** available for download at: www.rippleethiopia.org

This study examined the role of water investments (specifically irrigation) in increasing the resilience of small-scale farmers through income diversification in different agro-ecological settings, and sought to understand the constraints faced by households in generating income from productive water use.

Three study sites were selected from Goro Gutu *woreda* in East Hararge Zone, representing different agro-ecological settings (highlands, mid altitudes and lowlands). In all three sites irrigation schemes are present which contribute to support households in diversifying their income sources.

The aims of the study were to (i) assess the existing income diversification patterns and changes that happened as a result of improving access to water for productive uses; (ii) investigate how income diversification affects different livelihoods in different agro-ecological settings; and (iii) identify opportunities and constraints for improved water-based income diversification to support households to move from vulnerability to secure livelihoods, in a context of frequent droughts and the prospect of increased water scarcity under climate change.

Findings of the study

In the three sites studied, households from all wealth groups benefited from irrigation. While irrigation schemes did not reach every household in the communities, this was more to do with distance from the source, topography and limited water resources than with wealth or power status of households. Many problems were reported in water distribution, however, suggesting



that it is easy for distribution to be captured by powerful individuals. Households using irrigation used it to diversify their crop production to vegetables and fruit, and expanded production by harvesting multiple times per year. Almost all households increased their income and assets. Mean annual farm income for surveyed households increased significantly from 7750 to 9420 Birr.

Poorer users reported that irrigation had improved their food security and ability to cover basic household expenditure. However, they gained less than richer households and were not able to reinvest significantly into productive activities. Middle and better-off households tended to reinvest into farming and related activities (e.g. oxen fattening), after buying new household assets (e.g. iron roof) and paying for children's education. Shortages of water were already occurring in two sites, bringing into question the viability of irrigation as a poverty reduction strategy in the long-term. However there was very limited evidence of a shift towards non-water-based livelihood options. Irrigation could potentially act as a springboard for better-off households to move out of farming, but only if more efforts were made to promote alternative livelihoods. For poor households, other interventions to build assets are likely to be needed.

Producers faced serious market constraints. The perishable nature of vegetable crops combined with limited transport and the small size of producers mean that they can sell only at local markets where buyers operate monopolistically to keep prices low. The poor functioning of input markets and lack of available credit contribute, as farmers often obtain seed on credit from buyers in return for selling only to them. Farmers are at risk from price variations, as perishable crops cannot be stored until prices improve.

The impact of irrigation on non-beneficiaries was mixed. In one case their access to water was reduced. Elsewhere they learned from irrigating farmers and started to grow vegetables using other sources of water. They have also gained from opportunities to hire out labour and by accessing the irrigation water for other uses such as cattle. However, some contributed land and labour for the construction of the irrigation scheme without receiving compensation. A decline in crop prices (following increased production) affected the income of rainfed farmers negatively, but also enabled households to buy cheaper food. The costs and benefits to non-beneficiaries need to be more clearly understood and taken account of in the design of schemes, to ensure that the development of improved irrigation in a community reduces rather than deepens inequality.

Researchers

The team of researchers for this project comprised:

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