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## IMPACT OF THE MALIAN CEREALS MARKET REFORM PROGRAM ON FARMERS

By

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**PROBLEM:** Before the cereals market reforms of the 1980s, food policies in Mali were aimed at securing cheap cereal supplies to urban consumers (government employees, students, the military, etc.). To achieve this objective, the government fixed the prices of the major food crops both pan-seasonally and pan-territorially and required forced deliveries to the national grain board. The grain board in turn distributed the grain through urban consumer cooperatives. Maize, millet, and sorghum had the same official prices regardless of consumers' preferences. Only rice was differentiated from the other cereals in its pricing.

The government policies were highly successful in achieving their objective of supplying cheap cereals to selected, favored consumers in urban centers through low producer prices. Indeed, official producer prices were depressed during the 1970s compared to neighboring countries. While millet and sorghum producers in Burkina Faso received 57 FCFA/kg in 1979 from their government, for example, Malian producers received only 25 FCFA/kg (Dembélé 1994).

With depressed price incentives and little growth in productivity in the cereal sector, the country, which had net cereals exports varying between 9,000 and 37,000 tons per year in the 1960s, became quickly a net food importer in the 1970s, with annual imports varying between 20,000 and 191,000 tons (Dembélé 1994). Faced with an increasing dependency on food imports and the rising cost of its marketing policies, the government initiated the Cereal Market Reform Program (PRMC) in 1981.

**RESPONSE:** The Cereal Market Reform Program had the ambitious objective to increase producer incomes and to offer incentives to produce more for the market through spurring investment in productivity-increasing

technologies. To this end, the government removed all legal constraints to private cereals marketing and let demand and supply conditions determine producer and consumer prices. The consequences have been major changes in price determination in the marketing system.

Traders quickly differentiated prices paid to producers according to the quality and type of cereals, as dictated by consumers preferences. Consequently, prices now vary by different types and qualities of grain according to supply and demand relationships in any given period. Moreover, following the reforms, prices started to vary by place and time, reflecting transfer and storage cost differentials. This created incentives to rationalize cereals production patterns in different parts of the country and storage activities in the marketing system. In addition, traders integrated the national and the broader West African cereals markets, with consequences for both producer and consumer prices.

**OBJECTIVES:** This note examines the benefits farmers have derived from the reforms. Second, it presents key factors that led to farmers' benefits. It concludes by presenting some of the major lessons learned from the process.

**FINDINGS:** *Benefits of the reforms to farmers: major improvements in farmers' incomes.* It is estimated that most farmer households added \$100 per year to their annual incomes thanks to the market reforms (Sansoni 2002). Indeed, a survey of farmers' assessment of the market reforms in 1999 showed that 74% of the respondents indicated that their incomes have improved since the liberalization of the cereals market (Kebe, Sango, and Soulé 1999). Both returns to family labor and land resources have increased over the course of the reforms. However, the gains vary by crop, farm size, and type of farming.



In the irrigated rice producing zone of the Office du Niger (ON), real returns to family labor increased by 35% on small farms. Medium-sized farms increased their net real returns to family labor by 143%. Large farms experienced a 62% jump in real returns to family labor (Mariko, Chohin Kuper, and Kelly 1999). Real return to land increased modestly, by 8%, going from 175,207 to 188,355 FCFA on small farms, while medium sized farms averaged a 94% increase in real returns to land, going from 134,834 FCFA to 261,179 FCFA. For large farms, the increase was 30% in real returns to land resources (Mariko, Chohin Kuper, and Kelly 1999).

Coarse grain producers have also improved their returns to family labor. The gains varied from 125% to 150%, depending on farm and crop types. Returns to land showed the greatest increase, with 202% for maize producers and 122% for millet farmers. The net increases in returns to both family labor and land are due to productivity gains in the rice sector and increased competition in the delivery of marketing services to producers (Diakité 2000).

In the irrigated zone of the Office du Niger, paddy yield went from 2,331 tons/ha in 1987/88 to 6,000 tons/ha in 1998/99, corresponding to an average annual growth rate of more than 10% (Cissé et al. 2000). Most coarse grain yields increases have been modest due to the lack of adequate technology and agronomic environment, yet incomes have increased because of the expanded market opportunities and lower costs of marketing services.

Increased market competition has contributed to lower cost of moving cereal from farmers to urban consumers and reduced marketing margins. Indeed, a 1999 evaluation of reforms indicates that marketing margins have fallen significantly along major trading routes, resulting in improved prices for coarse grain producers and lower costs for consumers (Dembélé, Tefft, and Staatz 2000; Egg 1999). Lowering the costs of getting basic staples to consumers is a major anti poverty measure in a country where poor consumers spend over half their income on food.

The reforms have given greater marketing flexibility to farmers in contrast to the 1970s, when prices did not vary by quality, cereal form and type, place, and time. With the reforms, farmers use price differentials to choose what crop to plant, when and where to sell their crops, and in what forms. For example, rice farmers have increased their prices by more than 14% by

processing their own paddy and selling milled rice instead of just selling paddy to millers (Diarra 1994).

Moreover, most farmers benefit today from favorable temporal price variation. Most stocks of cereals in Mali are held at the farmer level, not by traders. Thus, the reforms allowed farmers to potentially employ a wide range of marketing strategies to maximize their returns to crop production compared to the pre reform period when they received a fixed price no matter where and when the crop was delivered to the state marketing board.

This increased marketing flexibility results in part from the creation of a market information system (SIM) in 1989. The SIM has improved farmers' access to timely market information, which is essential in helping farmers take advantage of these new marketing strategies.

The increased competition in the market place, combined with increased marketing flexibility, has allowed farmers to receive higher prices for their crops. The marketing reforms were critical in allowing farmers (rather than the state marketing board or a few large traders) to capture the gains brought about by macroeconomic reforms, particularly the 1995 currency devaluation. For example, real sorghum and millet producer prices increased by 71% between 1993 and 1997. For maize producers, the increase was around 81% and for rice producers, price incentives improved by 49% (Kebe, Sanogo, and Soulé 1999). Rice prices increased less than coarse grain prices because of the huge productivity gains that took place during this period in the irrigated rice sector.

Farmers' benefits have come from increased production following the reforms. National paddy production increased from 165,000 tons in 1980/81 to 613,900 tons in 1996/97, and maize production went from 73,000 tons in 1984/85 to 289,000 tons in 1996/97. Total cereals production in the country increased from 1,638,893 tons in 1987/88 to 2,200,664 tons in 1996/97, with an exportable surplus to neighboring countries of 123,256 tons of millet and 14,368 tons of rice (Kebe, Sanogo, and Soulé 1999; Cissé et al. 2000). This is a big achievement in terms of food policies reforms that turned a food-deficit country into a food exporter. But what factors explain this success story?

**KEY FACTORS SUPPORTING SUCCESS:** Three major factors contributed to the success of the cereal reforms: a pragmatic approach to policy reform,



building effective market institutions, and investment in short and long-term training in policy analysis.

***Pragmatic and collaborative approach to the reforms.***

The initial design of the reforms relied heavily on hypotheses derived from economic theory without prior empirical research. However, the reformers (both Malians and the donors) recognized that debate about the reforms could not be settled purely on the basis of ideology. Thus, they realized that many issues had to be settled through applied research (e.g., how many farmers were net sellers and how many were net buyers? What were the major constraints limiting the private traders from responding to the reforms?).

USAID and other donors funded research on key empirical issues and then used the results to modify the reforms in an ongoing way. Thus, the reforms evolved over time as new information from research became available, rather than being imposed in a once-and-for-all form at the beginning. This approach was particularly important because the markets evolved in response to the ongoing reforms. New problems and opportunities arose that were not envisioned at the beginning of the reforms. The ongoing research program was critical in helping address these issues.

Yet USAID's contribution was not limited to financial support. Essential to the success of the process was the intellectual engagement of USAID mission technical staff in the reform process. The PRMC works as a collaborative process among a group of donors and the Malian government. Indeed, the PRMC is a real model of donor and host-country collaboration. Having trained agriculturalists on staff in the USAID mission, who were substantively engaged in the intellectual discussions with other donors, the Malian government and the Malian and U.S. researchers were critical to keeping the reform process focused and on track, not diverted by the latest development fad.

***Building an effective market information system.*** The key market institution that has proven to be the most effective in improving farmers' incomes was the Market Information System. Initially known as the SIM (Système d'Information sur le Marché), it is now called the OMA (Observatoire du Marché Agricole, or Agricultural Market Watch). USAID was steadfast in supporting the development of this institution and associated ongoing research on market development. Key successes of the market information system include:

- a. Increased competition. Improved market information facilitated the entry of new cereal traders into the assembly, wholesale and retail markets, resulting in lower marketing costs.
- b. Increased marketing flexibility, by letting farmers know when and where it is most profitable to market their products. This has improved farmers' incentives to produce for the market and thus spurred production.
- c. Reduced marketing costs through greater market transparency.
- d. Improved integration of the national and the West African cereals markets. As a result of improved knowledge of market opportunities in neighboring countries, directly attributable to the OMA, Mali was able to increase its cereals exports to neighboring countries by 50,000 tons in 2000.

The success of the market information system resulted from USAID's willingness to fund over time the development of national technical expertise needed to produce consistently accurate, reliable information demanded by clients, low-cost information technology to improve the timely transmission and diffusion of the information generated, and the institutional evolution of the system to improve its responsiveness to user needs and sustain financially its operations.

***Short and long-term training in policy analysis.***

USAID invested in short- and long-term training in policy analysis, which was tied to ongoing research through U.S. universities. Thus, the research on cereals market reform was done largely by Malians, who had better knowledge of local conditions, but who benefitted from technical assistance on study design and analysis techniques from U.S. colleagues. The Malian involvement in the research gave the results more credibility with local decision makers and increased Malian "ownership" of the reforms. The strategy led not only to the generation of continuous flow of new information to guide the reform process, but also to the development of national analytic capacity within Malian institutions, such as the market information system and the national agricultural research institute.

**LESSONS LEARNED:** The main lessons learned from the process can be summarized as follows:

**A market reform such as the PRMC needs to be seen as an ongoing process, not a one time event.** The reforms did not stop after ministerial decrees were



written mandating sectoral adjustments. The reforms involved going on to build key market institutions to improve marketing efficiency over time, for the benefits of both farmers and consumers.

**The reforms unfolded over time in a pragmatic manner, which encouraged learning by doing.** This, in turn, led to the development of national policy analytic capacity, as empirical issues were analyzed by research carried out in partnership by Malian and U.S. institutions.

**The success of the reforms resulted mainly from the quality of the inputs going into the reforms process, rather than a huge quantity of funds.** Indeed, an estimate of the direct cost to donors of the reforms is \$49 million over 22 years, for an average annual cost of \$2 million (Koita 2002). The high quality of the dialogue between the government and the donors, the strong political commitment to the reforms, timely and low-cost creation of innovative market institutions, and willingness of the reformers to fund ongoing policy research and training to improve the quality of the decision-making process proved to be far more important than the amount of aid in making the PRMC a successful story.

## REFERENCES

Cissé, Amadou., Gagney Timbo, Lamissa Diakité, Lamissa, and Aissa Touré. 2000. Etude de capitalisation de l'information sur la filière riz au Mali dans le cadre de la négociation de l'OMC sur le secteur agricole. Special report. Bamako, Mali: Ministère du Développement Rural, Cellule de la Planification et de la Statistique.

Dembélé, Niama Nango. 1994. Economic Analysis of Traders' Response to Cereals Market Reforms in Mali. Ph.D. dissertation, Michigan State University.

Dembélé, Niama Nango, James Tefft, and John Staatz. 2000. *Mali's Market Information System: Innovative Evolution in Support of a Dynamic Private Sector*. MSU Policy Synthesis No. 56. East Lansing: Michigan State University.

Diakité, Lamissa. 2000. *Effet de la libéralisation et des régimes des taux de change sur l'approvisionnement et les prix des produits alimentaires au Mali*. Bamako, Mali: Fondation SADAOC.

Diarra, Salifou. 1994. The Role of Small Rice Mills in the Rice Subsector of the Office du Niger, Mali. Plan B paper. East Lansing: Michigan State University.

Egg, Johny. 1999. *Etude de l'impact de la libéralisation sur le fonctionnement des filières céréalières au Mali: rapport de synthèse*. Bamako: PRMC/COC.

Kebe, Demba, Ousmane Sanogo, and Goura Bio Soulé. 1999. Revenus et stratégies des producteurs. Etude de l'impact de la libéralisation sur le fonctionnement des filières au Mali, Module No. 5. Bamako: PRMC.

Koita, Abdoulaye. 2002. L'expérience malienne de réforme et de libéralisation du marché céréalier. Communication aux ateliers de Monterrey (Mexique), Bamako.

Mariko, Dramane, Anne Chohin Kuper, and Valerie Kelly. 1999. La filière riz à l'Office du Niger au Mali: une nouvelle dynamique de puis la dévaluation du FCFA. Bamako: IER/CILSS.

Sansoni, Silvia. 2002. Silicon Mali. *Forbes* 169.3: 76-77.

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