

## **Introduction**

Madagascar was in the grip of a political crisis during the first half of the year 2002 due to a dispute on the outcome of presidential elections. General strikes and roadblocks hit hard on the economy of Madagascar and therefore on the welfare of people. However, the crisis situation was resolved in the middle of the year and the country is now on the road to recovery.<sup>1</sup>

As primary data on the situation post-crisis is scarce, the Ilo program, in collaboration with INSTAT and FOFIFA, organized a survey in November/December 2002 in 150 communes<sup>2</sup>, 400 schools and 200 health centers in all Malagasy provinces. The stratified sampling frame was set up in such a way to be representative of the situation at the national and provincial level.<sup>3</sup> During this survey, data on different themes were collected. Each theme will be the subject of a policy brief. This policy brief discusses the situation post-crisis through an analysis of the data on the availability and prices of goods.

## **Transport**

*a. Compared to the situation pre-crisis, transport prices for shipping of goods as well as for personal travel are still 20% to 25% higher. This seems largely due to an increase in fuel prices.*

As the regular distribution channels of fuel were disrupted during the political crisis, prices of fuel skyrocketed (as it was only available on the black market). Fuel prices

were reported to be as high as six times the prices of the period before the political crisis in the province of Antananarivo (However, in some regions (Toamasina, Antsiranana, Fort Dauphin) fuel prices did not change). Overall, this led to a doubling of transport costs for personal travel and shipping of goods as well as a reduction in the availability of means of transport during the crisis (Figure 1).<sup>4</sup>

After the crisis, transport costs came down but not to the same level as before the crisis: transport costs are, on average, now still 20% (goods) and 25% (persons) higher than in the period pre-crisis. This seems largely due to increases in the fuel price.<sup>5</sup> However, the increase in fuel prices might only partly explain the rise as fuel costs are only one of the costs in total transport costs. The decrease in economic activity and personal mobility might also have led to an increase of other costs (fixed costs, capital costs, search costs,...) in the transportation margin, compared to the period before the crisis.<sup>6</sup>

*b. Due to the crisis in the transport sector, availability of goods was affected in a significant number of communes during the crisis. Availability of goods is back to normal now.*

Due to the transport crisis, prices of imported goods increased dramatically while some goods that were not made locally in the region were not available at all anymore. While local substitutes might have been found or households could live without some of these goods for a short time, a significant number of communes were deprived of PPN (Produits de Première Nécessité) for a while during the

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<sup>1</sup> The government estimates that the crisis caused a decline of BNP of 12% in 2002 compared to 2001.

<sup>2</sup> Out of 1392 communes in total, i.e. more than 10% of the communes.

<sup>3</sup> Fivondronana were divided in six strata depending on the distance to the capital of the province (close, medium, far) and on the availability of a tarred road. In each strata, one fivondronana was selected for every province. In each fivondronana, four communes were selected randomly. Each commune was weighted equally for the calculation of means.

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<sup>4</sup> It was estimated that around 80% of motorized transport was immobilized during the crisis.

<sup>5</sup> which increased from 3000 Fmg/liter of gasoil last year to 4130 Fmg/liter this year, i.e. an increase of 38%; this compares to 4200 Fmg/liter of 'essence' last year to 5520 Fmg/liter this year, i.e. an increase of 31%.

<sup>6</sup> Taxi-brousse drivers for the journey Manakara-Fianarantsoa reported that it took them before the crisis a couple of hours to fill up their taxi; now this is as high as 2 days. The search and opportunity costs of the driver and the fixed costs of the bus have to be reflected in the ticket price.

crisis. The post-crisis survey shows that most of the goods are back to pre-crisis availability. However, we notice quite some price changes.

One of the notable exceptions is the availability of Sur'Eau. It was available in 67% of the communes pre-crisis and this stayed that way during and post crisis, probably due to the efforts of PSI/USAID during the crisis. On the other hand, availability of fertilizer dropped from 22% of the communes pre-crisis, to 14% during crisis and only bounced back to 18% of the communes post-crisis.

### Prices of PPN

*a. Most of the prices of the PPN are still significantly higher, in rural as well as urban areas, compared to the same period last year.*

Figure 2 shows how prices of PPN (salt, sugar, and vegetable oil) have increased during the crisis. On average, the prices for these products had at least doubled. While the prices declined post-crisis, they never reached their pre-crisis level. Fine salt, sugar, and vegetable oil are, on average, respectively 52%, 18% and 38% more expensive now compared to one year ago.

*b. The price increase in PPN is due to a price hike at the factory level as well as higher marketing costs.*

While prices of PPN in urban areas increased compared to last year, they increased more in rural areas reflecting the higher marketing (transportation and distribution) costs post-crisis compared to last year. The prices of kerosene and sugar prove the case (Figure 3). Prices in urban areas did not decrease to their level of last year: sugar and kerosene are there respectively 14% and 21% more expensive than last year. However, the marketing margin between urban and rural areas increased as well. The combination of both effects lead to a relatively larger price hike in rural areas.

### Prices of agricultural products

*a. The overall price level of rice does not seem to have been affected to a large extent. Its price has slightly increased compared to the same period pre-crisis. However, the effects differ by province.*

Figure 4 shows the price evolution of rice for all the provinces. The average rice price in October/December 2002 is 8% higher than at the same period last year (Figure 4). Reduced rice imports and the good harvest last year explain the lower level at the same period pre-crisis. Rice prices now are at the same level of two years ago during the same period.

The slightly higher rice price in the lean period this year will increase the hardship of the poorer part of the population, which are net buyers of food during the lean period. This seems especially the case in Fianarantsoa and Toliary where rice prices are now 11% and 13% higher than at the same period last year.<sup>7</sup> On top of the effect of the crisis, part of the province of Toliary was affected by a drought leading to this higher price hike and making rice there currently the most expensive of all the provinces. On the other hand, part of the province of Toamasina was affected by the cyclone Kesiny. However, this led only to regional price changes within the province.

Table 1: Perceived effect of effect of rice prices (qualitative evaluation by focus groups)

Proportion of the population that...	Poor	Non-poor
... prefers a higher rice price during the harvest period	63%	61%
... prefers a higher rice price during the lean period	16%	32%
... uses rice as the major staple during the lean period	48%	68%
... uses cassava as the major staple during the lean period	56%	31%
... depends on imported rice during the harvest period	24%	21%
... depends on imported rice during the lean period	56%	43%

Source: Post-crisis survey, Ilo program, Cornell University, November/December 2002

The effect of the price changes of rice for poor and non-poor groups was further assessed through a qualitative question on the perceived effect of such changes (Table 1). The results indicate that poorer households prefer - as much as rich households - higher rice prices during the harvest period as they are selling rice as well at that point. However, poorer households clearly do not prefer high rice prices during the lean period as they become relatively more net buyers (and they more often buy imported rice than richer households do). Moreover, poorer households also often are not able at all to afford buying rice and they then switch to other crops, especially cassava. They do more so than richer households (Table 1). This indicates the complexity of a pro-poor rice price policy in Madagascar. To the extent that poorer households sold more of their own rice this year to pay for the increased costs of PPN, it might be that they suffer more to get through this lean period than normally.

*b. Average prices of agricultural products are slightly higher than in previous years. However, their increase is lower than for the*

<sup>7</sup> However, rice is a relatively less important staple in Toliary. Maize and cassava are as important. However, both products show similar increases in Toliary.

*PPN indicating a real decrease in purchasing power for farmers.*

Paddy, maize and cassava show higher prices now than during the same period last year (Figure 5). The relative increase is higher for cassava (+14%) probably because of the increased demand for this product due to hardship after the crisis (as cassava is an economically inferior good (see Ravelosoa et al., 1999)). Average paddy prices do not seem to have sunk as deep in the harvest period, during the crisis, as in the previous years. Given the lack of competition of imported rice during the crisis, overall domestic prices may actually have been higher than in other years.

However, there were clearly differential effects as rice surplus areas close to cities saw their prices increase while those far off noticed a decline. Figure 6 on the price evolution of paddy in the grain baskets of Madagascar, i.e Lac Aloatra and Marovoay, shows how these regions fared during and after the crisis. As farmers postponed sales in the Lac Aloatra area, average prices did not decrease as badly as expected. In the post-crisis period, policy measures were taken to support producer prices. Producer prices in 2002 were therefore higher than in 2001 (+30%) and at similar levels of two years ago. As the major harvest in Marovoay (the “vary jebny”) came in after the end of the political crisis, prices were less affected by the political events and are clearly higher than last year.

#### **Value of assets**

*Asset (livestock, land) prices are stable.*

Prices for livestock are only slightly lower this year than last year (-2%). While the price level of livestock in different provinces are highly different, apparently reflecting the relative wealth of that province, there is little variation over the year that might be linked to the impact of the crisis (Figure 7). Livestock prices in the province of Mahajanga seem to have decreased due to the trade embargo with Comoros after the end of crisis. Prices in Antananarivo are slightly up.

A second question was asked on the evolution of the value of a well irrigated rice field in the commune. No big changes were noticed in any of the provinces. Therefore, there is no evidence on inflation or deflation for assets in rural areas.

#### **Agricultural wages**

*a. Agricultural wages show a slight increase. However, wages do not follow the inflationary trend of PPN and rice prices, indicating a*

*reduction of purchasing power of the poorest part of the population compared to the period pre-crisis.*

Agricultural wage labor is mostly done by the poorest group of the rural population (Minten et al., forthcoming). The evolution of wages is therefore an indication of the situation of poverty in rural areas. Overall, agricultural wages show a slight upward trend in most provinces compared to the same period last year (Figure 8): wages are up by 6% for males compared to 4% for females. An analysis by province shows that the only exception is the province of Fianarantsoa where wages are stable or on the decline.

When the purchasing power of this wage is compared to the same period last year, we see a clear worsening of poverty in rural areas. With their current salary, agricultural wage laborers can buy 2% less rice, 3% less cassava, 25% less vegetable oil, 11% less sugar, 31% less salt and 22% less kerosene than with the salary they earned last year. As we do not know the exact consumption bundle of agricultural laborers, these numbers are a crude indication of the evolution of their purchasing power. In any case, the ratios indicate that the effect of the crisis has been seriously felt in rural areas and continues to show its impacts now.

Table 2: Evolution of purchasing power of agricultural wage laborers

Equivalent of a day of wage labor	Oct-Dec 2001	Oct-Dec 2002	Change (%)
... in kgs of rice	3.50	3.45	-1.5%
... in kgs of cassava	10.72	10.40	-3.1%
... in kgs of sugar	1.56	1.39	-10.9%
... in kgs of salt	5.70	3.96	-31.5%
... in l of vegetable oil	1.08	0.83	-25.2%
... in l of kerosene	2.30	1.80	-21.7%

Source: Post-crisis survey, Ilo program, Cornell University, November/December 2002

*b. Using agricultural wages as an indicator, the poorest provinces suffered most from the crisis. The province of Fianarantsoa is worst off. This province was poorest before the crisis and saw additionally the highest drop in purchasing power post-crisis. The relatively richer provinces of Mahajanga and Antsiranana suffer least.*

A regional analysis of the ratio of wage over rice (as indicator of food prices) and over vegetable oil (as indicator of PPN) in Table 3 shows that the province of Fianarantsoa seems to be in worst shape. While this province was before the crisis already the poorest of Madagascar as shown by Razafindravonona et al. (2001) and as shown by the lowest level of purchasing power of wage laborers (their salary only buys them 2.2 kgs of rice compared to 3.5 kgs nationally), this situation has deteriorated most of all provinces as indicated by the high change in purchasing power in rice (a decline of 9% compared to 1% nationally) as well as in vegetable oil equivalents (a decline of 31% compared to 23% nationally). The reduced possibilities for seasonal migration during the crisis and the low coffee price - an important cash crop in that region - might be two explanations for this state of affairs.

The province of Antsiranana and Mahajanga seem to suffer least in the post-crisis as wage laborers noticed actually an increase in purchasing power of rice for their wages and as purchasing power in PPN declined less or at the same level as for the country as a whole.

Table 3: Level and evolution of purchasing power of agricultural wage laborers by province (comparing Oct-Dec 2001 and 2002)

Equivalent of a day of wage labor	... in kgs of rice		... in liters of vegetable oil	
	Oct-Dec 2001	Change (%)	Oct-Dec 2001	Change (%)
Province				
Antananarivo	3.70	-3.39	1.44	-30.49
Fianarantsoa	2.20	-9.03	0.77	-31.27
Toamasina	2.57	-2.67	0.85	-24.31
Mahajanga	5.95	1.68	1.32	-16.46
Tulear	3.33	-3.31	1.07	-12.63
Antsiranana	4.08	3.16	1.18	-26.28
Madagascar	3.50	-1.29	1.08	-23.39

Source: Post-crisis survey, Ilo program, Cornell University, November/December 2002

These results are obviously only indicative<sup>8</sup> given the crude measures applied and more in-depth research is clearly needed. This is planned by INSTAT using the new national

household survey that was fielded in the beginning of 2003.

## Conclusion

The results of the post-crisis monitoring survey show that the effects of the crisis are still being felt. The lean period in rural areas this year seems to be harder than last year. A stagnation in agricultural wages and an increase in PPN, food, and transport prices has led to a decrease in purchasing power for a significant part of the rural population.<sup>9</sup>

Using agricultural wages as an indicator, the poorest provinces seem to suffer relatively more post-crisis. The largest effects of the aftermath of the crisis are seen especially in the province of Fianarantsoa, the poorest of Madagascar, and in the province of Tulear that was partly hit by a drought on top of the crisis. The situation seems to be most stable in Diego and Mahajanga as economic activities were seemingly less affected by the crisis and as these are the relatively richer provinces.

## References

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<sup>8</sup> For example, it seems likely that demand for wage labor dropped this year due to the crisis and the constraints to mobility. This would have increased the hardship of the laborers even more than what is discussed in this analysis.

<sup>9</sup> This survey confirms the price hikes noted by INSTAT in urban areas. INSTAT estimates price inflation between November 2002 and December 2001 at 13.4%

Figure 1: Coût de transport du milieu rural vers la capitale de province

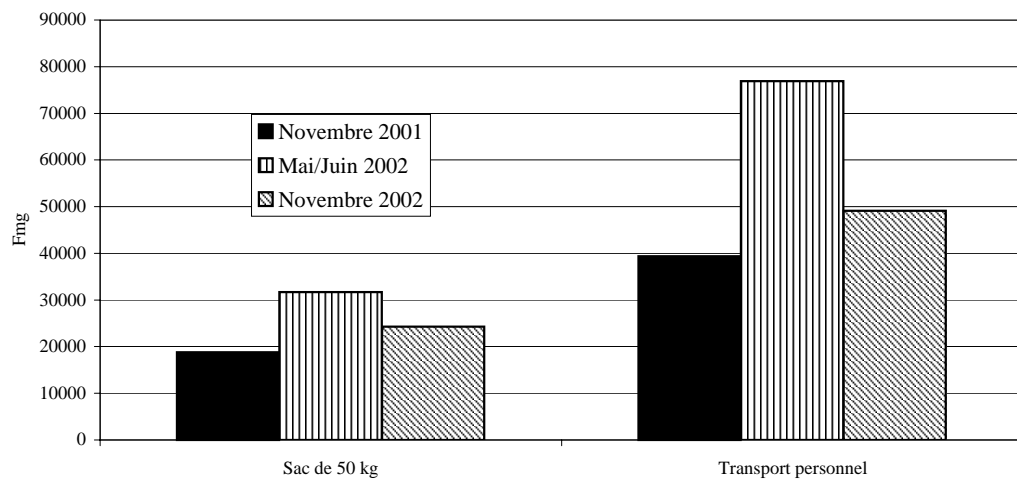


Figure 2: Prix des PPN

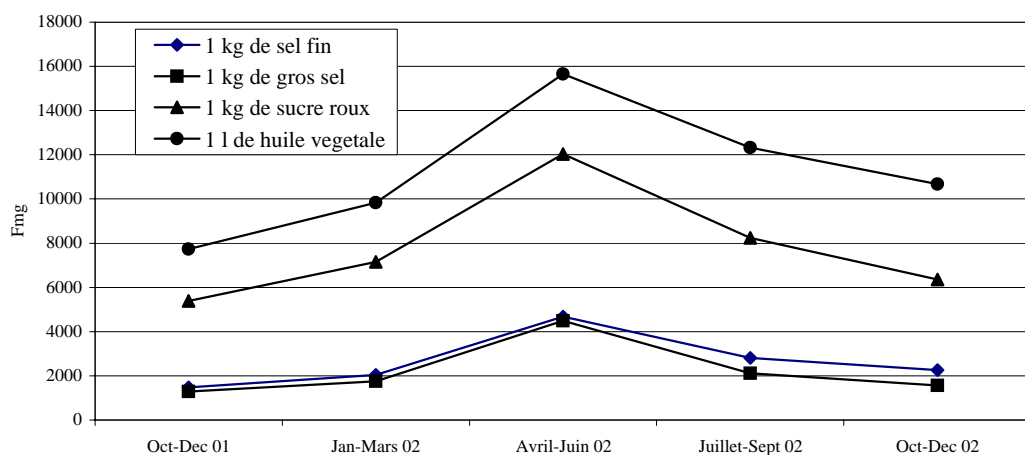


Figure 3: Prix du pétrole lampant (l) et du sucre roux (kg)

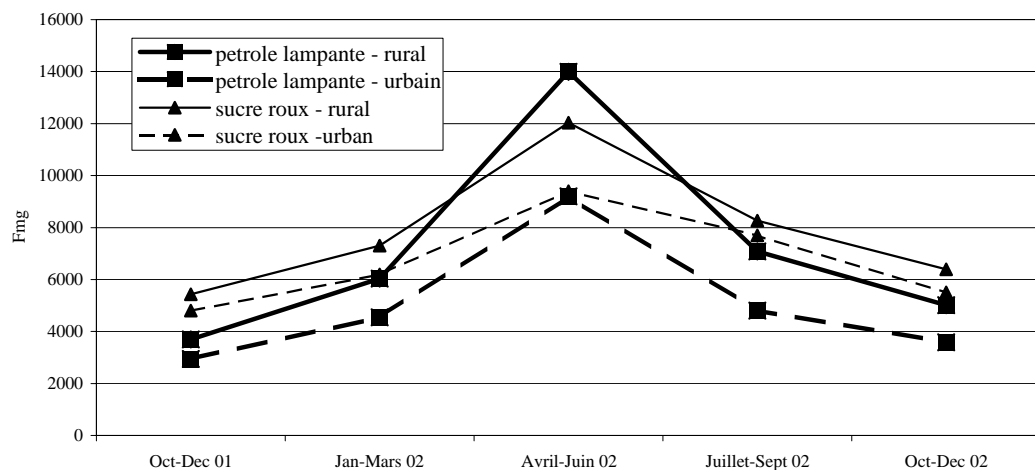


Figure 4: Prix du riz blanc (qualité C2)

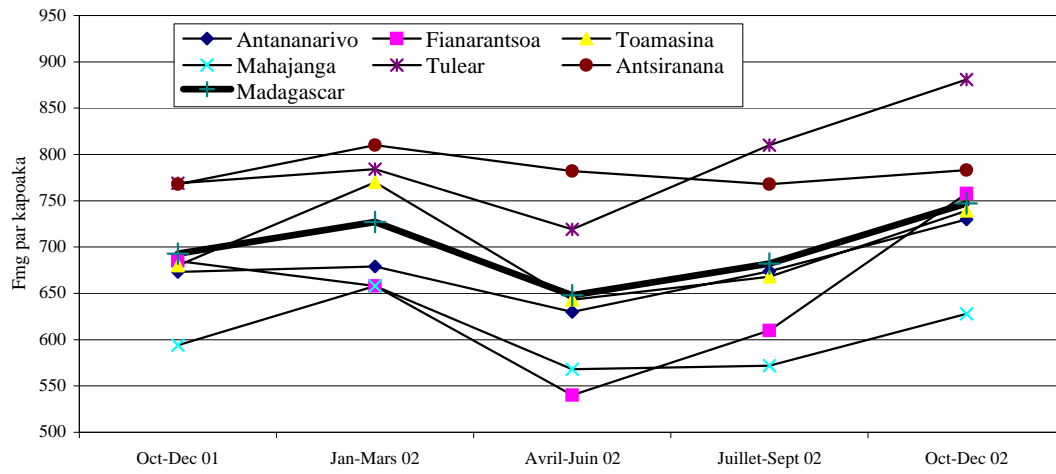


Figure 5: Prix des produits agricoles (kg)

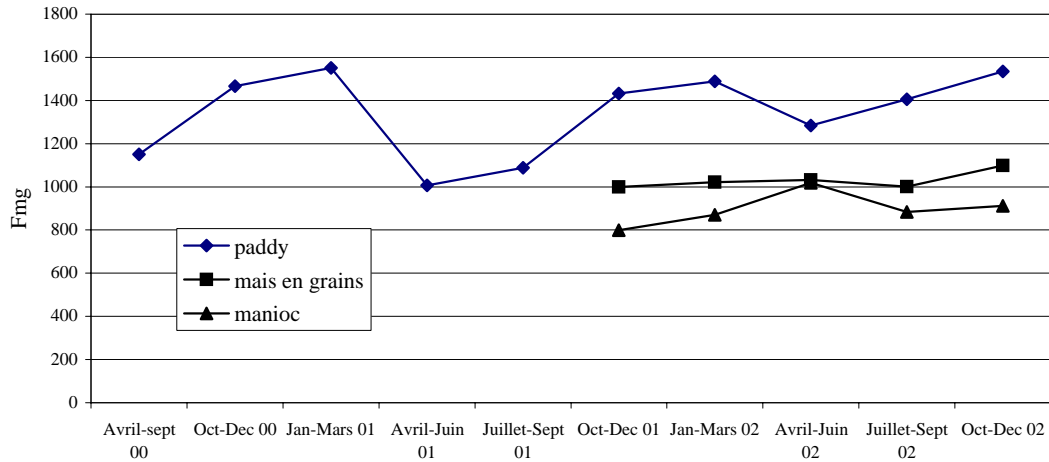


Figure 6: Prix du paddy dans les greniers à riz de Madagascar

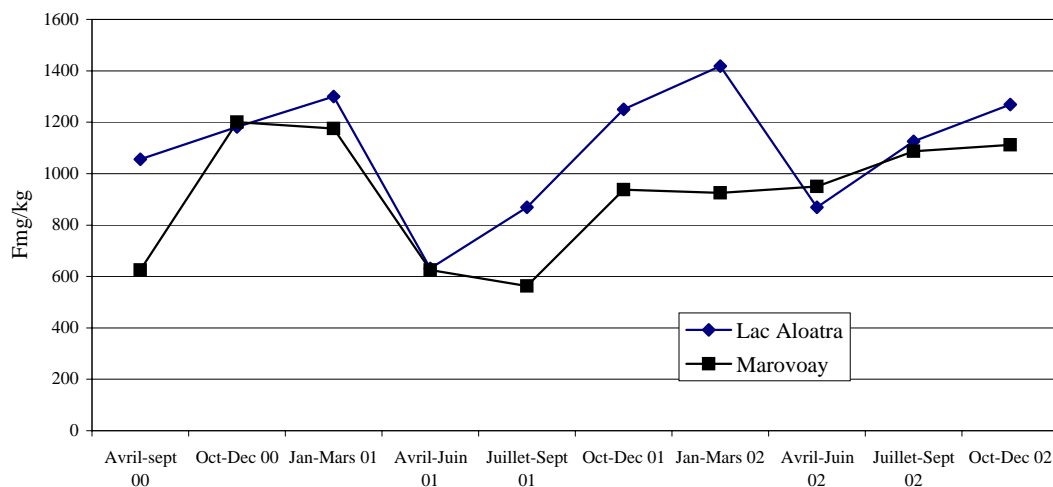


Figure 7: Prix du bétail (médian)

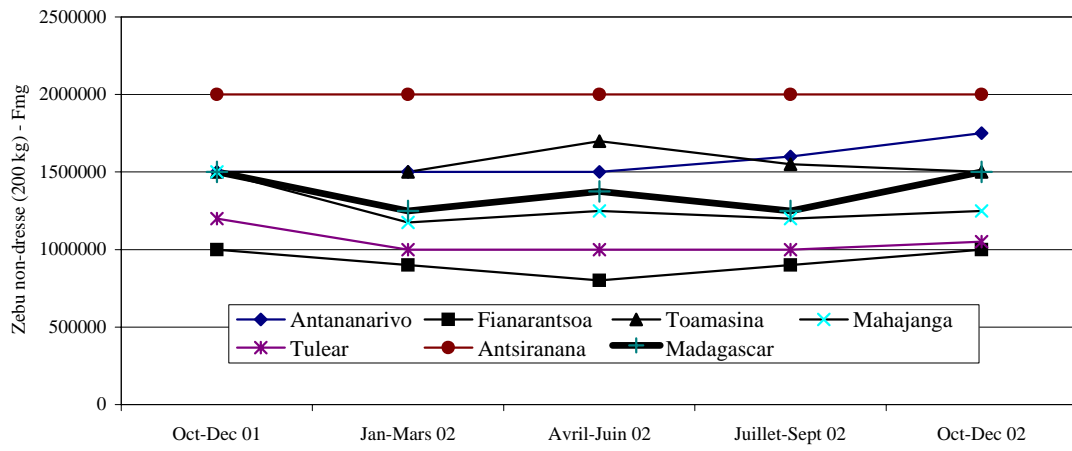


Figure 8: Salaire agricole journalier (en espèces et en nature)

