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## The Impact of On-Farm / Off-Farm Diversification and Market Access on Household Food and Nutrition Security in Ethiopia

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### Abstract

Despite large efforts in developing a more intensive agri-business, smallholder agriculture remains the main livelihood option for many rural households in Ethiopia. While technical innovations have been fostered and some progress can be observed, food insecurity persists in large parts of the country.

Recent literature suggests that both on-farm and off-farm diversification, as well as the access to agricultural markets are promising strategies to ensure or enhance food security of smallholder farmers. While market access and off-farm income diversification target an improvement through increased sales, on-farm diversification aims at stabilising and enriching the diversity of the subsistence diet. The household dietary diversity score is a suitable indicator frequently used by researchers, and covers different food groups being consumed. The concept of a diversity score, however, has been rarely applied to the production side in an adequate level of disaggregation, although an improved measure of production diversity could help to better measure its effect on household and nutrition security. In addition, market access is often measured as distances which is a rather imprecise measure for travel time.

Therefore, this study investigates the effect of market access (travel time), off-farm income, and on-farm production diversity, i.e. crop and livestock diversity, on household food and nutrition security. The analyses are based on socio-economic data collected in 2016 covering 400 smallholder farmers living in a 200 km radius around Hawassa town. By means of statistical tests and generalised Poisson estimations, the effects of production diversity (PDS), income diversification, and market access on the household dietary diversity score (HDDS based on 9 and 12 foodgroups) are analysed. Production diversity is expected to be positively associated with dietary diversity, yet at a diminishing rate. The effects for market access are expected to follow a similar pattern. Influence of the off-farm income share is projected to be positive as it can decrease the dependency on risky rainfall patterns especially for the smallest and most vulnerable farmers. Based on the marginal effects, it will be possible to draw appropriate policy implications regarding the importance of the three strategies.

**Keywords:** Dietary diversity, Ethiopia, income diversification, market access, production diversity