

Strengthening the Linkages Between Malian Cereal Farmers and Buyers¹

Policy Brief #1: Coordination Challenges and Policy Implications

Ryan Vroegindewey, Veronique Theriault, and John Staatz

Key Message: *Opportunities for smallholder farmers in high-value cereal markets do exist, but transaction costs can impede their participation. Policy can reduce transaction costs by enhancing the cereal market environment. Value chain actors and their development partners should carefully assess market prices and transaction costs when considering the establishment of coordination structures as well as the costs to operating these structures.*

1. Introduction

To capture market opportunities, farmers must coordinate their production and marketing activities (in terms of prices, quality, quantity, and other terms of exchange) among themselves and with buyers (Peterson, et al., 2001).² Transaction costs, which impede this coordination, include the costs for searching for a market opportunity, negotiating the terms of the transaction, and the costs of monitoring and enforcing these terms of the transaction (North, 1990). We examine 15 cases of smallholders supplying cereal buyers in central and southern Mali, in order to understand the opportunities and transaction costs that are present in the cereal sector. The case study data was collected through over 100 interviews with rice, millet, sorghum, and maize value chain actors in 2014 and 2015. We conclude by drawing policy implications for value chain actors and their development partners.

2. Opportunities and transaction cost challenges

Opportunities in the higher-end cereal markets. Farmers receive higher prices for their output through measures taken to meet private quality standards, processing, bulking, storage, and/or transport to the buyer. Most maize cases involve farmers supplying small or medium enterprises (SME) or industrial poultry-feed processors, who offer higher prices for timely bulk deliveries. In the millet/sorghum cases, most of the production is sold to institutional buyers, namely the World Food Program (WFP) and the Malian Office of Agricultural Products (OPAM), which manages the government's grain reserve stocks. Farmer organizations supply these buyers directly, or indirectly through wholesalers. One farmer organization also sells millet/sorghum directly to SME food processors. All millet/sorghum buyers pay farmers a premium of 5% to 20% above market prices for grains satisfying their quality standards. The primary rice buyers in these cases are OPAM, WFP, an SME processor, and a wholesaler. Although these buyers also impose quality standards, they do not appear to pay an explicit quality price premium. However, large rice farmer organizations can obtain higher prices through bulking and when they mill paddy into rice for institutional buyers.

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² For additional description of coordination structures, please see Vroegindewey, Theriault, and Staatz (2018) or, for a summary, "Policy Brief #2: Value Chain Coordination Strategies."

Transaction cost problems affecting these markets. Four factors drive up transaction costs (Williamson, 1981) in the Malian cereal value chains.

- **Large differences in scale between farmers and buyers.** One common challenge is the large difference between the small marketed volumes that farmers typically sell and the large demand of buyers, especially institutional buyers or industrial processors. Because of this scale difference, buyers have to purchase grain from many small farmers, which increase the transaction costs of locating suppliers, negotiating purchase terms, and organizing logistics.
- **Investments in specific assets.** Certain farmers and buyers possess valuable assets that are tied to specific products or markets, and which have few alternative uses. For example, millet/sorghum farmers invest in training and procedures to improve quality for higher-end urban food markets. Some irrigated rice farmers use water-control structures that are appropriate for few crop alternatives during the rainy season. They also face synchronous due dates for input loan repayments and water user fees, which pressures them to sell soon after harvest. Processors and institutional buyers make substantial investments in processing plants or reputation in order to serve markets with specific quality demands. Actors with specific assets are vulnerable to opportunistic behavior by their trading partners, such as failure to respect previously agreed-upon terms of sale.
- **Uncertainties around transactions.** All farmers and SME processors face significant uncertainty around transactions, due to uncertainty in rainfall, prices, equipment breakdowns, contract enforcement, and trade policy. Additionally, over the years, the timing and modalities of OPAM activities have often been unpredictable, resulting in untimely procurements, late payments, and food aid distributions in areas where grain was already widely available.
- **Quality and measurement problems.** Actors also face several negative externalities, which occur when actions reduce the quality or quantity of a product and the resulting costs are imposed on other actors. For instance, millet/sorghum and rice farmers not respecting quality norms may supply their farmer organizations with grains containing high degrees of impurities, high moisture levels, or mixed varieties. When such quality problems are undetected by buyers, they incur costs such as shorter storage life or losses. On the other hand, grains may get stolen, lost, mixed, or damaged by handlers during transport or storage, which reduces farmers' incentives to improve quality. Additionally, in all value chains the actual weight of purchased cereals frequently falls short of purported weights, resulting in disagreements between farmers and buyers. Possible reasons include poor sack quality causing leakage, high levels of impurities, normal moisture loss, negligent or dishonest handling, and instrument error. Finally, in full-water-control rice systems, low compliance with canal maintenance regulations by stakeholders (the *Office du Niger* authorities, private contractors, and farmers alike) frequently causes late flooding, water loss, and inadequate drainage, leading to increased production costs, losses, and reduced quality.

3. Implications for Value Chain Actors and Development Partners

Two key implications for improving coordination between Malian smallholder farmers and buyers from higher-end markets emerge from this study.

Value chain actors should carefully assess market prices and transaction costs. Farmers and buyers (and often their development partners) incur important costs for setting up and operating coordination structures, such as farmer cooperatives and contract farming schemes. It is important for actors to assess carefully whether market prices and other revenues can at least cover the marginal costs of operating the structures used to access those markets. Development partners have a role to play in supporting coordination. However, they should be acutely aware of the capacities and resources required to sustain complex and costly coordination structures, and guard against over-optimism about doing this in undifferentiated commodity markets.

Policy has a role to play in reducing transaction costs. The persistence of transaction-cost problems despite the use of coordination structures suggests that there is also a role for policy in improving cereal markets. One option is to enhance transparency in the design and implementation of policies related to food assistance and trade. An example of such an effort is OPAM's recent adoption of a management code for one of its procurement programs and the overall reformation of its trading procedures to be more inclusive of farmer organizations. The cases also point to several financial and information services that are essential, but not sufficiently available, for doing business in cereal markets, including affordable short-term and long-term loans and crop insurance. Stronger input markets and market price information systems that include appropriate quality categories, information on supply and demand opportunities, and information on borrowers' credit histories are other needs that policy can address. A potential scalable information service, currently promoted at a regional level by one international NGO, is the organization of regular commercial exchanges in order for suppliers and buyers to meet, share information, receive technical assistance, and negotiate contracts.

For more information, please see Vroegindewey, Theriault, and Staatz (2018).

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