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Participation des habitants et équipement en eau dans les quartiers défavorisés malgaches

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Community participation and water supply in deprived areas of Madagascar

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Abstract. Madagascar's water services were reformed in the late 1990s, with a focus on community participation in cost recovery and joint service management. This participatory approach was in response to economic imperatives, and addressed the paucity of services in many urban districts. In areas where the conventional network cannot meet demand, multiple projects were set up in support of the decentralisation and democratisation of local societies. The public sphere created space for the consultation of residents and enabled demand for services to be quantified. The management of the facilities that were then built was delegated to user associations (NGOs/local non-profit groups). After ten years of implementation, the participatory mechanism has helped resolve deadlock situations and deliver services to districts that were previously excluded from urban development plans. It has also changed the relationship between water services and urban spaces. The participatory process is, however, a long way from resolving all the problems of supplying deprived areas. This paper sets out to analyse its impacts through case studies of two cities in Madagascar—Antananarivo and Toamasina—using an approach that combines compiled project data with field surveys.

Keywords. Participation, Decentralization, Water supply, Deprived areas, Madagascar

1. Water supply and public management of services in deprived areas

Universal access to drinking water and basic infrastructure is one of the key millennium goals. It would reduce poverty, improve living standards, and reinforce the ability of local populations to take charge of their own development. In Madagascar, the rate of access to safe drinking water is generally low, covering just 45% of the population in 2010. The rate of access in urban areas has fluctuated: 73% in 1997, then 59% in 2000, 67% in 2005 and 70% in 2010 (INSTAT, 2011). The production and distribution of drinking water is managed by a semi-public utility, Jirama, which provides services to some sixty operating centers, which in turn deliver to individual consumers, administrative departments, and industrial customers (Jirama, 2007).

The first supply grids in Antananarivo (1) and Toamasina (2) date back to the colonial period, when the cities were fragmented by the service. The residential, administrative and commercial districts had the best service; they followed an urban development plan and thus benefitted from water supply facilities. The indigenous districts were equipped with

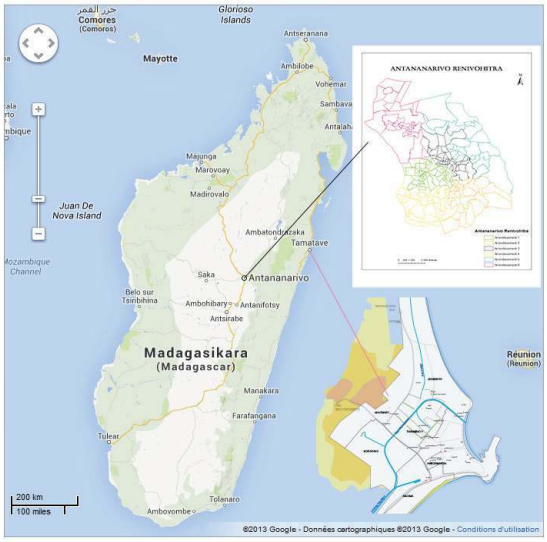


Figure 1. The location of Antananarivo and Toamasina

collective water points, but in insufficient numbers (3). The distribution networks were gradually extended, but were outpaced by urban expansion and population growth. The supply rates of the two cities remain unequal: 76% for Antananarivo, 47% for Toamasina. Households use various sources of water, sometimes even in combination. Home connections are still limited to a minority of households: 24% in Antananarivo and 21% in Toamasina. Those without connections get water from standpipes supplied by the network: 900 in Antananarivo and 171 in Toamasina. In the districts outside the network, a non-negligible proportion of the population use individual wells. Collecting water is an arduous activity. The distance from home to water point ranges from 5 meters to 200 meters and beyond. When the water pressure is low, it can be a long wait. And the carrying of water recipients, on the head or across the shoulders, is a daily chore for the men, women and children in deprived areas.



Figure 2. Carrying water on a yoke. Tanambao 2, Toamasina. Miakatra, 2008

Even today, the shortcomings in the public water service still leave many districts under-supplied. The failure of state administration—as observed in several African countries—has slowed progress in extending the water networks to outlying districts. This is attributed to institutional weakness and lack of investment in the sector. The renewal of the network calls for heavy investment, which only large projects can hope to attract. Moreover, the ageing equipment, combined with payment arrears, especially from public institutions (decentralised authorities, universities, hospitals) has resulted in serious physical network loss (waste, leakage, etc.). For the standpipes, Jirama currently has unpaid bills amounting to 31 billion ariary for Toamasina and 1.88 billion ariary for Antananarivo (various sources, cited by Miakatra, 2012).

One of the causes often put forward to explain the failure of water supply projects is the non-participation of local populations in implementing development projects that concern them. The water supply networks were built at the sole initiative of the government: the beneficiary communities were not sufficiently involved in, or prepared for, their upkeep. It was consequently common for defective equipment to be abandoned, and for people to resort to using unprotected sources. To make matters worse, a loss of public confidence in the network operator began to set in during the 1990s.

Since then, there have been major changes in public policy in Madagascar. Reforms in public services since the 1990s have been accompanied by a current of economic liberalism and government reform. The redefinition of the role of the state is the pragmatic outcome of failures in centralized planning and of a mixed economy, amplified by increasing macro-economic constraints and a reduction in public-sector financing sources.

In the water sector, a new legislative framework is now in place. Madagascar's "Water Code" (Law n° 98-029 enacted 20 January 1999) defines the fundamental principles of the public service for the supply of drinking water and sanitation (limited to domestic waste water) in all areas, urban and rural (4). The code sets out the value of water, introduces steps towards commercializing the service by recovering all or part of the costs, and specifies the place of the users of the service and of the private sector. More generally, the reforms call for technical and institutional innovations.

The participation of all involved, at different levels, thus emerges as a key factor for the success of anti-poverty programs, and greatly improves the quality of decision-making by making the process more effective and more productive. Madagascar has adopted a general strategy aimed at involving local communities in the process of appropriating their drinking water supply.

2. Forms of community participation

The public sphere has created space for the consultation of residents and enabled demand for services to be quantified. A participatory approach, combined with socio-economic studies of the intervention zones, provides an understanding of the structures and functioning of local societies. The population is involved in identifying problems, and is consulted about the proposed solutions. These participatory diagnostics often give expression to demands for socio-collective facilities such as for water (collective systems), health, education and the prioritization of women and young people (Olivier de Sardan, 2009).

2.1 Resident consultation

For the donors, the ministries concerned, and the public and private agencies, it was thought necessary to recover all or part of the costs in order to offset the deficiencies in public services. From the start of the 1990s, they introduced a policy of participation in several areas of the country's social and economic life. In the health sector, financial participation of users, or *fanome,* consists of paying part of the (heavily-subsidized) cost of healthcare and medication to the urban or rural primary health center. Madagascar's education system, meanwhile, is unable to meet its quality of service requirements, due to a shortage of teachers and a lack of infrastructure and equipment. Parents' associations or FRAMs (*fikambanan'ny raiamandrenin'ny mpianatra*) are expected to participate in paying the salaries of non-civil-service teachers, who account for some 40% of Madagascar's teaching staff (5).

More tangibly, in the water sector, Antananarivo and Toamasina have benefited from Phase 2 of the Local Initiative

Box 1: The organization of cost recovery in Madagascar

The law of Madagascar defines the principles that apply to water pricing:
"The pricing and cost recovery policy for drinking water and sanitation services shall comply with the following principles:

- access to the public water service, whether at collective water points or via individual connections, must be paid for;
- for every water and sanitation system, the applicable tariffs must allow the system operators to achieve financial equilibrium and must tend toward the full recovery of costs;
- the costs of investment and operation shall be factored into the guidelines for setting water prices and sanitation charges, as shall the ability of users to pay;
- the proceeds received by the facility owners and operators in return for drinking water and sanitation services are revenues that shall be assigned to these services alone;
- pricing systems shall include provisions allowing domestic consumers with the lowest incomes to enjoy universal access to drinking water".

Source: Law 98-029 of 20 January 1999 (Water Code), Article 54. Cited in Miakatra, doctoral thesis, 2012

Support Program (PAIQ 2) (6), which has funded district infrastructure projects, notably for water, sanitation, education, health, and culture (the *Maisons de quartier*).

The program also aimed to make local communities responsible for managing and developing their district, to support the structuring of national NGOs so that they could become effective actors and partners in urban development and management, and to set up a consultation process between local populations and institutions, especially municipal authorities, within a framework of participatory democracy and joint management of the district and its geographical area.

The residents of the districts concerned by the program were elicited, to identify what they saw as the priority projects. For every problem identified, a solution was proposed; this helped to define the actions required, and how the community could participate in their implementation. Subsequently, the residents are also responsible for the upkeep and management of the facilities. This devolution of responsibility is enshrined in an official transfer of ownership agreement (Republic of Madagascar, PAIQ, 2003).

This bottom-up participatory approach facilitated the transformation of the political and social landscape. The initiative was supported by the international donors for a variety of reasons: ensuring the longevity of the equipment, good service management and local, resident-led development.

2.2 Recovery of costs

In the early 2000s, Madagascar's Water Code entered its active phase. Antananarivo and Toamasina were the first local authorities to introduce payment at public water points.

The Water Code stipulates that every standpipe user must contribute toward the real costs of drinking water. Its goals include the total recovery of costs, including investment, maintenance and management expenses, and the social cost of providing access for low-income populations.

The first paying standpipes appeared progressively, despite difficulties in applying the prevailing legislation. This was also the result of local authorities becoming increasingly aware of the payment shortfall induced by over-consumption and by losses due to defective conduits, etc.

This financial participation helped to recondition installations that had long been out of order or abandoned for lack of maintenance. The installation of new water points required a contribution from beneficiaries and local authorities in order to minimize investment costs.

Other local actors helped raise community awareness, both about the risks of consuming unsafe water—notably groundwater—and about using standpipes, even if there was a charge for access.

There are two modes of cost recovery: subscriptions for repairs, and payment per volume consumed (Repussard C, 2008). The first is used mainly with free standpipes. All of the households in a single district participate in the cost of repairing the defective equipment, the amount being determined on the basis of the cost of repair. The second mode (payment per volume consumed) currently concerns all of the standpipes in Toamasina: the consumer pays per unit of consumption (according to the volume of a bucket or can).

In several districts of Antananarivo, fixed monthly subscriptions are in widespread use. This gives residents a sense of being entitled to use the collective equipment, expressing a collective appropriation of the installations. Subscriptions are periodic (usually monthly) and are payable to a district collector. The money thus collected is used to pay for repairs and maintenance.

In the capital, the initial experiments with payment by volume proved to be a failure, due mainly to people's lack of understanding and knowledge about the new system. In 2004, the population of the deprived areas protested against payment by volume, forcing the city's mayor to restore free service in many districts.

This decision by the mayor of the capital—basically in contradiction with the new water policy—puts the ball firmly in the court of the City and of the *fokontany,* which need to be strict about checking standpipes in order to avoid the waste that has been pushing up Antananarivo's spending for years, further aggravating the city's debt to Jirama. Rational water management does require financial participation from standpipe users in all six of the city's *arrondissements*.

The case of the capital underlines one of the difficulties involved in applying the law: it favors unequal treatment of

Box 2: The paying system: social unrest and the return to free supply in some parts of the capital

In 2004, the measures introduced by the Antananarivo city authorities to levy water payments at public standpipes raised a barrage of comments and reactions from the city's population. After a number of demonstrations by local residents, a meeting was convened between the city authorities and the representatives of the water users to seek a consensus. Paying 10 ariary per bucket of water was too much for many households, and the mayor accepted that the inflation from which the people were suffering made it difficult for them to pay for water. He therefore declared that: "until further notice, there will be no charge for water".

Source: Miakatra, 2012

Madagascar's cities. Overall, local financial participation for access to services can lead to the exclusion of certain underprivileged strata of the urban population.

2.3 Delegated standpipe management

The residents are therefore involved in the joint management of the service. This "coproduction" approach, as it is known, is a community partnership structure designed to encourage the emergence and consolidation of norms of cooperation between public (or public-private) authorities and citizens' organizations, with the aim of securing some form of long-term service delivery in areas where conventional provision is inadequate. In more concrete terms, this socio-technical system is analysed by examining the way in which the standpipes are managed.

The user groups set up water point committees to oversee the management of the standpipes. These committees stem from a district association, the *fokontany*. The management body takes out a subscription directly with Jirama, collects daily payments for the resale of water, pays the monthly bill to Jirama, and maintains the installations. Part of the revenue is used to pay the standpipe assistant. The standpipes are equipped with individual meters to facilitate the measurement of consumption (Miakatra, 2012).

The committees are supervised by the municipal authority and by the network operator. The days and times when the standpipes are available are defined jointly with the district residents, to cater to their needs or habits. The opening times are displayed on the kiosk or standpipe and the assistant is responsible for adhering to this timetable in order to provide a water service that meets users' expectations. The pricing schedule for standpipes is identical to the first bracket of the individual subscriber "low consumption" category (<10m^3 a month).

Since 2000, "tariff 52"—360 ariary per cubic meter (7)—applies to standpipes on the same basis as decentralised authorities and municipal services. From there on, the price of the water redistributed at the pipe is defined in consultation with the users. The committees therefore call a general meeting to discuss any changes of tariff. The price includes the various expenses incurred by the committee. The person who keeps the equipment in working order is allowed a profit margin, but Jirama's agents and municipal officials check that everything is above board.

3. General conclusion

The new Water Code (Law 98-029) advocates the diversification of operational and institutional models, the recovery of costs, and the participation of the private sector in infrastructure funding. It is through this legislation that community participation in water supply systems has taken root. Several districts of Antananarivo and Toamasina have consequently been integrated into the development plan of the two cities.

In other urban centers, the implementation of this new system is hotly debated, and has triggered a fundamental rethink about the way the water supply is organized. The impacts are numerous—especially in areas neglected by the conventional network—but despite all the efforts made, there are still many challenges, and only limited results.

In the two cities studied, inequalities were reinforced, and the principle of universal public service has been further undermined. The social unrest in the capital in 2004 changed the game, leading the authorities to restore free supply at the standpipes in several districts. Inevitably, this decision is seen as amounting to unequal treatment for the cities of Madagascar. On the local scale, reforms have spawned new issues, by multiplying deadweight effects and forms of exclusion in an already highly fragmented urban fabric.

Finally, the types of community participation that grew out of the reforms have neither ensured long-term service management nor reduced inequalities: if anything, the inequalities have been aggravated. The residents of deprived areas increasingly express a desire to obtain a household connection. Many requests have been submitted to Jirama, but their acceptance is conditional on proof of land title and the ability to pay for the connection cost and the monthly bills. Connection to the drinking water network is therefore constrained by income level and ownership status (Bousquet, 2006); even when households are solvent, the illegal nature of their district frequently makes it impossible for the local authorities to grant their demands. The same observation is valid for most developing cities.

4. Notes

(1) Antananarivo is the capital of Madagascar. The "City of Thousands" is situated in the uplands. The municipality of Antananarivo currently numbers some 2 million residents, divided up into 192 districts or fokontany.

(2) The country's second city, Toamasina, on the east coast, is Madagascar's economic powerhouse, with the island's main deep-water port. Its 210,000 residents live in the 138 fokontany that make up the municipality of Toamasina.

(3) At Tanambao, Toamasina, in the early 1940s, a single standpipe supplied 600 people.

(4) The sanitation aspect was somewhat overlooked in the 1999 legislation. A new national sanitation strategy document is currently being validated with the Ministry of Water and NGOs from the water and sanitation sectors.

(5) The effects on districts of this type of participation in the education sector are largely unknown, but it has been suggested that it may

introduce inequalities between richer and poorer districts, in that non-civil-servant teachers will go where the pay is.

(6) PAIQ 2 covers Madagascar's six main urban centers: Antananarivo, Toamasina, Mahajanga, Antsiranana, Fianarantsoa, and Toliara.

(7) Tariff 52 applies to Jirama. 1 euro = 2,800 ariary (Madagascar's currency). A cubic meter of water therefore costs 13 euro centimes (about 18 USD cents)

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