PROGRAMME ILO POSTCRISIS
CORNELL UNIVERSITY POLICY BRIEF
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MONITORING AND ANALYSIS OF THE HEALTH SECTOR POST-CRISIS: THE IMPACT OF THE ABOLISHMENT OF THE COST RECOVERY POLICY [i]

Introduction

Due to a dispute on the outcome of presidential elections, Madagascar had been in the grip of a political crisis in the first half of 2002. General strikes and roadblocks hit hard on the economy and social service delivery in 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.[1]

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.[2] The major purpose of the survey was to evaluate the impact of the crisis. Therefore, most questions were formulated as recall questions on the period before (November/December 2001), during (May/June 2002) and after the crisis (November/December 2002).

The stratified sampling frame was set up in such a way to be representative of the situation at the national and provincial level. Fivondronona 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 (36 out of 111 in total), four communes were selected randomly. The health center in every commune was visited. Given the higher population in the capitals of provinces, these urban communes were over-sampled.

Table 1 illustrates the different type of health centers that were surveyed. They overwhelmingly include CSB2 (80% of the centers). 23% and 77% of the centers were located in urban and rural areas respectively. Around 30 health centers were surveyed per province.

Table 1: Structure of the sample

Type	Number	Province	Number
CSB1	9	Antananarivo	36
CSB2	151	Fianarantsoa	30
CHD1	4	Toamasina	33
CHD2	4	Mahajanga	29
CHU	1	Toliara	30
Private hospital	2	Antsiranana	28
Private dispensaire	12	Urban	42
CHR	3	Rural	144
Total	186	Total	186

1. Impact on the supply side

1.1. Staff

a. No major change was noticed in the availability of staff before, during and after crisis.

Table 2 shows the evolution of the number of staff in the health centers in the period before, during and after the crisis. No major differences are noticed, in urban as well as rural areas. While there is some scattered evidence that staff was not able to get to the health centers where they were employed during the crisis, this seems not to have been an overall trend.

Table 2: Number of staff in health center

Average number per center	Nov-Dec 2001	May-June 2002	Nov-Dec 2002
Doctors	1.91	1.89	1.87
Nurses	2.05	2.07	2.10
Midwives	1.41	1.41	1.42
Sanitary help	0.97	0.94	0.95
Temporary employees	2.61	2.52	2.59

The number of doctors show a slight decline over time. The Ministry of Health estimated that around 250 doctors for Madagascar as a whole had left the health center that they were assigned to in search for security during the crisis. About 181 returned post-crisis while 69 are reported to still not be functional.

[1] The government estimates that the crisis caused a decline of BNP of 12% in 2002 compared to 2001.

[2] Out of 1392 communes in total, i.e. more than 10% of the communes.

1.2. Medicines

a. The overall availability of medicines decreased from 86% before the crisis to 75% during the crisis. This number did not improve post-crisis.

Table 3 shows how the availability of different medicines evolved since the end of 2001. Overall (a simple average of the most frequently used type of medicines) availability of medicines declined from 86% to 75% between November/December 2001 and June 2002. This number did not change post-crisis - a surprising finding at first sight - as overall availability of medicines stayed around 75%. We will discuss reasons for this later on.

Table 3: Availability of medicines (in % of supply centers in the communes)

	Nov-Dec 2001	May-June 2001	Nov-Dec 2002
Oral contraceptives	72	69	75
Condoms	67	67	67
Aspirine	88	71	66
Paracetamol	94	73	65
Solution de rehydratation orale	90	84	78
Antibiotique amoxyciline	86	67	66
Antibiotique cotrimoxazole	92	78	71
Antibiotique penicilline	90	77	68
Antibiotique doxycycline	71	64	64
Antibiotique tetracycline	90	74	69
Antipaludiques	95	82	82
Seringues	79	74	73
Vaccin BCG	90	75	86
Vaccin Polio	90	79	87
Vaccin DTCoq	90	80	86
Vaccin rougéole	90	82	88
Total	**86**	**75**	**74**

b. The availability of aspirins, paracetamol and the antibiotics have shown the biggest drop between December 2001 and June 2002. The availability of these medicines even got worse in the post-crisis period.

While paracetamol was available in 94% of the pharmacies in December 2001, its availability dropped to 73% overall in June 2002. It further declined to 65% in December 2002 (Table 3). Antibiotics show drops of similar magnitude. For example, the availability of penicilline and tetracycline decreased by 22% (from 90% to 68%) and 21% (from 90% to 69%) respectively (Table 3). The availability of vaccines, condoms and contraceptives on the other hand did improve and bounced back to the level of last year. As vaccines have to be used less frequently and were also for free pre-crisis, they have been less affected by changes in health care pricing policies postcrisis.

c. There are little provincial differences. The drop in availability was highest in the province of Fianarantsoa and Antananarivo.

The availability of medicines is lowest in the province of Fianarantsoa (70%). Availability is best in the provinces of Mahajunga and Toamasina (Table 4). If we compare availability now with one year ago, the biggest drops are noticed in the provinces of Fianarantsoa and Antananarivo.

d. Urban areas fare better: availability of medicines dropped less than in rural areas during the crisis and rebounded post-crisis. The availability of medicines in rural areas overall declined post-crisis even further than during the crisis.

Overall availability of medicines in rural centers dropped 13% (from 86% to 73%) from December 2001 to June 2002 while overall availability of medicines in urban centers dropped only by 5% (from 86% to only 81%) (Table 4). This percentage improved in urban areas (+2%) post-crisis while it got worse in rural areas (-1%).

The decrease in the availability is only so in public centers (Table 4). Availability of medicines suffered little from the crisis in the private sector: percentages on the availability of medicines are at similar levels before, during and after the crisis.

Table 4: Overall availability of medicines (overall = average of most frequent medicines mentioned in Table 3)

	Nov-Dec 2001	May-June 2001	Nov-Dec 2002
Province			
Antananarivo	85	78	72
Fianarantsoa	89	76	70
Toamasina	88	70	78
Mahajanga	89	77	78
Toliara	85	78	77
Antsiranana	81	69	72
Type			
Private	80	77	79
Public	87	75	74
Area			
Urban	86	81	83
Rural	86	73	72
Total	**86**	**75**	**75**

To further test the effect of the change in pricing policies on supply, a regression was run to look at the determinants of the availability of medicines. The results indicate surprisingly that whether a health center practices cost recovery or not does not per se influence the availability of medicines in the health center. This suggests that the distribution problems are higher up. The more important determinants of availability of medicines is the remoteness of the health center with respect to the capital of the province as well as the type of medicine.

1.3. Availability of services

a. Only 62% of the health centers had a functional fridge during the crisis, mostly due to lack of fuel. This level is back to pre-crisis levels (74%).

The supply of electricity did not show a change due to the crisis. 39% of the health centers did not have electricity before the start of the political crisis and this number increased only slightly (Table 5). More worrisome was the situation with fridges, used for the storage of medicines or vaccines. 76% of the health centers had a working fridge before the crisis started. This had dropped to 62% during the crisis. The reason was lack of gas or fuel or lack of spare parts. This problem has been solved in the post-crisis period and functional fridges are found now to the same extent as before the political crisis unfolded.

Table 5: Availability of services in health centers

	Nov-Dec 2001	May-June 2002	Nov-Dec 2002
Availability of electricity (%)	61	60	61
Use a fridge (%)	76	62	74
Availability of services (%)			
Curative consultations	89	91	90
Lab tests	12	12	13
Hospitalization	36	36	36
Important chirurgic interventions	5	5	5
Small chirurgic interventions	79	79	79
Normal delivery	81	80	81
C-sections	6	6	6
Prenatal care	92	93	93
Immunization of children	95	93	96

b. There is little change noticed in the type of services offered by the health centers before, during and after the crisis.

Table 5 shows further how the availability of services was affected by the crisis. Little change is noticed. Most health centers were offering the same services in December 2001, June 2002 as well as in December 2002. The biggest drop - but still small – during the crisis was seen for immunization of children, declining nationally by 2%. However, this decline was more pronounced in some provinces, especially in Antananarivo and Toliara.

1.4. Pricing of services

a. Abolishment of cost recovery policies post-crisis has unevenly been applied in space and time. In November/December, still 28% of the public centers were charging patients. Simple medicines were for free in almost all the public health centers in the province of Antananarivo compared to only 55% of the public health centers in Antsiranana.

Table 6 shows how pricing practices in the public health centers changed over the last year. Medicines were for free in 13% of the health centers before the crisis. These health centers were mostly linked with religious organizations. After the crisis this percentage changed to 72%.

The abolishment of cost recovery was well applied in the provinces of Antananarivo (93%) and Toamasina (90%). However, it was not well implemented in the provinces of Mahajanga and Antsiranana: still 43% and 45% respectively of the public health centers charge patients.

Table 6: Percentage of public health centers where consultations and simple medicines are for free

	Nov-Dec 2001	May-June 2001	Nov-Dec 2002
Province			
Antananarivo	0	0	93
Fianarantsoa	0	0	59
Toamasina	23	23	90
Mahajanga	28	32	57
Toliara	0	0	72
Antsiranana	26	33	55
Total	**13**	**15**	**72**

b. Moreover, the timing of the abolishment of cost recovery differs by province. The new policy was implemented in August in Antananarivo and Mahajanga and only in November in Fianarantsoa and Antsiranana.

Table 7 shows how timing of the abolishment of cost recovery policies changed for different provinces. It was applied in the month of August in the provinces of Antananarivo and Mahajanga. It only started in November in the province of Fianarantsoa and Antsiranana. Toliara and Toamasina applied the new policy in October.

Table 7: Month (median) when cost recovery policies were abolished

Province	*Month*
Antananarivo	August
Fianarantsoa	November
Toamasina	October
Mahajanga	August
Toliara	October
Antsiranana	November

c. Prices for medicines in centers that charge prices did not increase compared to the period pre-crisis.

Table 8 shows the prices for medicines before, during and post crisis in the health centers that charge patients (to avoid bias due to the number of centers that charge prices, medians were only calculated for those health centers

that currently charge prices). The results show that prices post-crisis have not increased in most cases. This is in sharp contrast with prices of basic products (PPN=produits de première necessité) postcrisis.

Table 8: Evolution of prices for medicines

	Nov-Dec 2001	May-June 2002	Nov-Dec 2002
Median prices, if prices charged			
Oral contraceptives	500	500	500
Condoms	50	50	50
Aspirine	37.5	37.5	37.5
Paracetamol	40	40	40
Solution de rehydratation orale	745	745	745
Antibiotique amoxyciline	435	450	450
Antibiotique cotrimoxazole	95	95	95
Antibiotique penicilline	1500	1500	1500
Antibiotique doxycycline	130	130	130
Antibiotique tetracycline	105	105	105
Antipaludiques	100	90	100
Seringues	545	550	550

2. Impact on the use of services

2.1. Number of visits

a. The average number of visits to health centers post-crisis increased by almost 60% and 100% compared to the period pre-crisis and during crisis respectively.

Table 9 shows the mean and the median of the number of visits to health centers pre-crisis, during the crisis and post crisis (given the high seasonality in the incidence of diseases, attention is warranted in comparing different periods in the year). The mean increased from 182 to 285 visits a week between Nov/Dec. 2001 and 2002, i.e. an increase of 56%. The frequency of visits post-crisis increased from 155 visits a week during the crisis, i.e. twice as much.

b. The change in the frequency of visits differ by area and by type of center: 1/ The increase in visits is slightly higher in rural areas compared to the same period last year; however, urban as well as rural environments show high increases. 2/ The private sector sees a decrease in visits, probably due to substitution effects; 3/ The increase is lowest in the province of Antsiranana.

The increase in the number of visits is highest in rural areas (Table 9). The mean and median number of visits increased there by 76% and 64% respectively. However, increases in urban areas are substantial as well (mean: +38%; median: +62%).

The private sector seems to have been hurt in the post-crisis period. The number of visits is estimated to have declined by 3% (mean) and 25% (median). The abolishment of cost recovery in the public sector and increased poverty in the post-crisis period seem to have led to substitution from the private to the public sector.

The differential implementation of cost recovery policies shows up in the average number of visits at the provincial level: the province of Antsiranana shows almost no changes compared to last year. This is also the province where cost recovery policies were most continued in the post-crisis period.

Table 9: Weekly number of visits to health centers

	Unit	Nov-Dec 2001	May-June 2002	Nov-Dec 2002	Change 2001/02 (%)*
Total	**Mean**	**182**	**155**	**285**	**+56**
	Median	**75**	**61**	**116**	**+55**
Urban	Mean	408	279	565	+38
	Median	170	120	275	+62
Rural	Mean	115	117	202	+76
	Median	62	50	102	+64
Private	Mean	184	106	178	-3
	Median	131	63	98	-25
Public	Mean	183	160	298	+63
	Median	73	61	119	+63
Antananarivo	Mean	439	375	571	+30
	Median	117	84	207	+77
Fianarantsoa	Mean	107	107	161	+50
	Median	83	70	119	+43
Toamasina	Mean	127	92	171	+34
	Median	55	50	77	+40
Majunga	Mean	148	113	456	+208
	Median	91	69	154	+69
Toliara	Mean	82	87	161	+96
	Median	46	47	87	+89
Antsiranana	Mean	146	112	146	+0
	Median	42	37	48	+14

*: comparing November/December 2002 with November/December 2001

c. The increase in the number of visits depend on the type of service demanded. The biggest increase is noticed for curative consultations, prenatal care, and immunization of children.

Curative consultations post-crisis are estimated to have increased by 45% compared to the period before crisis. Small chirurgic interventions and C-sections are reported to have declined compared to the year before. Prenatal care and immunization of children is shown to have increased by 16% and 21% respectively.

Table 10: Number of visits post-crisis in % compared to the same period last year (2001=100%)

Curative consultations	145
Lab tests	125
Hospitalization	103
Important chirurgic interventions	111
Small chirurgic interventions	96
Normal delivery	108

C-sections	91
Prenatal care	116
Immunization of children	121

d. The major perceived reason for the increase in the number of visits to health centers is the reduction in fees for consultation and medicines. A small number of health centers reports a decline in the number of visits. This is mostly related to a lack of medicines.

74% of the health centers that noticed an increase in the number of visits relate this to the abolishment of charges for consultation and charges for medicines (Table 11). Only in 6% of the cases is the increase explained by an increase of the quality of services offered. 35% of the health centers that see a decline in visits relate this to a lack of medicines.

Table 11: Reason for the change in the number of visits Nov./Dec. 2002 compared to Nov./Dec. 2001

	Number	%
If decline, most important reason for the decline in visits		
Lack of staff	4	13
Lack of medicines	11	35
Patients can't pay tariffs	8	26
Other	8	26
Total	31	100
If increase, most important reason for increase in visits		
Better quality of service	8	6
Patients don't go to other centers anymore	8	6
Reduction cost of medicines	61	45
Abolishment of consulting fees	40	29
More sickness	1	1
Other	18	13
Total	136	100

2.2. Impact on the poor

The increase in number of visits is highest for the poorer part of the population. Their perceived number of visits post-crisis explains almost entirely the increase of visits. This indicates that the abolishment of cost recovery in public health centers was relatively well targeted to the poor.

Due to the drop in economic activity, it was expected that the poorer part of the population was more likely not to be able to pay for health services anymore (Glick, 2001; INSTAT, 2002) and shift away from formal health care. Due to the (temporary) abolishment of cost recovery policies, this does not seem to have happened, as illustrated by the numbers in Table 12 (based on the perceptions of the persons in charge of the health center). The mean and median of the change in visits of the poorer part of the population indicates an increase by 50%. This increase in the number of visits is higher in rural areas. The richer part of the population did not change its behavior compared to last year.

Table 12: Number of visits by the poor (as perceived by staff of health center)

Evolution of the number of visits post-crisis (with respect to the level of Nov./Dec. 2001: 100% = no change)	total
The poorest	
Mean	150
median	150
The richest	
Mean	104
median	100

3. Impact on the population of the commune as a whole

a. A logical consequence of the political crisis and the economic havoc it caused is that poverty increased. However, due to the government interventions in the social sector, it is estimated in rural areas that the percentage of the population able to pay for medical costs did not decrease post-crisis.

In the commune survey where the health center was located, a subjective question, with a focus group representative of the population of the commune, was asked on the percentage of the population that was completely unable to pay for health services and the percentage that had problems to pay for these costs. The former category increased from 17% to 21% from the period before the crisis to the period during the crisis (Table 13). This percentage decreased post-crisis again to its level of last year. It seems that the policy interventions of the government in the health sector, as well as the education sector, mitigated the effect of the aftermath of the crisis on the use of social services.

b. Communal focus groups estimate that the health status of the inhabitants stayed the same or improved compared to the period before the crisis.

To further evaluate how the changes in the health sector had an impact on the health status of the population, a question was asked to a focus group of the commune where the health center was located on how they perceived the evolution of the health status of the inhabitants of the commune post-crisis compared to the situation pre-crisis and during the crisis.

Table 13: Evolution of the percentage of the rural population that can afford health care services and schooling (estimate by communal focus group)

% of the population that…	Nov-Dec 2001	May-June 2001	Nov-Dec 2002
…can easily pay for health care and schooling costs	46	39	45
…has some problems to pay for health care and schooling costs	37	39	37

…are not able at all to pay for health care and schooling costs	17	21	18
Total	100	100	100

The results show that a significant number of focus groups (38% of the communes) believe that the health status of the inhabitants of the commune got better compared to the same period last year (Table 14). 50 % estimates that it stayed the same while 13% thinks that it got worse.

Table 14: Perceived evolution of the health status of inhabitants of the commune (perception by communal focus groups)

	Evolution of the health status of the inhabitants of this commune post-crisis (Nov/Dec 2002) compared to…	
	Nov/Dec 2001	May/June 2002
	%	%
A lot better	3	7
Better	35	35
The same	50	50
Worse	12	7
A lot worse	1	1

Conclusions

The results of the post-crisis survey show that the number of visits to public health centers increased dramatically compared to the same period last year (+60%) and compared to the crisis period (+100%). Most of the increase in visits is explained by an increase of visits by the poorer part of the population. The results indicate that the temporary abolishment of cost recovery policies have led to a mitigation of the expected effects of the crisis on use of health services by the poorer part of the population.

However, due to the higher frequency of visits and the free medicines, the average availability of medicines has not improved postcrisis, especially so in rural areas. Therefore, as the country is further recovering from the effects of the political crisis, the recommendations to improve the functioning of the health sector are twofold:

a. Interventions on the supply side. Quick action is needed to improve the distribution of medicines. The financial situation of SALAMA, the distribution center for medicines, seem to have worsened dramatically in the post-crisis period (Vandenbergh et al., 2002). There is no clear view in the system of who bears currently the cost of the free medicines as a significant number of Phagecom distribute medicines for free to the patients while they are required to pay for these medicines at the district level. It is clear that this situation is unsustainable.[3]

b. Interventions on the demand side. As in the current scheme, all medicines are for free, this entails enormous costs for the government. More targeted interventions that focus on the poorest only should be studied to make the system financially viable.

This monitoring note provides descriptive statistics on the situation post-crisis. More in-depth research is planned. Moreover, additional studies are needed to improve the efficiency of the health care system. Especially budget tracking exercises seem to be called for. This type of work is planned in the near future by INSTAT in collaboration with the Ministry of Health.

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[3] Salama reportedly bought for 20 billion Fmg medicines (with IPPTE funds) to distribute them freely. However, they were only distributed by the end of December and could therefore not be detected by our survey. The health centers were supposed to receive a stock of free medicines for one year, if consumption were to be a normal year. For this reason the re-instatement of the cost recovery policy has been postponed until the end of March instead of the end of January.