

IMPACT OF THE POLITICAL CRISIS ON THE AGRICULTURAL SECTORⁱ

Introduction

Due to a disputed presidential election held in December 2001, Madagascar had to cope with a political crisis during the first part of 2002. The impact of this political crisis affected most of the social and economic sectors. The effect on the primary sector is particularly crucial as agricultural households make up just over 70 percent of the total population. Moreover, they are disproportional over-represented in the poorest part of the population (Razafindravonona et al., 2001).

To study the impact in the agricultural sector, data were collected in 72 Communes in the provinces of Antananarivo, Fianarantsoa and Mahajanga by the Ilo Program, in collaboration with Instat and Fofifa. The fivondronana to which the Communes belonged were selected in such a way to be representative of the situation of the province. The data were gathered through focus groups interviews at the Commune level. This methodology offers the advantage to be rapid but has the drawback to be quantitatively less precise.

1. Impacts on the agricultural production this year

The production of this year was not affected by the crisis.

The agricultural year had already started before the beginning of the crisis. Therefore, yields did not change much compared with last year as shown in Table 1. This was the case in the three provinces that were sampled.

Table 1: Crop yields in 2001 and 2002 (kg per hectare) – estimates of focus groups

<i>Crop</i>	<i>Year 2001</i>	<i>Year 2002</i>
Rice	2566	2433
Maize	1831	1857
Sweet potato	5576	5616

2. Agricultural income

According to the focus groups, agricultural and livestock income decreased by 38 percent and 31 percent respectively compared to last year.

In general, cash income derived from agricultural production decreased compared to last year (Table 2). Of the three provinces, Mahajanga suffered

most: agricultural income of the peasants is estimated to have fallen by half. The province of Fianarantsoa also noticed a similar deterioration of farmer's crop income (however, the livestock sector was less hit than in Mahajanga). This is important given that Fianarantsoa is the poorest province of Madagascar (Razafindravonona et al., 2001). The agricultural sector of Antananarivo suffered seemingly least from the crisis.

Table 2 : Cash income and marketed surplus compared to 2001 (% change as estimated by focus group)

	<i>Agricultural Sector</i>		<i>Livestock Sector</i>	
	<i>Income</i>	<i>Quantity</i>	<i>Income</i>	<i>Quantity</i>
Antananarivo	-12,9	- 7,9	-14,2	- 6,7
Fianarantsoa	-49,4	-33,3	-27,6	-36,0
Mahajanga	-49,6	-32,0	-51,0	-37,0
<i>Total</i>	<i>-37,6</i>	<i>-24,5</i>	<i>-31,2</i>	<i>-26,8</i>

The downward trend in agricultural income was caused by reasons related to the crisis. The fuel shortages and the presence of roadblocks led to an overall decrease of the agricultural households' commercial surplus and to a change in the producer price level as well.

2.1. Change in marketed surplus

Producers have reduced agricultural commercial surplus compared to last year. On the one hand, production could not be sold and exported to the urban consumption areas due to the road blockages, the fuel shortages and the lack of assemblers. However, despite this situation, there were still Communes where the marketed surplus has increased. On the other hand, commercial behavior changed also as part of risk management strategies. Some farmers might actually store more of their agricultural products in view of the future lean period, which might be harder this year because of the impacts of the crisis. Some farmers therefore prefer to play safe and increase their food security.

Strategy 1: The marketed surplus decreased because there are less assemblers.

According to 31 percent of the focus groups, assemblers were already scarce last year (Table 3). This percentage reached 76 percent in 2002. The situation was especially exacerbated by two facts: lack of fuel and the existence of roadblocks associated with destroyed bridges in some regions.

Table 3 further highlights the fact that the more distant from the capital of province a Commune is located, the more it suffered from this scarcity of assemblers. Hence, for the Communes that are situated far from the urban consumption zones, only 42 percent of the rice harvest production was exported outside their boundaries this year whereas this percentage was as high as 56 percent in 2001¹.

Table 3: Percentage of communes that report "frequent assemblers" and "very few or no assemblers" in the agricultural sector

	Year 2001		Since the crisis	
	Fre-quent	Few or none	Fre-quent	Few or none
By distance from the capital of province				
Near	37,7	45,8	20,8	62,5
Medium	62,5	33,3	8,3	91,7
Far	83,3	12,5	20,8	75,0
<i>Total</i>	<i>61,1</i>	<i>30,6</i>	<i>16,7</i>	<i>76,4</i>
By province				
Antananarivo	45,8	45,8	25,0	70,8
Fianarantsoa	79,1	12,5	20,8	66,7
Mahajanga	58,3	33,3	4,2	91,7
<i>Total</i>	<i>61,1</i>	<i>30,6</i>	<i>16,7</i>	<i>76,4</i>

Strategy 2 : The agricultural commercial surplus decreased due to an increased sense of uncertainty by farmers.

As shown in Table 4, the rice deficit and needy areas were more cautious and tried to protect themselves against an uncertain future. Their rice exported surpluses of this year were 9 percentage points lower than the quantity for 2001. The quantity of agricultural products put on the market also decreased by 28 percent. For the "surplus areas"², the scenario is less pronounced: rice export decreased from 53 percent in 2001 to 49 percent this year while marketed production decreased by 18 percent compared to 2001.

Table 4 : Rice export outside the communes and changes in marketed surplus

		% of rice production exported		Marketed surplus of agricultural products compared to 2001 (%)
		Year 2001	Year 2002	
		Regions that	Antananarivo	26
	Fianarantsoa	40	33	-42
	Mahajanga	39	23	-37
	<i>Sub-total</i>	<i>34</i>	<i>25</i>	<i>-28</i>
Regions that	Antananarivo	47	43	+05
	Fianarantsoa	54	53	-20
	Mahajanga	56	46	-25
	<i>Sub-Total</i>	<i>53</i>	<i>49</i>	<i>-18</i>
<i>Total</i>		<i>39</i>	<i>32</i>	<i>-24</i>

Strategy 3 : The marketed surplus increased in some regions due to an extra need for liquidity to pay for PPN as well as due to high producer prices.

The agricultural marketing strategy in some rural Communes of Antananarivo³ does not follow the scenarios described above. Some rural households seem to have sold more agricultural products in comparison with last year in order to acquire the necessary cash to pay for the PPN⁴ for which prices increased considerably during the crisis.

In addition, paddy prices increased by 22 percent compared with last year in the province of Antananarivo. Therefore, producers had more incentives to put their products on the markets. In these regions, the cash agricultural income level has thus increased.

Moreover, the number of assemblers did not decrease much in these areas. While the assemblers often use to be in a situation of oligopoly in these regions, the number of "small" assemblers increased on these markets this year. Thus, outlet channels for agricultural products were not really disturbed for agricultural producers. However, the effect of this marketing strategy might be an early lean period compared to previous years for those who have marketed more now.

2.2. Changes in prices

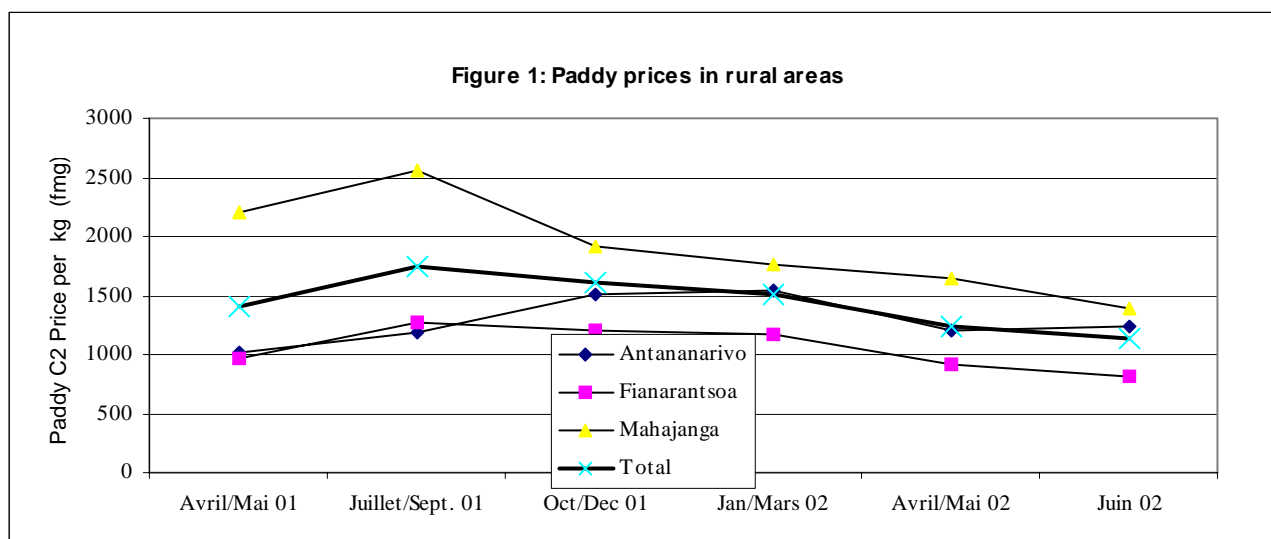
Compared to last year, producer prices dropped significantly on average. However, the magnitude of the change differs depending on the province.

¹ For the fivondronana of Bealanana, in the north of the province of Mahajanga, the rice production is usually exported to the capital, Antananarivo. This was not the case this year due to the road blockages; very few assemblers could reach the fivondronana. Agricultural cash income was then reduced by 50-75 percent and the agricultural products marketed surplus by 75 percent. Only 10 percent of the rice production could have been exported outside the communes compared with 60-90 percent last year.

² Those that do not need to import rice from the other Communes during the lean period.

³ For example in Ankazobe, agricultural cash income increased by 31 percent and the marketed surplus by 25 percent.

⁴ Basic consumption goods (produits de première nécessité)



The lower average level of producer prices results in the decline of cash income. In a large majority of the Communes surveyed, the situation of the producer price tends to become "problematical" since the beginning of the political crisis (Table 5).

Table 5 : % of communes where producer prices are problematical (have declined) since the start of the crisis

	Agricultural Sector	Livestock Sector
Antananarivo	41,6	8,3
Fianarantsoa	87,5	75,0
Mahajanga	58,0	50,0
Total	62,5	43,2

Figure 1 illustrates the price change in the case of rice: paddy prices decreased by 20 percent compared with the same period last year. The province of Antananarivo seems to be the least affected as paddy prices in the rural areas increased by 22 percent compared to last year. Fianarantsoa and Mahajanga were apparently the most disadvantaged. In fact, they are usually rice exporters to the province of Antananarivo, but this year, they could not do so because of the difficulties of transport. The assemblers that were able to reach the rural agricultural regions that were far out also seemingly fixed prices at a low level to pay for higher marketing costs but also to make extra profits (policy brief no. 3).

For the livestock sector, the situation of the producer prices was found to be problematical in 8 percent of the Communes in 2001. Since the beginning of the crisis, there were 62 percent of the Communes that reported such a situation (Table 5). The causes are the same as those for the agricultural sector.

3. Impact on agricultural labor

The agricultural labor market was disturbed by the decline in monetary agricultural income. Moreover, labor migration was interrupted due to the high costs of transportation. Agricultural labor use

declined by a quarter compared to 2001 (Table 6). The most important decrease is noticed in the province of Mahajanga. Antananarivo registered the lowest decline.

Table 6 : Use of hired agricultural labor (% of change between 2001 and 2002)

	Change (%)
Antananarivo	- 9,8
Fianarantsoa	-23,5
Mahajanga	-37,0
Total	-23,2

3.1. Reduction of the use of agricultural labor

a. Producers have reduced the use for agricultural wage labor in order to reduce their monetary expenses.

In order to pay for the high prices of PPN during the first semester of 2002 and due to lower cash income, rural households have reduced monetary expenses by cutting their expenses on wages. As a substitute and to the extent that this is possible, they might then rely more on hired family labor.⁵

b. The use of hired wage labor declined because of transportation problems.

Seasonal labor migration was irregular this year. Therefore some regions were affected by a lack of agricultural laborers. For example, the province of Mahajanga had to cope with this problem due to the numerous road blocks.⁶

⁵ As a result of the roadblock between Mahajanga and Antananarivo, only a few rice assemblers managed to reach the northern region of Mahajanga. This situation happened at the same moment as the vanilla campaign in the SAVA region (province of Antsiranana). The labor force, attracted by the higher wages during the vanilla campaign, migrated to the SAVA because it was not worth for them anymore to work locally.

⁶ Tobacco cultivation in the Fivondronana of Maevatanana was one of the sectors that was victim of a lack of labor force. Because of the high transportation costs, only half of the expected number of migrant workers arrived in Maevatanana.

3.2. Changes in agricultural wages

The agricultural wage level stayed pretty stable compared to last year. However, regional differences show up. The wage level increased in the province of Antananarivo since marketing conditions did not worsen a lot or even improved due to decreased competition from other provinces. The greatest decrease in agricultural wages was noticed in the province of Mahajanga. This situation is the result of the low level of interregional exchange in terms of products as well as labor. Agricultural wages were stable in Fianarantsoa as most of the agricultural activities are undertaken by local labor force.

4. Probable effects on future production

Modern agricultural inputs are rarely available. The impact might be lower yields for off-season crops.

The distribution channel of modern inputs was already poorly organized before the crisis. The situation worsened since the beginning of the crisis and the transportation problems. While there might be no supply (fertilizers, pesticides, vaccines and even veterinarians) at all in some cases, in cases they are available, the cost of these products and services have risen dramatically. For instance, the average price of 1 kg of NPK doubled between April-Mai 2001 and the same period this year. As a result, the use of these products will decline.

The impact might be reflected in lower yields for the off-season crops. Table 7 gives an idea of this trend and shows the importance of this disturbance for Antananarivo, where the practice of off-season crops is widely spread. Industrial crops in need of high input levels of fertilizers may suffer as well.

Problems were also reported concerning the motorized irrigation system. For example, the pumping system did not work properly in the grain basket of Marovoay due to the lack of fuel.

In the livestock sector, the same problems were noticed as in the agricultural sector: an upward trend for the prices of the veterinary products, probably resulting in a decrease of the number of users. The lack of veterinarians at the Commune level was intensified by the crisis (due to problems of transportation and insecurity).

The expected impacts of this situation might appear at different levels : (1) a lower yield level for off-season crops, or even no production at all since some agricultural land was not cultivated due to

lack of inputs - labor as well as other inputs - ; (2) a larger incidence of crop and livestock diseases.

Table 7 : Price level and the use of agricultural inputs: % of the communes that respond with "problematical situation"

	2001	Since the crisis
<i>Availability and prices of agricultural modern inputs</i>		
Antananarivo	45,8	78,3
Fianarantsoa	4,2	37,5
Mahajanga	20,8	37,5
Total	23,6	50,7
<i>Use of agricultural inputs</i>		
Antananarivo	45,8	69,5
Fianarantsoa	0,0	16,6
Mahajanga	20,8	29,2
Total	22,2	38,0
<i>Availability and prices of veterinary products</i>		
Antananarivo	50,0	79,2
Fianarantsoa	12,5	37,5
Mahajanga	41,7	54,2
Total	26,4	56,9

Conclusion

The impacts of the crisis on the agricultural and livestock sector are twofold: a reduction of cash income for producers and a decrease in the use of wage labor. The disarray in the agricultural or veterinary input distribution system might probably worsen the future agricultural output. Even if some effects of the crisis have already been studied in this policy brief, longer term impacts will probably occur and have to be monitored properly.

References

Razafindravonona, J., Stifel, D., et Paternostro, S., Evolution de la pauvreté à Madagascar : 1993-1999, Instat, Avril 2001.

ⁱ This program is funded by USAID, Project 'Improved economic analysis for decision-making in Madagascar', Cornell University, Cooperative Agreement No. 687-00-00-00093-00. This policy note is part of a study on the 'The political crisis : economic and social impacts and implications for policy'. For more information, suggestions or access to data, contact the Ilo program. This note was prepared by Lalaina Randrianarison (Ilo Program), Josiane Rarivoarivelomanana (World Bank) and Bart Minten (Cornell University).

Therefore, agricultural land was left fallow. A lower production and a lower income for next year might be expected.