

## **Alternative to Disincentive Rice Producer Prices in Madagascar: Case Study in Alaotra Prefecture and Bongolava Prefecture**

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### **Abstract**

This study identifies the reasons for low producer prices of rice that have not covered its production costs for many years in Madagascar. The following points will be discussed: the farmers' marketing conditions and the rural rice market structure, including the functions of each intervening trader preceding rice distribution in urban centers. The study also assesses current functions of the agricultural farmer cooperative: an organization expected to enable the establishment of fair trade in the domestic rice market. The data come from interviews conducted with 120 farmers, 20 traders, and the survey of the overall cooperative associations in two prefectures and main rice suppliers of the capital city. The analysis reveals that farmers were often compelled to sell their products largely to the nearby village assemblers who are under the commission of large traders located in urban cities. Despite the fact that farmers do not maintain bargaining power for a variety of reasons, there have been no rural organizations, such as agricultural farmer cooperatives, established to support them in many areas. The few agricultural farmer cooperatives that have been introduced recently maintain only limited market power because they are ill-suited to deal with the farmers' conditions. The results suggest that the major issues which may deserve more attention are: the emergence and furtherance of a cooperative movement which fits the local conditions, the enforcement of market rules, and the establishment of marketing institutions that ensure fair trade.

Keywords: Cooperatives, Madagascar, Markets, Rice

### **Background and Subject**

People living in rural areas represent 63% of sub-Saharan Africa's (SSA) population, of which 92% earn their living from agriculture. However, the majority of the rural population is living below the national poverty line, from 50% in Ghana to 77% and 83% in Madagascar and Uganda respectively. In all of these cases, these percentages represent the largest share of each nation's entire poor population (World Bank, 2006). Therefore, it can be inferred that improvements in agricultural performance could work to alleviate poverty.

Indeed, low productivity is one of the main features of agriculture in SSA. According to *Fig. 1*, the 20 highest agricultural labor productivity ratios, mainly of high-income economies, are about 200 to 400 times higher than those of the 20 lowest countries, of which 19 are from SSA.

Agricultural labor productivity refers to the ratio of agricultural value added, measured in constant 2000 U.S. dollars, to the total number of workers in agriculture. (2) Cereal yield, measured in kilograms per hectare of harvested land, includes wheat, rice,

maize, barley, oats, rye, millet, sorghum, buckwheat, and mixed grains.

In addition, *Fig. 2* illustrates that, excepting Ghana, yields of the main food crops in SSA have been constantly below the world averages over the past 25 years. Poor technology is commonly named the cause of low productivity, but this study suggests that low producer price, which impedes the farmers' adoption of improved farming techniques, is the main cause of low productivity. The study deals specifically with Madagascar, as it is a part of SSA and shares the above-mentioned common issues, though unlike most of its neighbors, its agriculture and food are based on rice. Indeed, whereas worldwide rice yields have increased significantly, in Madagascar, they have remained particularly low and have been almost stagnant over a long period (*Fig. 2*). Moreover, although prices paid to the rice farm households are low, the gap between consumer prices and producer prices has experienced a disproportionate increase in recent years (*Fig. 3*). However, rice prices seriously affect the well-being of both farmers and consumers as rice is the most important source of farmers' income (concerning 60% of the total active population), and it is the staple food of the nation, where the Engel's

coefficient represents 62% (Instat, 2002). To properly analyze and discuss these low producer prices, the first point to be examined is the conditions within which individual farmers face the rice market. Second, the structure of the rural market, comprising the traders' functions and their relationship are discussed. The current situation of the agricultural farmer cooperatives is analyzed in Section 3. Finally, a short consideration is drawn with the Conclusion.

### Materials and Methods

The argument draws on the results of empirical research conducted in the prefecture of *Bongolava*, Madagascar in March 2005, along with another survey in the prefectures of *Alaotra* and *Bongolava* in August 2006. The selection of these prefectures was motivated by the fact that they are large rice growing areas<sup>1</sup>, which supply about 30% and 10% respectively of the rice in the capital city, the largest urban market in Madagascar (UPDR, 2003; Dabat et al., 2004). A total of 120 rice farm households and 20 traders responded to structured questionnaires. Of these traders, some work as paddy assemblers in hamlet and village level producing areas, while other traders perform multiple functions, assembling, processing and wholesaling in rural as well as urban areas. The overall agricultural farmer cooperatives in these two areas, totaling 6 and 17 cooperative societies respectively in *Alaotra Pref.* and *Bongolava Pref.*, also received structured enquiry sheets designed to examine their functions. In order to assess the functions of the agricultural farmer cooperatives, comparisons between cooperative members and non-member farm households in the two areas were carried out considering their selling prices, yields per hectare and marketable surplus.

### Results and Discussion

#### *Rice Farm Households' Precarious Marketing Conditions*

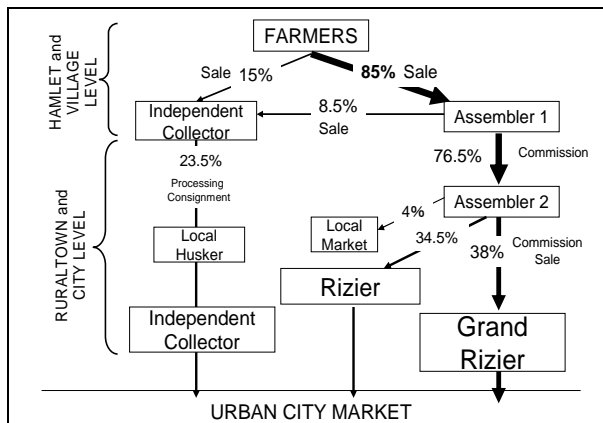
Farmers have to sell their products to a single buyer, the *mpijirika* (paddy assembler), a kind of 'wealthy' farmer, who often acts as both moneylender and daily needs supplier. Scattered throughout rural towns, villages and hamlets, the *mpijirika* are the initial purchasers of farmers' products under the commission of large scale rice traders. *Table 1* shows that 77% of the farm households surveyed ask for loans from these paddy assemblers when they lack the finances to meet their living and farming expenditures or when they face emergencies. Loans are to be repaid at harvest

time in cash or in kind (paddy), with high interests. His financial dependence prevents farmers from choosing their market channels; because they have to sell their products to their creditors, they lose all bargaining power. In addition, all the surveyed farm households reported a lack of access to market and price information. Likewise they did not have any means to transport, or to store their products. Therefore, the majority of the respondents sold their products at loss. As shown in *Table 1*, the average price offered to the rice producers for 1kg of paddy, amounting to 270 Ariary, does not cover their average production cost which was 304 Ariary/kg. From all this, it can be argued that rice farm households in Madagascar are caught in a vicious circle<sup>2</sup>: low producer price triggers low productivity which in turn causes low income. The farmers' subsequent financial dependence and inability to reinvest capital in their own facilities are used to justify and perpetuate the low producer prices.

#### *Structure of the Rural Market, Traders' Functions and their Relationship*

As mentioned previously and as illustrated in *Fig. 4*, there are no farmer marketing organizations or government regulated marketing channels so that farmers must market their products individually. Furthermore, there is no wholesale market in the producing area, thus, transactions occur informally, and farm prices are established through the simple bargaining between individual farmers and traders.

In addition, the rural market is dominated by the *grands riziens* and *riziens*<sup>3</sup>, large scale rice traders that possess a market power and control important marketing functions: finance of paddy procurement, transportation, storage, processing and wholesaling (*Table 2*). According to *Fig. 4*, of the farmers' commercial products collected by the assemblers, 38% were shipped to two *grands riziens*, and another 34.5% were shipped to a dozen separate *riziens* to be traded in the urban market. The remainder went to independent collectors or was sold in the local market. Before the harvest period, the *grands riziens* give their network of paddy assemblers a fixed price band within which they can acceptable purchase the farmers' products. The current liberalized rice marketing system, instituted in Madagascar in 1983, was originally intended to raise producer prices through the influence of free market



**Fig. 4. Rural rice marketing channel, Bongolava Pref., 2005**

Source: Data collected from 43 rice farm households surveyed in the District of Mahasolo (a respondent rate of 96%); and the survey of paddy assemblers in hamlets and village producing areas; riziers in rural city, grands riziers in the capital city, March 2005. Note: The numbers represent a percentage of products handled by each agent. “100” represents the total paddy products sold by farmers

**Table 2. Characteristics of traders in Bongolava Pref. and Antananarivo, 2005**

	Grands Riziers	Riziers	Assembler 2 (rural town)	Assembler 1 (hamlet and village)
- Capital (Ariary)	2 billion	8 million	n/a	n/a
- Capacity of storage of paddy (tonne)	16,000	200	n/a	No storage
- Capacity of milling (tonne of paddy per	35,000	2,000	Small husking for local market	No milling
- Transportation (number of truck)	10 (own) + 30 (rental)	3	1	0
- Membership of a trade union	Yes	No	No	No
- Paddy handled in 2004 (tonne)	15,000	1,500	500	75
- Rice imports (tonne)	35,000	0	0	0
- Finance of the procurement	- Finance of the procurement	- Finance of the procurement	Procurement of paddy	Procurement of paddy
- Transportation	- Transportation	- Transportation		
- Storage	- Storage	- Storage		
- Processing	- Processing	- Processing		
- Wholesaling	- Wholesaling	- Wholesaling		
- Distribution	- Distribution			

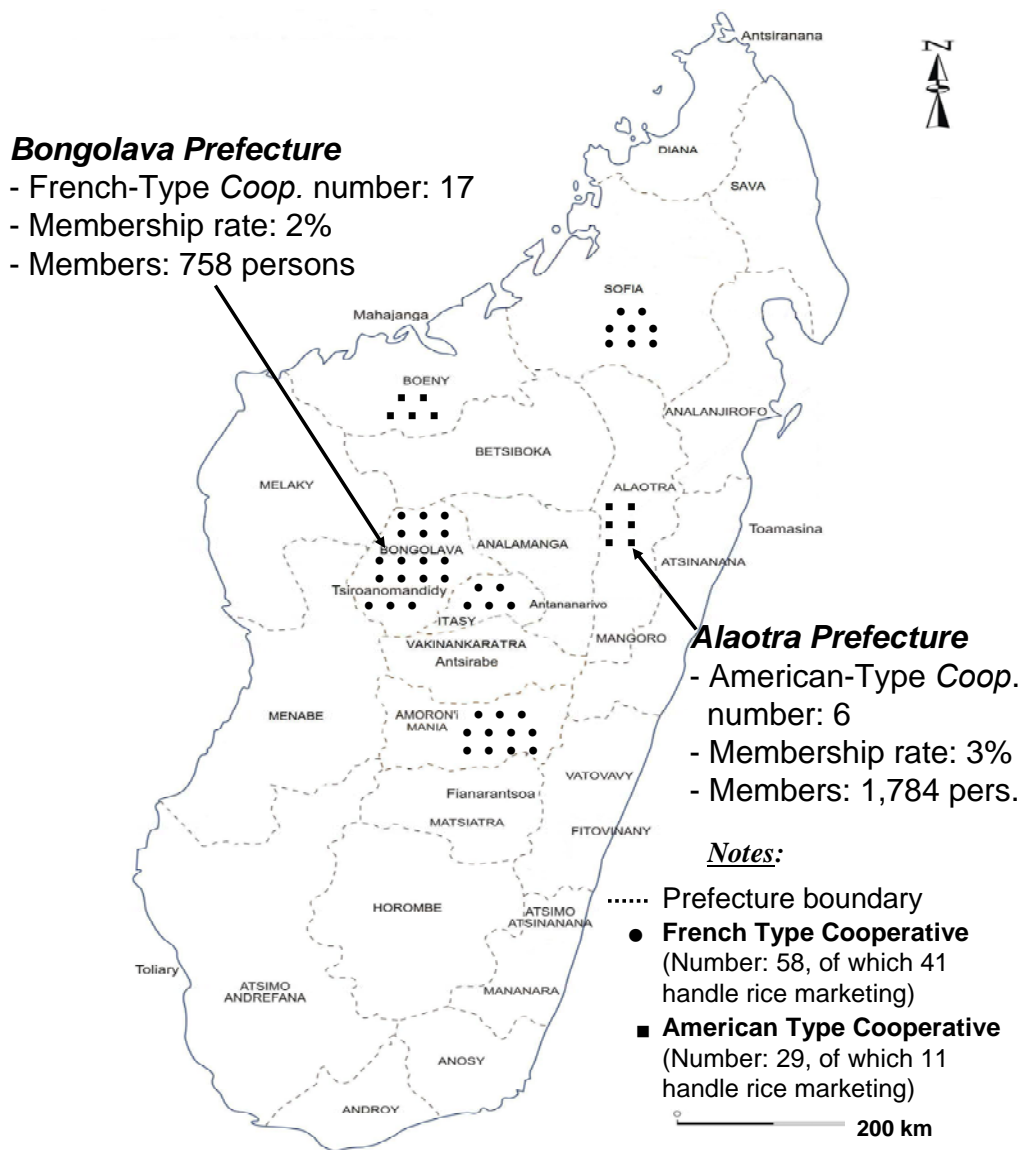
Source: Data supplied by grands riziers, riziers, and paddy assemblers surveyed respectively in the capital city, in rural city, and in hamlets and village producing areas, March 2005. Notes: (1) The data represent average numbers. (2) n/a represents missing values

competition. However, the broad difference in market power between small individual farmers and large traders who are in competition with each other have created an inequality in price negotiation that keeps the prices low instead of causing an increase.

*Farmers’ Supportive Rural-Based Organization*

Along with the liberalization, the government had renounced its former price policies, including government buying and fixing minimum prices, as well as other supportive functions to farmers, such as the maintenance of irrigation infrastructure and extension service. The farmers’ marketing conditions and the structure of the market discussed above lead one to believe that vulnerable farmers find it impossible to negotiate individually with buyers and to improve their farming outputs. Therefore, it is suggested that a powerful farmer organization able to defend the farmers’ interests is essential. Among the existent farmer organizations in Madagascar, agricultural farmer cooperatives appear to be the most suitable organization to form a bargaining power as they are the only organizations that perform the widest range of operations including marketing, purchasing, technical guidance, and even political lobbying. Rural

promotional agencies from France and USA launched the agricultural farmer cooperative movement in Madagascar in the mid-1990s. These cooperatives share the common objective to improve the farmers’ precarious living conditions, but use different approaches to achieve this goal. Therefore, where the American-Type Cooperatives direct their activities mainly to farming guidance and farm supply sale to improve agricultural productivity, the French-Type Cooperatives carry out mainly joint sales of the members’ products, mostly paddy. Currently, these cooperatives are present in only a few areas (Fig. 5). Those carrying out rice marketing activities are only present in 6 out of 22 prefectures. In addition, in the areas where they exist, the cooperative membership rate<sup>4</sup> as well as the village penetration rate<sup>5</sup> are still low. Concerning the cooperatives’ functions, the comparisons between cooperative members and non-member farm households did not record any significant difference in any of the variables examined. Cooperatives have not yet succeeded in raising members’ farm gate prices, increasing market power or developing an adequate strategy to approach the market.



**Fig. 5.** Localization of the cooperatives implementing rice marketing activities in Madagascar, 2006 (village and town level data)

Source: Data from FIFATA, PSCA/FERT and KOLOHARENA (August, 2006)

As a prerequisite to the cooperatives' future expansion, they might tailor their activities to better suit the local conditions, the farmers' concerns, and the market structure. For example, cooperatives could handle credit and saving operations to support the farmers in covering their living and production costs, using farmers' investments even though the working capital could be small at the beginning. In the joint rice sale activity, it could also be more appropriate to adopt a consignment system instead of outright payment for members' products on receipt. Since it is difficult to get everyone to join, winning the trust of farmers could be given a priority, for which the commitment of the government might be essential.

### Conclusion

This study has identified three major factors responsible for low producer price in the rice market in Madagascar: (1) the vicious circle phenomenon which makes the farmers more and more vulnerable, (2) the lack of enforcement of market rules and regulations, and (3) the inexistence of efficient organizations which can support the farmers.

However, in the current context of economic globalization and liberalization led by the WTO<sup>6</sup>, the World Bank and IMF, the government would not be permitted to fix minimum support prices or subsidize in order to increase farm prices. For similar reasons, enforcement of market regulations ensuring fair trade would be a complicated task, though it may be indispensable.

Therefore, the best alternative to address the farmers' marketing problems at the current stage appears to be the further development of the agricultural farmer cooperative movement. Individually, farmers cannot improve their own current circumstance; however, by combining their power and developing intrinsic capacities, they have the potential to form an efficient bargaining group, leading to fair rice marketing.

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### Notes

- 83% and 80% of the overall population earn their living out of agriculture respectively in *Alaotra* and *Bongolava Pref.*, where rice is the main crop standing for 84% and 63% of the total harvested land.
- For further discussion on vicious circle of poverty, see Nurske (1957).
- Literally, *grand rizier* means large rice processor and *rizier* means rice processor.
- The cooperative membership rates are only 3% and 2% respectively for American-Type Cooperative (*A-Type coop.*) and French-Type Cooperative (*F-Type Coop.*).
- Of more than 10,000 farm villages in all the country, cooperatives total only 29 *A-Type* and 58 *F-Type*, of which 11 and 41 *A-Type* and *F-Type* *coops*, respectively are handling rice marketing operation.
- Madagascar has been a WTO member since 17 November 1995.

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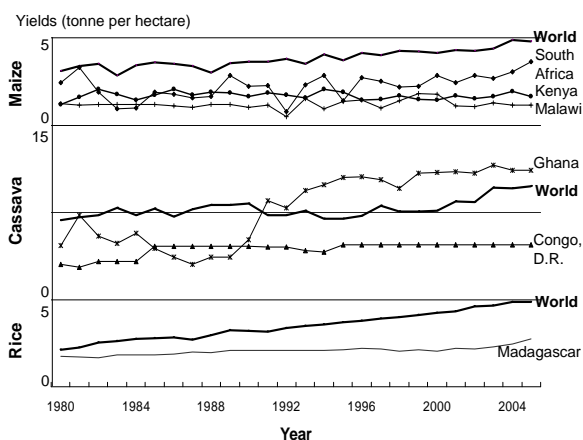
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## Rice Producer Prices in Madagascar



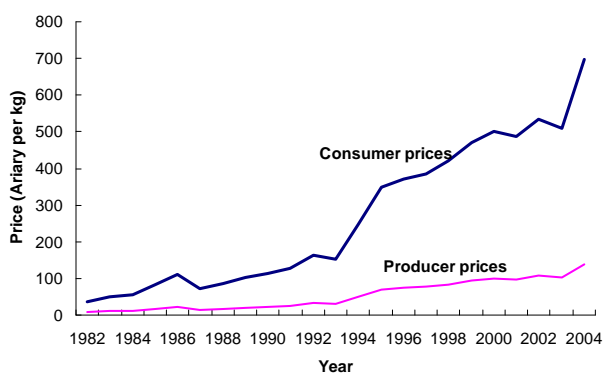
**Figure 1:** Agricultural productivity of the highest 20 and lowest 20 countries

Source: Own elaboration from World Bank, World Development Indicators 2006



**Figure 2:** Yields of rice, cassava and maize in SSA main producers, 1980 to 2005

Source: Authors' calculations, from FAOSTAT | © FAO Statistics Division 2007



**Fig. 3.** Rice prices in Madagascar, 1982-2004

Source: Authors' calculations, from INSTAT (2004). Notes: (1) Consumer prices and producer prices are nominal prices. (2) Ariary is the Malagasy official currency