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Improving Livelihood of Small-scale Farmers through Market Led Irrigated Crops Development: Case Study from Tigray, Northern Ethiopia

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Abstract

Rainfed crop production in the semi-arid areas of northern Ethiopia is associated with high risks of rainfall variability which occasionally lead to partial or complete crop failure and consequently, most of the farmers were considered as food insecure. To improve the livelihood of farmers in such areas, interventions targeted at resource conservation and the development of irrigated agriculture have been promoted. One such intervention area is the Atsbi-Womberta district of Tigray region. This paper analyzes the experiences and lessons in the district. The intervention has three interconnected components: increased crop water availability, enhanced crop water uptake, and increased productivity to improve income of small-scale farmers, all linked to market oriented diversification into high value crops, based on value chain approach, and demand driven, participatory and knowledge based extension. The changes associated with the interventions and uses of conserved resources were systematically captured using household level surveys, specialized studies and key informant interviews. Results show that farmers initially used the irrigation water to grow cereals, achieving yield increase of about 81% relative to rainfed. Later on, farmers shifted to non-cereal more market oriented irrigated crops, in which case the share of market oriented irrigated crops increased from 27% of the total irrigated land in 2004 to 88% in 2008. Moreover, crop diversification of households increased, including garlic cultivation during frost period, and pulses to break pest problems and improve soil fertility, and raise income from beans during the dry season market niche. Besides, annual cropping intensity shifted from one cereal harvest to 2-3 high value crop harvests. Average household income of beneficiaries increased by about nine fold compared to non-beneficiaries. The total irrigated area also increased eight fold and the number of beneficiaries by about three fold. The lessons imply that investment in resources conservation could be enhanced if linked with short-term income generating activities through linkages with markets.

Keywords: Market oriented diversification, production risk, resource conservation