



Enhancing welfare through agricultural transformation in Ethiopia

The Government of Ethiopia has taken great strides to accelerate agricultural transformation since its first Growth and Transformation Plan. Since 2010, the Ethiopian Agricultural Transformation Agency (ATA), recently renamed as Agricultural Transformation Institute (ATI), has helped advance Ethiopia's transformation agenda. ATA has focused on removing bottlenecks in the agricultural system and scaling up innovative approaches through targeted interventions in high-potential areas of the country. Such interventions have been shown to stimulate growth and job creation and reduce poverty. However, micro-level evidence has yet to document rural, household-level welfare and livelihoods outcomes.

As part of a collaboration between the Food and Agriculture Organization of the United Nations (FAO) and ATA, FAO evaluated the Agency's ten-year corporate impacts, leading to a paper on the food security and diversification effects of ATA's interventions from 2011 to 2016. The working paper implemented a doubly-robust analysis of household-level food security outcomes, assessing treatment-probability weighted, and over-time differences, across ATA and counterfactual areas.

How can agricultural interventions promote food security?

Despite substantial yield improvements for many staple crops over the past ten years, food insecurity remains a persistent challenge in Ethiopia with over half of the population experiencing moderate or severe food insecurity. Declining farm size, rising population pressure and repeated agricultural shocks contribute to this situation, especially as agriculture in Ethiopia is dominated by smallholder farmers relying primarily on agricultural production for household subsistence. Food-insecure livelihood strategies may render rural households more vulnerable to agricultural and economic shocks.

Productivity-improving interventions, such as those implemented by ATA, hold potential to mitigate the food insecurity situation. Yield gains may provide farm households with more food produced for own consumption or liquidity to purchase food

KEY MESSAGES

- ▶ Agricultural interventions by the Agricultural Transformation Agency improved food security for small-scale rural households and livelihoods diversification for the resource-endowed.
- ▶ Pairing productivity with food and nutrition security targets in agricultural interventions could enhance gains to rural livelihoods.
- ▶ Inclusive rural transformation can be enhanced through targeted investments along the value chain to improve rural economic opportunities.

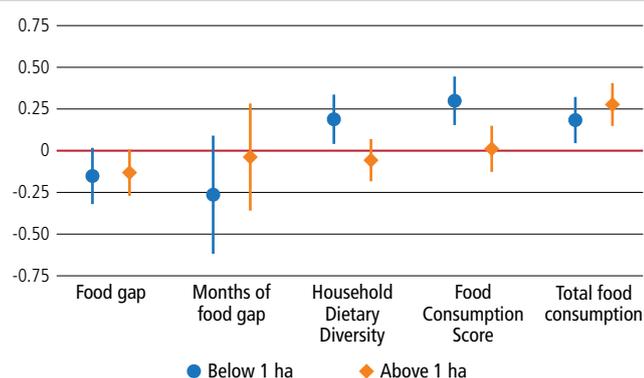
through commercialization of agricultural output. Agricultural productivity gains also affect food security through adjustments in household livelihood strategies and local economy spillover effects that create off-farm labour markets. Such gains may relax labour and liquidity constraints, enabling participation in complementary off-farm activities that improve rural household capacity to smooth consumption and deal with shocks, providing in turn, more food-secure livelihood strategies.

Positive externalities from agricultural interventions

Rural households in ATA intervention areas experienced improved food security across multiple dimensions. Stability in food access improved as the proportion of treated households experiencing insufficient access to food fell by 3 percentage points, paired with a one-month reduction in the food gap. Among the smallest landholders, the number of food groups consumed increased along with significant growth in the Food Consumption Score, indicative of diets becoming richer in nutrients. Overall, total food consumption in adult-equivalent monetary terms rose by 16 percent.

The yield growth emanating from ATA's interventions fully accounted for each of the food security improvements, revealing

FIGURE 1. Food security impacts of ATA interventions by land holdings



Notes: Standardized coefficients reported. Bars represent 90 percent confidence intervals.
Source: Authors' own elaboration.

that even modest yield gains obtained from agricultural interventions – estimated to increase by 2.8 percent for cereal crops – can produce notable food security improvements. Since gains were concentrated among households holding below-average quantities of agricultural wealth and cultivated land, the interventions emerged as pro-poor, despite broadly targeting rural agricultural households.

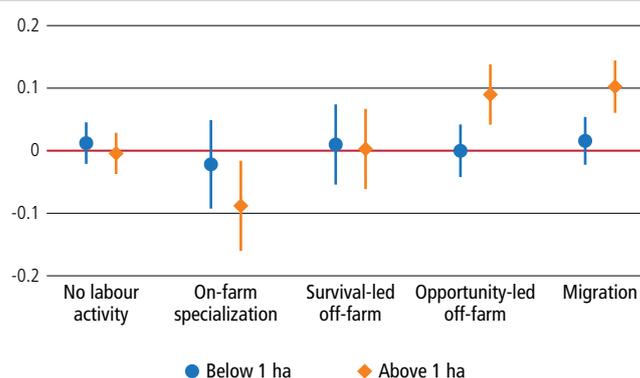
Livelihoods diversification for the endowed

Improvements in agricultural productivity also triggered an array of secondary effects on household livelihood strategies. Participation in opportunity-led off-farm activities rose by 15 percent, suggesting ATA provided the impetus for certain households to diversify their livelihoods. This was potentially to exploit the comparative advantage of their resource base, be it in terms of assets, labour or skills. Indeed, the increase in higher-entry-barrier activities – such as salaried wage employment and household enterprises – was concentrated uniquely among rural households with greater land endowments. This group also increased migration episodes, indicating well-endowed households may direct greater liquidity from yield gains towards investments in lean season off-farm migration.

Toward a more inclusive transformation

Agricultural transformation is a complex transition from a subsistence farming sector to a high productivity agrifood sector requiring important shifts not only in the intensification and modernization of the agricultural system, but also the rise of urbanization and the strengthening of ties between agriculture and other sectors of the economy. An important challenge in this transformation is ensuring inclusiveness, such that vulnerable groups also gain from the improvements in the agricultural economy.

FIGURE 2. Livelihoods impacts of ATA interventions by land holdings



Note: Bars represent 90 percent confidence intervals.
Source: Authors' own elaboration.

The positive externalities on food security bring to light an opportunity for agricultural interventions to strengthen food security outcomes by integrating their consideration to project design. This action could enhance the improvements in food security that emanate from yield gains, and safeguard against potential detriments to consumption patterns in terms of nutrient content or dietary diversity.

Observed silos in treatment effects indicate the need to consider secondary effects when designing agricultural interventions, in particular to enable resource-poor households the means to strengthen livelihoods in addition to food security. Incorporating targeting strategies to reach marginal populations would enrich the design of agricultural interventions for improved inclusivity. These may not only consolidate livelihood improvements, but also present a sustainable pathway towards food-security enhancement.

The observed dichotomy in secondary impacts may also reflect the structure of the rural economy in most areas of Ethiopia in which agriculture is the dominant sector, most households are subsistence-oriented smallholders, and off-farm employment opportunities are limited, especially for the low educational attainment held by the average rural household. Eliciting more widely distributed adjustments in livelihood strategies with benefits for food security may require longer-term structural changes in the local economic environment, such as the development of more complex food value chains and other off-farm vehicles for stable wage employment opportunities to surge.

The agricultural interventions implemented by ATA hold potential to promote both an accelerated and inclusive agricultural transformation in Ethiopia. Investing in rural development through targeted agricultural interventions that focus on the value chain at length, may consolidate the improvements in livelihoods and welfare already documented in rural Ethiopia.