

The aim of this article is to describe the political economy of an urban famine that occurred in Antananarivo, the capital city of Madagascar, in 1985–6. This famine is atypical in many respects, since it was an urban famine occurring in peacetime,<sup>1</sup> and it remained hidden for a long time. It was discovered by analysing the demographic data of deaths registered in the city (Garenne *et al.* 2002). This analysis focuses on the economic and political mechanisms underlying the crisis.

## 1 Demographic evidence

Antananarivo lies in the highlands of central Madagascar. The city accounted for about 577,000 inhabitants in 1985, and it is characterised by slow population growth due to low migration flows compared with most other African capital cities. This is primarily due to a lack of economic opportunities and of international aid in the 1970s and 1980s, as will be seen below.

A long tradition of birth and death registration exists in Madagascar. It started before the colonial period during the successful reign of Queen Ranaivalona II, was developed under French colonial rule, and remained of high quality in the post-independence period. Vital registration seems to be virtually complete in urban areas, especially in Antananarivo. Comparison with Demographic and Health Survey (DHS) data and with demographic models did not reveal any evidence of under-registration of deaths in the capital city for the 1976–95 period (Garenne *et al.* 2002). Not only are vital events properly registered, but causes of death are also available for Antananarivo, a rare situation in sub-Saharan Africa. Causes of death are certified by physicians, whether the death occurred in the hospital or elsewhere. These data do exist, but were not processed, not published and not analysed, until a team led by Pierre Cantrelle undertook a systematic coding of all mortality data and causes of death for the 1976–95 period. This is how the 1985–6 famine was uncovered: by analysing the demographic data and the causes of death before and after the 1985–6 crisis. A full-scale life-table analysis of the 1976–95 data has been published elsewhere (Waltisperger *et al.* 1998).

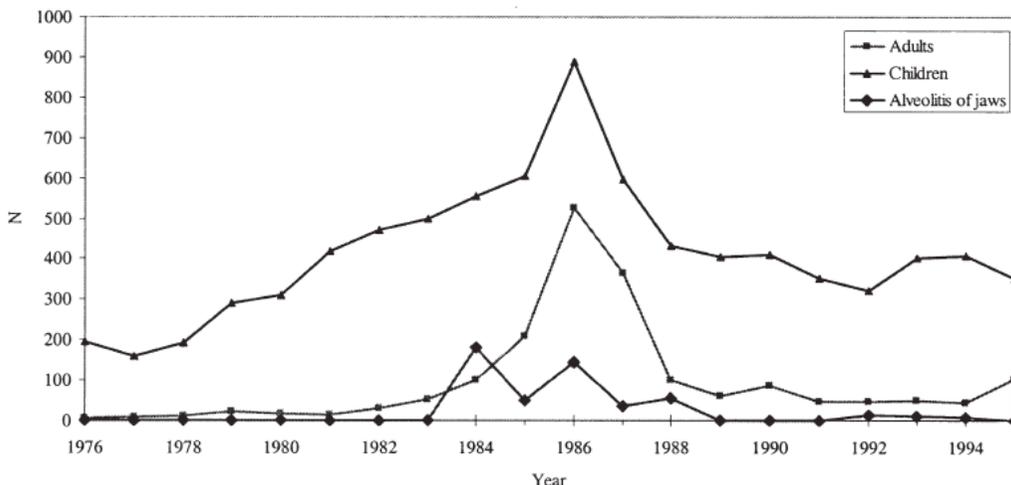
The mortality data recorded in Antananarivo for the 1976–95 period clearly show a typical famine

# The Political Economy of an Urban Famine

*Antananarivo*  
1985–6

**Michel Garenne**

Figure 1: Trends in the number of deaths due to malnutrition, Antananarivo, 1976–95



in 1985–6. Compared with mortality levels before 1985 and after 1987, death rates increased markedly in 1985–6 and life expectancy in 1986 (at 49.0 years) had dropped by about 10 years compared with levels in 1975 (59.4 years) or in 1995 (59.8 years). The mortality increases bear all the characteristics of a famine: a strong relative increase among children, especially 5–9 year-olds (Risk Ratio compared with the baseline: RR=2.5) and young adults, especially young men aged 20–34 years (RR=2.2). In absolute terms, it was estimated that about 7,600 persons died in 1985–6 in excess of baseline mortality levels, about half of whom were children under age 15, with a small excess of boys, about a third being adults aged 15–59, among whom 74 per cent were men, and the remainder being elderly people, with again a higher male mortality. Compared with the size of the city, this implies that some 1.3 per cent of the population died because of the famine, a rate that compares with some other mild famines, though much lower than great famines where larger proportions of the population died of starvation.

The main evidence of the famine lies in the ‘causes of death’ profile, which is especially clear for young adults. Mortality from malnutrition (starvation) among adults hardly existed before 1984 and after 1988, whereas it showed a huge peak in 1986 (Figure 1). The same peak can be observed in children over the same period, even though mortality from malnutrition did occur before and

after the crisis period, as elsewhere in Africa. The peak in mortality from malnutrition is doubled by a peak of mortality due to an exceedingly rare disease: alveolitis of the jaws (Figure 1). This disease occurs primarily in rodent populations, when animals facing food scarcity end up eating roots and other food too hard for their teeth. It also occurs in human populations as a result of improper dental surgical procedures. This disease produces an infection of the jaws, which is often lethal. It seems that in Antananarivo starving people started eating hard sugar-cane and destroyed their jaws. Indeed, the few cases of death attributed by physicians to this disease were all concentrated in the crisis years.

In addition to typical starvation, deaths from other causes also increased: in particular deaths from diarrhoeal diseases (often associated with malnutrition), deaths from acute respiratory infections, and deaths from cardiovascular diseases among adults. There was, however, no evidence of any significant epidemic of infectious diseases – as is often seen in famine situations – such as typhoid, typhus, measles, cholera, or dysentery. It seems therefore that the Antananarivo urban famine was primarily due to starvation and its metabolic consequences. The 1985–6 period in Antananarivo therefore meets the demographic criteria of a famine, as defined by an increase in mortality from starvation.

**Table 1: Structure of household consumption in various years (from household consumption surveys), Antananarivo, 1961–95**

	1961	1968/9	1977/8	1993/4	1994/5
Household consumption (1983 MGF)	1,417,898	1,253,940	997,530	934,256	787,581
Proportion spent on food (%)	37.8	39.1	47.6	50.0	47.3
Caloric value of three main food items	1,713	–	1,355	1,410	1,217
Caloric value of rice (%)	78.0	–	81.8	79.3	87.0

Source: Ravelosoa and Roubaud 1996.

Note: Household expenditures are in constant 1983 Malagasy Francs (MGF). Caloric values of three main food items (cereals, meat, sugar) are given in kcal, converted from household consumption.

‘–’ = missing information

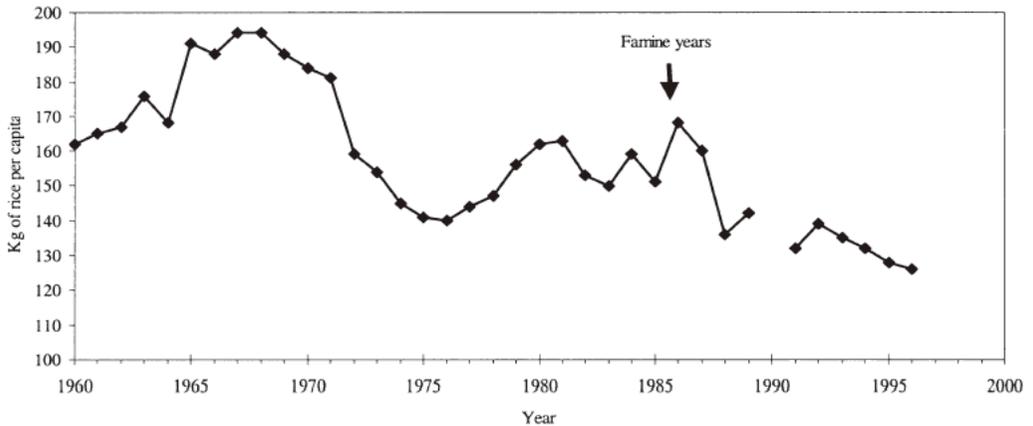
## 2 Political and economic precursors

To understand what happened in 1985–6 in Antananarivo it is necessary to overview the political and economic history of Madagascar. The great island enjoyed a relatively wealthy situation in the pre-colonial period. It was annexed by France in 1896, and was fully pacified in 1906, after some minor fighting. De-colonisation went smoothly: by 1958 a republic was formed under president Tsiranana, two years before formal independence in 1960. The first 11 years of independence were quite peaceful, but civil unrest exploded in 1971 around economic issues in both urban and rural areas, which was followed by a series of *coups d'état*. In 1972, General Ramanatsoa took power, to be replaced three years later by Admiral Ratsiraka, who started the so-called ‘Malagasy revolution’ (2nd Republic). The new regime followed quite a strict Marxist line, cut itself off from Western powers, and received support from Russia, China and North Korea. After about 10 years of severe economic mismanagement, in particular the 1978–80 period of ‘extreme investment’ (*investissement à outrance*), the country went virtually bankrupt. The government started changing policies in 1984/85, re-established links with the IMF and the World Bank as well as with France and other Western countries, and accepted the structural adjustment policies that were in vogue at that time. Free elections were organised in 1993 and were won by a liberal, Dr Safy, who changed the constitution (3rd Republic). However, Ratsiraka was re-elected four years later, in 1997 and remained in power until December 2001. These dramatic political changes are closely linked to economic performance, and to the 1985–6 crisis.

During the colonial period, Madagascar followed a classic path of rural economic development, with a priority on exported cash crops, in particular vanilla. In the late colonial period (1950–9) and the early independence period (1960–71), it followed a liberal import-substitution policy, which was moderately successful. According to Maddison (2001), income *per capita* expressed in purchasing power parity (GNP–PPP) was increasing during this period, from an estimated US\$951 in 1950 to an estimated US\$1,246 in 1971, a slow but consistent growth of 1.3 per cent per year. Compared with income levels in other African countries in 1971, Madagascar ranked in the middle – 18th in a list of 38 countries for which income estimates were available – even though economic growth was somewhat lower than elsewhere during the 1950–71 period (the median value for sub-Saharan Africa was 2.0 per cent). The economic situation of Madagascar deteriorated rapidly after 1971, and by 1998 income *per capita* had dropped to US\$690, that is almost half of what it was 27 years earlier, a negative economic growth of -2.2 per cent a year, and a level lower than in 1950. In 1998, Madagascar was in one of the worst economic situations in Africa, ranking 29th in the same list of countries, and had experienced one of the worst economic downturns for the continent, together with countries devastated by civil war such as Sierra Leone and Angola.

The situation in Antananarivo city was no better than in the rest of the country. According to detailed household consumption surveys, real income *per capita* in Antananarivo also declined regularly over the 1961–95 period, from an estimated value of

Figure 2: Rice production in Madagascar (kg per capita)



1.42 million MGF in 1961, to 1.25 in 1968/69, 0.99 in 1977/78, 0.93 in 1993/94 and 0.79 in 1994/95 (Ravelosoa and Roubaud 1996).<sup>2</sup> This decline in real income translated into decline in food consumption over the same period of time, from an estimated 1,713 kcal per person in 1961 to an estimated 1,410 in 1993/94 for the three main food items: cereals, meat and sugar (Table 1). The composition of the diet also changed between 1961 and 1995, with a decrease of 21 per cent in rice consumption, 42 per cent in bread, 52 per cent in sugar and about 60 per cent in meat consumption. As a result mean height went down over the period, a further evidence of increasing malnutrition.

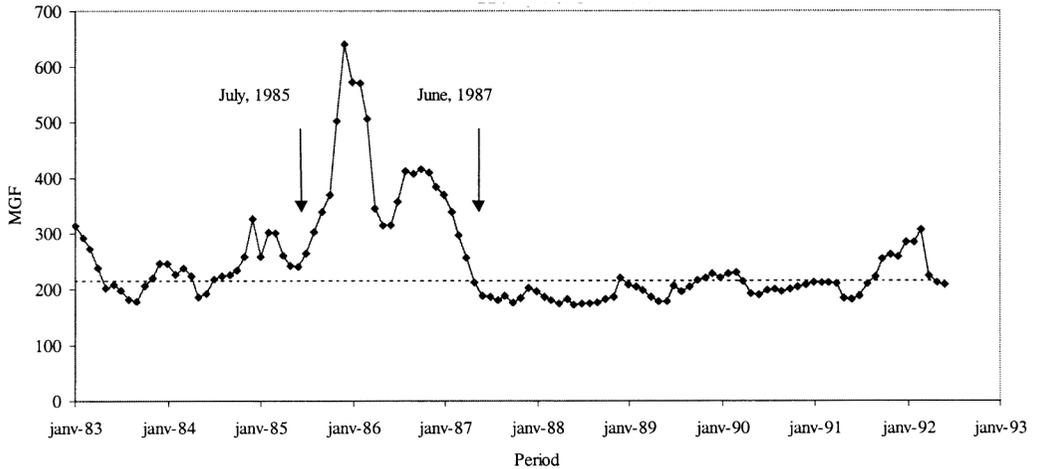
### 3 Rice production, consumption and marketing

Rice is the main agricultural crop and the main staple food in Madagascar. The country was largely self-sufficient, and even exported rice, in the 1950s and 1960s. *Per capita* rice production was increasing during the 1960s and culminated in 1968 with a value of 194 kg *per capita*, exceeding the reference basic needs value of 183 kg per adult per year. However, rice production *per capita* then started declining very steeply in the early 1970s, reaching a low point of 140 kg *per capita* in 1976, before increasing again for a few years to reach 168 kg in 1986 (the famine year), and declining thereafter to a new low value of 126 kg in 1996 (Figure 2). It should be noted that the production of rice in 1985–6 was probably high enough to cover all needs, since children’s needs are lower

than average, and was rather better than in many preceding and succeeding years which were free of famine. Therefore, food availability cannot be considered as a valid factor explaining the 1985–6 famine in Antananarivo.

The price of rice has been quite stable over long periods of time, despite seasonal and yearly fluctuations, with values around 217 MGF per kilo in constant 1983 prices (Azam and Bonjean 1995; Araujo-Bonjean and Azam 1996). During the late colonial period and until 1971, the rice market was free, but the price of rice was stabilised by the state through a specialised institution (*caisse de péréquation*), a common policy in colonial Africa for the main food crops and the main cash crops as well. With the installation of a communist regime, the rice market, both internal and external, was controlled by a State monopoly, and the price of rice was fixed by the government. However, the price paid to farmers for their rice was fixed at too low a level, which discouraged local producers who decreased their production, until rice had to be imported and sold at low prices to satisfy the increasing demand of the urban population. With the policy changes initiated in 1984, the internal rice market was open to private merchants, and producer prices increased somewhat. In 1985, price controls on rice were lifted, and internal trade was fully liberalised in 1986. International trade was open to the private sector only in 1990. The 1985–6 years were therefore years when domestic rice trading and prices could be fixed by private traders, but imports of rice remained under State control.

Figure 3: Trends in the price of rice (constant 1983 price), Antananarivo, 1983–92



Rice is grown only once a year in Madagascar, and is harvested between June and September. In a normal year the price of rice is lowest in May and during the harvest season, then increases steadily until the next harvest, a classic case of rational expectations by the stockholders (Araujo-Bonjean and Azam 1996). The range of price fluctuations is moderate in normal years, roughly speaking  $\pm 15$  per cent. However, during the crisis years the fluctuations were dramatic, and the result of the transition period was a massive increase in the price of rice on urban markets (Figure 3). The rice price, in constant 1983 Malagasy Francs, was 240 MGF in June 1985, and increased to 640 MGF by December 1985, that is three times more than its baseline value of 217 MGF. This seems to have been due to the speculation of newly authorised merchants, who anticipated a price increase, wanted to increase their stocks, and expected that the government would not import rice (Araujo-Bonjean and Azam 1996). Trade between rural and urban areas had just been liberalised and was controlled by a few agents. Prices went down just before the next harvest, and averaged 315 MGF in May–June 1986, still 45 per cent above the baseline price. They increased again in the following months, and peaked at 415 MGF in October for the same reasons, before falling to their baseline level at the time of the next harvest, in May 1987. The famine mortality followed quite clearly the evolution of rice prices in Antananarivo (compare Figures 1 and 3).

The impact of the price increase can be understood by considering the structure of expenses in

household budgets. In household consumption surveys, food accounted on average for about half of total expenditure: 47.7 per cent in 1977/78 and 50.0 per cent in 1993/94 (Ravelosoa and Roubaud 1996). Among the food products purchased, rice and bread accounted for more than a third of the total (33.1 per cent in 1977/78 and 43.2 per cent in 1993/94), and rice accounted for some 90 per cent of this (93.6 per cent in 1977/78 and 85.6 per cent in 1993/94). Altogether, rice provided about 80 per cent of the total daily caloric intake of Antananarivo households (81.8 per cent in 1977/78 and 79.3 per cent in 1993/94). These are average values for all households, rich and poor. When the price of rice trebled in a short period of time, expenditure on rice accounted for more than half of the total budget for the average household, and simply exceeded the total budget of poor households. According to the above calculations, this was the case for those living on less than 55 per cent of the average household income, as was the case for unskilled workers (Table 2). Even if there was some substitution between rice and bread over the 1977–94 period, it was minor since the price of imported wheat was much higher and did not enable the poor to cope with the strong increase in rice prices.

#### 4 Discussion

The explanation for the Antananarivo famine of 1985–6 appears quite clear in terms of an economic analysis. Rapid deregulation of rice

**Table 2: Relative income of five socio-economic categories, Antananarivo 1961–95**

Category	1961	1968/9	1977/8	1994/5
Professional, upper	2.22	3.21	3.13	2.53
Professional, medium	1.44	2.09	2.02	1.83
Clerical	1.13	1.20	1.05	0.97
Skilled workers	0.80	0.90	0.80	0.73
Unskilled workers	0.58	0.62	0.54	0.62

Source: Ravelosoa and Roubaud 1996.

Note: Relative income is calculated as the ratio of the income for each socio-economic category to the average for the population.

prices and rice markets, following a long period of strict State regulation and not accompanied by proper public policies, implied a rapid increase in the price of rice, the staple food of the large majority of a poor population. The poorest strata could not cope with the increasing cost of what constituted 80 per cent of their food intake, and many died of starvation as a result. Although data is lacking on the distribution of income of those who died of hunger, poverty certainly played an important role. Poverty was increasing in Madagascar over the period preceding the crisis, and started to decrease only ten years later, after 1996. It seems that the combination of poor economic policies together with extensive poverty was the main immediate reason for the famine.

Many public policies could have permitted the poor to cope with the crisis, such as imports of rice to stabilise rice markets, requesting international aid, providing access to credit for the poor, or providing jobs for unemployed people. In this context, it is worth recalling the solutions that were found to the problem of famine in Europe during the eighteenth century. They involved two main aspects: improving the market mechanism, in particular market integration and transportation, and state intervention, in particular interventions in the labour market (by providing small jobs to farmers in need), regulation of food stocks and food import policies. The first approach developed along the lines of the analysis of market mechanisms made by Adam Smith (1776) and his followers. The second approach developed with Turgot (1766) in France, who studied the famines in Berry and developed the appropriate public policies, well described by Rothschild (2001). In a

more recent case, Ravallion (1987; 1997) has noted that 'in Bangladesh food grain price stabilisation would have reduced famine mortality' during the 1974 famine.

Beyond market failure and institutional failure, several other factors may have played a role in the Antananarivo famine. Geographical isolation of the capital city in the highlands together with a very poor road system may have contributed to market segmentation, already aggravated by the lack of incentives to rice farmers during the 1972–84 period, due to the State-controlled economy. Ó Gráda and Chevet (1999) have shown that more than 'market failures' it is 'market segmentation' that explains the Anjou famine in seventeenth-century France. Highly localised markets and high transportation costs may also explain features of twentieth-century Ethiopian famines (von Braun *et al.* 1998). Beyond market failures, institutional failures or faulty policy may also be the cause of famines, as in the well-known cases of the Stalin era famine in Ukraine (1932–3) and the 'Great Leap Forward' famine in China (1958–61) (Devereux 1993).

Like other urban famines, the famine process in Madagascar was not started by a natural disaster. It was not started by violent events or a military blockade either, as in most other urban famines of the twentieth century. It was the changing economic situation of 1984–6 that created a 'market trap' with effects similar to those of a blockade: rice was available in the country or could easily be imported, but people could not access it because of a lack of 'entitlement'. Sen (1981) theorised that in many cases famine is primarily a consequence of

'exchange entitlement failure' – that is a rapid increase in food prices relative to income – rather than a food availability decline or a proper 'market failure'. If people had higher incomes or could access credit, they would be able to purchase the food they needed to survive the crisis.

International aid could have been easily mobilised, if the government had taken the appropriate steps. In this context, Sylvie Brunel (2002) has developed a typology of famines in relation to international politics and the international aid business. In a study of recent African famines, Brunel distinguishes between three categories of famines:

- famines 'hidden' by local political powers, primarily to avoid criticism of their own policies (cases include the Ethiopian famine of 1984, the Kivu (Congo) famine of 1996, and famines in former communist countries)
- famines 'exposed' by political leaders, in order to maximise the amount of food relief and international aid, which may also be used for other purposes (an example being the Biafra famine of 1968–70)
- famines 'created' by political groups, in order to provoke international aid (such as the Liberia and Sierra Leone famines of the late 1990s) – aid on which some guerrilla movements are totally dependent, as pointed out by Pérouse de Montlos (2002).

Following Brunel's typology, the Madagascar famine seems to have been 'hidden' from the start, probably to hide the major failures of previous policies, a common feature of Marxist regimes, and possibly not to put the changing policies at risk. Surprisingly, the famine was hidden not only to the press, but also to economists working at that time on the economic reforms. Had the press been free

to report the case, and had economists been properly informed of the situation, public 'coping mechanisms' could have been put in place. The role of information and freedom of the press had been stressed earlier by Drèze and Sen (1989).

Little is known of the situation in rural areas. The mortality increase seen among children in the vital registration of Antananarivo over the 1975–86 period, with a peak of mortality in 1985–6 at the time of the famine, was also visible in the nationally representative sample of the Demographic and Health Surveys, in both urban and rural areas. No comparable data is currently available for adults.

Madagascar has suffered several natural disasters over past decades, such as cyclones, flood, and locust invasion. Very little is known of the mortality situation in rural areas, and it remains possible that other famines have occurred in some rural areas for other reasons as well. However, the country is far more open now than before, and famine relief agencies are very active throughout Africa. Early warning systems – such as FAO's 'GIEWS' and USAID's 'FEWSNET' – monitor the food situation closely and are generally able to mobilise support to those in need more rapidly than ever before. The information capacity of the Web is another increasingly powerful element in famine prevention: looking at the GIEWS or FEWSNET website provides immediate and appropriate information to people concerned with famine relief. These services were not available in 1985, and the network of relief agencies was not as extensive as it is now.

The new information technology, as well as more integrated markets, makes another famine such as that of Antananarivo in 1985–6 quite unlikely in the future. Conversely, the fact that the country remained quite closed, both to information and to international markets, for some 15 years was probably the main underlying cause of this atypical famine.

## Notes

1. Several urban famines occurred during the twentieth century, mainly in Western Europe, during wartime, and usually as a result of a blockade – in Germany (1915–17), the Greek islands (1942/43), Holland (1943/44), the Warsaw Ghetto (1943/44) and Leningrad (1941–4) (see also Watson, in this *Bulletin*).
2. The Malagasy Franc (MGF) was quite stable in the 1960s and 1970s, around an average of 250 MGF=1 USD; its value went down dramatically thereafter, from 676 in 1986, 1,494 in 1990 and stabilised only after 1998 at around 6,300 to the USD.

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