SPIA Ethiopia Report 2024: Building Resilience to Shocks

CGIAR Standing Panel on Impact Assessment

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Despite enduring civil conflict, repeated droughts, a food security crisis, and the COVID-19 pandemic, Ethiopia has demonstrated remarkable resilience. According to SPIA's second Ethiopia report *Building Resilience to Shocks*, CGIAR-related agricultural innovations have continued to reach between 5.8M and 11.5M of Ethiopian households, helping them adapt to ongoing challenges.

The report updates the findings of the 2020 SPIA Country Study and uses new panel data from the Ethiopia Socioeconomic Panel Survey (ESPS 5), offering a unique national-level perspective on how the adoption of agricultural innovations evolved between 2018/19 and 2021/22.

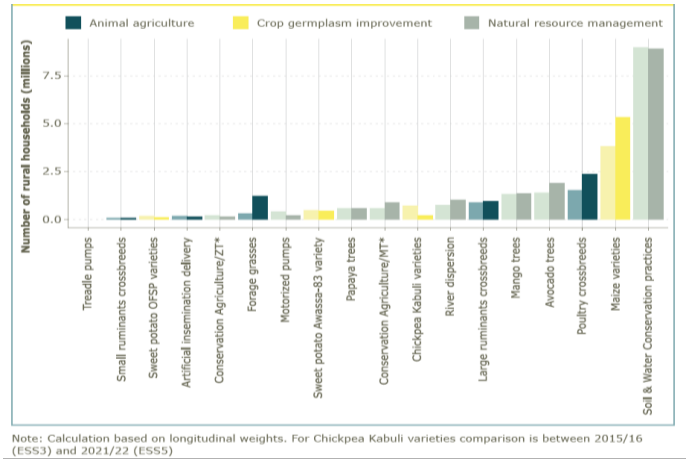
It identifies a total of 55 innovations and 35 policy innovations, including 3 new innovations (the Healthy Baby Toolkit; community seedbanks; and participatory rangeland management) and 9 new policy claims, in addition to the ones already identified in 2020.

Results

Even after multiple crises, aggregate adoption rates in Ethiopia increased rather than declined. However, while a few innovations reached millions, most were adopted at a smaller scale—a typical pattern in healthy innovation ecosystems, where numerous ideas are tested but only a select few achieve widespread adoption.

The CGIAR-related innovations with most dynamic positive change in three year period between reports are: Drought-Tolerant Maize, Crossbred Poultry, and Forage Grasses. Figure 1 shows the adoption estimates for CGIAR-related innovations for both time periods.

Figure 1: *Number of rural households adopting each CGIAR-related innovation in Ethiopia in 2018/19 (lighter bars) and 2021/22 (darker bars)*



Note: Calculation based on longitudinal weights. For Chickpea Kabuli varieties comparison is between 2015/16 (ESS3) and 2021/22 (ESS5)

Source: *SPIA Ethiopia Report 2024: Building Resilience to Shocks*

- **Drought-Tolerant (DT) Maize**: Adoption jumped from **24% in 2018 to 40% in 2022**. This increase appears tied to strong supply-side interventions from both the government and private sector actors. Additionally, adoption seemingly became more inclusive, with poor and remote households increasingly accessing these varieties.
- **Crossbred Poultry**: Household adoption increased from **12% to 18%** from 2018-2022, explained by the diffusion of crossbreeds through public-private partnerships and Ethiopia's Livestock Master Plan.

However, results showed that adoption in 2021/22 was no longer more likely among female managers and became correlated with larger farms and wealthier households.

- **Forage Grasses (Elephant, Sesbania, Alfalfa, Rhodes)**: From 2018/19 to 2021/2022, adoption expanded from **3% to 10%**, particularly in lowland areas reliant on pastoralism. ILRI's partnerships seemingly played a key role, with seed multipliers increasing in number from 30 in 2018/19 to 250 by 2023. Adoption remains less accessible to remote households, suggesting a somewhat unequal distribution.

The persistence of high adoption levels for these individual innovations, despite the multiple shocks affecting the rural households during this period, speaks to the ability and the choices of households and communities to maintain investments in these innovations, once they have decided to adopt them.

In contrast, Chickpea (Kabuli varieties) adoption dropped from **5% to 1%**, from 2018/19-2021/22, potentially attributable to both a seasonal mismatch during the survey period, but also potentially owing to a fall in export options owing to COVID-19 disruptions.

Moreover, while the adoption of improved maize varieties rose, **genetic purity** of maize fields declined, signaling the need for better seed quality control as scaling progresses.

20% of households switched from non-CGIAR to CGIAR-related varieties, while 6% made the opposite switch. Moreover, 36% of farmers adopted more recently released varieties, while 18% switched to older ones. These insights show that progress is iterative and may not be linear.

Methods

The study builds on the 2018/19 baseline survey with as much as possible being kept identical to allow for inter-temporal comparisons. Retained features include DNA fingerprinting to assess changes in maize varieties, and visual aids for varietal identification (for chickpea and sweetpotato). New features for the 2021/22 survey round include: a module for two-wheel tractors (including visual aid), tree seed centers, video-based extension, and new questions on direct seed marketing (DSM).

The data originate from the Ethiopia Socioeconomic Panel Survey (ESPS), a nationally representative, two-stage probability sample originally drawn for the 2018/19 round (ESPS 4). Implemented in partnership with the Ethiopian Statistical Service, the World Bank LSMS, and CGIAR SPIA, the ESPS ensures methodological rigor and national coverage.

However, due to the country's complex political juncture, only 223 out of the 316 originally sampled rural areas were successfully surveyed in ESPS 5. To address potential representativeness issues, longitudinal weights were applied to preserve the integrity of trend analysis over time.

Discussion

The results underscore the power of agricultural innovation as a tool for resilience. The continued progress in adoption—even amid shocks—reflects not just household choices but also government and NGO efforts that have ensured supply, training, and infrastructure.

However, heterogeneity in adoption and the limited synergy observed between innovations suggest that while many households benefit, they do so in fragmented ways. Future research for development efforts in Ethiopia should aim to improve joint adoption of multiple innovations, and equitable access to innovations, especially for marginalized communities.

Conclusion

The *SPIA Ethiopia Report 2024: Building Resilience to Shocks* reinforces the central role of CGIAR-supported innovations in Ethiopia's agricultural landscape. These innovations are helping farmers adapt to change and building their long-term resilience. As climate challenges persist, Ethiopia's example shows that investment in innovation can support a degree of stability and hope, even in the most difficult times.

The insights from this report would not have been possible without sustained attention from multiple partners (Ethiopia Central Statistical Agency, now Ethiopian Statistical Service; World Bank Living Standards Measurement Study team; and SPIA) and a joint commitment to collecting independent, high-quality panel data.

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