

# Challenges and Opportunities in Agricultural Value Chains

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## 1. Introduction

Despite concerted efforts by various governments and international agencies, low agricultural productivity remains a persistent challenge in many developing countries (Ehui and Pender, 2005; Jayne & Sanchez, 2021). The gap in actual yield versus potential yield for smallholder farmers is large, especially in sub-Saharan Africa. While farmers in South Asia increased yields by nearly 133% from 1980 to 2018, plausibly because of the “Green Revolution” (Carter et al., 2021), yields in Africa increased by only 30% over the same timeframe. This is likely because the Green Revolution largely bypassed Africa (Carter et al., 2021). In addition, farmers often do not obtain the full value of the products they produce because of rents gathered by different stakeholders across the value chain. Although the constraints facing agricultural value chains are context-specific, high transaction costs are common in many developing countries. These transaction costs are associated with challenges in transporting crops as well as liquidity constraints. Farmers often face challenges when it comes to acquiring inputs due to limited access to

### Key Takeaways

- The gap in actual versus potential yield for smallholder farmers is large, especially in sub-Saharan Africa.
- Using findings from case studies in Mozambique, Georgia, and Uganda, this brief provides evidence-based policy recommendations to improve programming in value chains.
- Value chain challenges have included a difficult regulatory environment, financial constraints, and gendered challenges in accessing inputs.
- Focusing on enhancing quality standards and certification, providing access to markets, and providing access to trainings that are context-specific have worked well in agricultural value chains in different contexts.



capital and lack of information on input access (Webber & Labaste, 2009). Other challenges along the crop value chain include poor quality storage facilities, which lead to high post-harvest losses; weak market linkages; poor safety standards; and lack of consumer trust in the quality of agricultural produce (de Brauw & Bulte, 2021). Smallholder farmers also face disadvantages due to small plots, low levels of capital investments, a lack of bargaining power, and poor connections to the international market (De Janvry & Sadoulet, 2005; Rondot & Collion 2001).

Livestock is another critical factor in the livelihoods of many smallholder farmers across LMICs, and the livestock value chain is intricately linked with food and nutrition outcomes for these populations (Hasler et al., 2017). Worldwide demand for livestock products is projected to increase more than fivefold between 2030 and 2050 because of changes in eating habits and rising incomes (African Union Commission, 2015). Although livestock value chains have started



to become more competitive in many countries, they still face critical challenges including the inability to meet quality and sanitation requirements, few or no animal identification and traceability systems, frequent animal disease outbreaks, and extreme vulnerability to climate shocks (Oyebola et al., 2019).

Finally, agricultural value chains are often characterized by gendered behavior patterns in resource distribution, roles, and responsibilities on and off the farm, decision making, and the control over returns from farm incomes. Existing gender norms and labor market structures often constrain women to certain nodes of the value chain that require unskilled labor, thereby hampering their upward mobility (Bolzani et al., 2010; Jayachandran, 2021; Rubin et al., 2009). Ultimately, the sustainability of productive agricultural value chains will depend on integrating environmental and equity considerations to ensure that these value chains contribute to food security and resilient livelihoods.

Using findings from three case studies of value chain assessments conducted by the American Institutes for Research (AIR) in Uganda, Mozambique, and Georgia, this brief provides evidence-based policy recommendations to improve programming in value chains in low- and middle-income countries (LMICs).

## MIXED-METHODS CASE STUDIES

1. **Mozambique Expansion of Rural Cattle and Dairy Opportunities (MERCADO):** This evaluation assessed the U.S. Department of Agriculture (USDA) funded MERCADO project's private-sector-driven market systems approach, which focused on the dairy value chain in Mozambique using a mixed-methods approach. This evaluation, examined production and incomes for actors across the value chain, including dairy farmers, aggregation and value-addition facilities, processors, dairy breeders, input and service providers, student interns, and other stakeholders.
2. **Safety and Quality Investment in Livestock (SQIL) Project in Georgia:** This evaluation assessed the impact of the USDA-funded SQIL project's private-sector approach to increasing productivity in the dairy and beef value chains in Georgia. Specifically, the evaluation examined the SQIL project's impact on production and productivity among farmers, milk collection centers, milk processors, and milk retailers for the dairy value chain and slaughterhouses, beef processors, and beef retailers for the beef value chain.



3. The value chain assessment (VCA) conducted under the **USAID-funded Graduating to Resilience Activity** in Uganda examined how program activities affected household access to information and markets. The VCA also examined impacts on income-generating activities chosen by program participants in cohort 1. The goal was to refine intervention implementation in cohort 2 for six specific value chains: cassava, potatoes, groundnuts, pigs, goats, and chicken.

## 2. What Has Worked Well Across Agricultural Value Chains?

**Quality standards and certification.** In most agricultural value chains, the introduction of a certification process is an important step in improving the production of safe, high-quality agricultural and livestock products. Improvements in product quality mean that farmers can charge higher prices for their products, which in turn results in greater investments and improvements in their businesses. Focusing on the introduction and implementation of standards and certification, along with training courses and setting up supporting services—especially of certification bodies and advisory service providers—has worked well in most contexts. In addition, increasing demand from consumers for quality products has created a window of opportunity for enhanced quality standards and certification in value chains. Given the potential for increased profits and consumer demand, integrating certification processes into value chains has promoted healthy competition within the agricultural sector for farmers to improve their products.

**Market access and linkages.** Focusing on increasing linkages across the agricultural value chain has been a strength of most donor-funded value chain projects. Increasing market access by providing linkages to other actors—such as new buyers for farmers and cooperatives, and connections to retailers for processors to buy their products—has been useful for each actor in the value chain. For instance, connecting farmers to veterinary shops and input suppliers has led to an increased demand for supplements and a greater awareness among farmers about preventive practices to protect animal health. In other instances, linking farmers to cooperatives has led to better prices and product quality and increased buyers. Strategies for increasing linkages, including facilitating farmer and business participation in conferences, exhibitions, trade fairs, and meetings, have been effective in providing marketing opportunities and linkages to actors along the value chain.

### **Trainings and access to information.**

Trainings that include information that is tailored to the needs of value chain stakeholders and relevant to the local context have been highly successful.

Instances where trainings were recorded and uploaded to social media to promote further dissemination and uptake have also been helpful for farmers. In most contexts, trainings on the proper care of

cattle, artificial insemination, vaccinations, and suitable feeding practices were well received by farmers. Other trainings that have worked well and that have been credited with leading to higher sales by farmers include trainings on the storage of produce; the use of modern technologies in

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*We have been involved in dairy farming for years, and we all thought that we knew many things in the sphere; however, we found out so many nuances during the trainings that were new for us. We discovered new approaches and practices that were absolutely new things for us. We started to see everything in a new way.*  
Female dairy farmer



processing; and food safety standards and food quality management systems, with guidance on increased sanitation and hygiene measures. Trainings that are well-tailored and context-specific can potentially result in improvements in farming and business practices including changing housing conditions for cattle, improving ventilation systems in handling facilities to avoid bacterial growth and multiplication, starting cattle vaccinations, changing cattle feed from silo to green fodder, improving milk collection and storage practices, and changing cheese making methods.

### 3. What Are the Common Structural Challenges That Exist Across Agricultural Value Chains?

**Financial constraints.** Access to capital to purchase critical inputs and technology is a challenge for smallholder farmers in most contexts. Credit constraints hinder farmers’ ability to invest in agriculture.

Lack of funding also forces some farmers to sell their products at their farm, rather than going to a local market, which causes them to charge lower prices. Beyond having the finances to start cultivating crops or rearing livestock, access to funding is also required at each stage of the value chain because of the costs that are associated with different actors. Donor-funded projects mitigate this challenge to some extent by providing co-financing grants to farmers to ease the financial burden. However, these co-financing obligations (often at 50% of the grants) are often too onerous for small farmers, who form the bulk of the sector. Given the continued challenges that farmers face with accessing funding, including lack of relevant financial products and lack of access to loans and low-interest loans, lack of access to financing is a major roadblock for developing these value chains.

**Women continue to face challenges in value chains.** In general, farms owned by women have higher than average production and sales volumes and values. However, barring a few exceptions, women-owned farms are more likely to have smaller herd sizes or plots of land and to have difficulties accessing credit (compared to men) to expand their farms. In addition, women are often expected to care for children and complete housework, which could limit their availability for farm activities. Further, secondary research suggests that women are frequently excluded from the financial aspects of marketing their crop or livestock production (Okot et al., 2018).

**Challenging regulatory environment.** Encountering significant regulatory roadblocks is a common theme across agricultural value chains. For example, in

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*Limited access to finances...  
this is a push factor for the farmer to sell their products at farm  
gates, which fetches them low prices.*  
FGD with district officials  
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“  
*The approval of the regulations would help a lot in  
improving the procedures and the quality of the milk,  
which is a great challenge.*  
Key informant interview with government officials  
”

Georgia, given that the industry is dominated by small, unregistered farms, the ability to regulate and track certification processes was a key barrier affecting the sustainability of the certification process. In Mozambique, obtaining approvals for dairy-focused legislation, including the Livestock Health Legislation and the National Dairy Strategy, was challenging. Across the value chains, government officials also noted that, after legislation was approved, implementation of legislation remained a challenge because of inadequate human and financial resources, lack of coordination between the multiple stakeholders responsible for implementation, lack of clear operational guidelines, and a lack of political will to implement the legislation.

## 4. Policy Recommendations

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We identified three key policy recommendations.

- 1. Addressing financial barriers.** Regional and local governments can step in once a donor-funded project ends to take over co-financing grants, with less onerous requirements. This approach requires both the political will to prioritize investments in smallholder farmers and adequate financial resources at all government levels (Fan et al., 2000). High co-financing levels are a barrier to participation for many farmers, and this was of particular concern due to the financial constraints that many farmers faced during the COVID-19 pandemic. Further, to address some of the barriers, stakeholders suggested increasing access to funding by encouraging the participation of Village Savings and Loan Associations (VSLAs), so that farmers can receive loans with low interest rates. Understanding barriers to VSLA participation and ensuring that all farmers can benefit from VSLA loans is also a critical component of addressing financial barriers.<sup>1</sup>
- 2. Making values chains work for women.** Addressing challenges faced by women in agricultural value chains will vary by context and country and depend on gender norms for labor force participation in particular (Hillenbrand & Miruka, 2019). An explicit focus on women farmers is critical for their success in value chains. This can include specific trainings and resources for women farmers to help them overcome the constraints they face and become more commercial by expanding operations and adopting improved business practices. Public policies that allow for the provision of additional resources to access childcare, if available, or help to set up childcare may also help address the challenges of women farmers.<sup>23</sup> Additionally, both future donor-funded interventions and government programs could target women specifically to help them increase their acreage and/or herd sizes, depending on the value chain they are engaged in.

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<sup>1</sup> In the light of COVID-19, VSLA groups have adapted their functioning by accelerating share-outs, suspending lending, and using the social fund to cover costs for group adaptation. (e.g., see examples from Benin, Burundi, Mozambique, and Niger [here](#) and [here](#)).

<sup>2</sup> Government programs have begun addressing this issue in different contexts. For instance, a large-scale public works program in India includes childcare services at worksites in its operational guidelines (Narayanan, 2008).

<sup>3</sup> The demand for childcare among women farmers in LMICs is substantial. According to the World Bank's Africa Gender Innovation Lab, more than 60% of women farmers in sub-Saharan Africa would leave their children in childcare if it were available (see [here](#)).

3. **Reducing bureaucracy in regulatory processes.** Most agricultural regulatory legislation requires the approval of multiple stakeholders and government ministries before it is passed. There are also challenges in creating adequate buy-in from government agencies concerning the importance of and the need for such legislation. An explicit focus by government stakeholders and ministries on reducing the bureaucracy and time needed at each step of the regulatory process would create considerable benefits. Further, while approval is important, it is only the first step, and active participation by government stakeholders in understanding and remedying potential barriers to implementation would be a critical next step.

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