

[Moussa Diop](#) [1]

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In the name of macroeconomic adjustment, the Bretton Woods institutions advocated shock therapy: reestablishment of internal and external stability through severe budgetary austerity, privatisation of public companies, price deregulation, currency devaluation, abandoning large infrastructure projects and policies of import substitution. All these measures combined with a dose of moralism: good governance.

These measures for countries in crisis summarise what is conventionally referred to as the 'Washington Consensus' agreed to by the World Bank, the International Monetary Fund (IMF) and later the World Trade Organisation (WTO). These international financial institutions (IFIs) would provide loans to numerous African countries in order to finance infrastructure projects on the condition that they redirect their economic policies according to these guidelines.

In Senegal, 57.1 per cent of the population lived below the poverty line in 2001/2002, with enormous disparities between the urban centres and rural areas. In rural areas, 65.2 per cent of individuals and 57.5 per cent of households lived below the poverty line. Households who do not have access to drinking water must drink from unsafe sources; exposing themselves to water-borne illnesses (malaria, bilharzias, dysentery, diarrhea, etc) which are the primary cause of infant mortality. In 2003, one in three Senegalese did not have access to drinking water and one in two didn't have access to an adequate sanitation system.

Through its action plan, Senegal has put particular emphasis on resource management to reach its Millennium Development Goals. Beginning in the 1980s, the state began a slow and irreversible process of disengagement in favour of multiple actors. In the area of water this process began in 1999 with the Reform in the Management of Motorised Water Pumps (REGFOR) in rural areas which led to the overhaul of the organisation of users, the attempt to make operations technically and economically viable, the promotion of the private sector and the realignment of public services. This management model relies on a contractual agreement[1] between the different stakeholders and on the principle that the population has to contribute to and be responsible for the management and financing of the system.

Water pricing is meant to ensure the sustainability of the service through recovery of the operation, maintenance and equipment replacement costs.

THE SALE OF WATER BY VOLUME: RECONCILING EFFICIENCY WITH EQUITY?

One of the guiding principles of water management reform in rural areas of Senegal is the creation of operating conditions which are technically and economically viable through the sale of water (by using water metres), increasing water consumption (by extending and densifying the network), and

reducing the cost of production (by restoring pumping systems). The price of water includes the costs of production, maintenance, replacing equipment and other work; the determination of the cost is based on the balance between expenses and revenues.

In the interest of optimising operation costs, boreholes have been classified into three categories:

<http://www.pambazuka.org/images/articles/533/dioptable.jpg> [2]

This categorisation has introduced a range of prices for water per m³ varying between 200 FCFA and 400 FCFA for poor and rather economically homogenous rural areas of Senegal. In an attempt to correct this form of injustice and try to introduce a minimum of fairness, the solution recommended to villagers by the reform authority, which rests on the economic principle of volume/price, is summarised in two words: the expansion of pipes to the affected villages, and the densification of the network by multiplying the number of service points. The higher the volume of water used, the cheaper it becomes for users.

However, even if this is perfectly rational in principle, this principle of volume-based pricing as a solution for avoiding any exclusion to access to water can have disastrously perverse effects; especially for a fragile resource such as water which is predicted to become scarcer world-wide. Not taking the non-renewable nature of water into account challenges environmental objectives: reducing waste and conserving underground water resources.

NETWORK DENSIFICATION: HOW TO ENCOURAGE USERS TO CONSUME MORE

A certain consensus seems to be spreading today concerning the predicted water crisis. A better quality of life, following the appearance of equipment facilitating water utilisation, has led to increased waste in domestic water consumption. Water reform in Senegal, which favours network densification, has for the first time allowed the existence of private-run fountains in rural areas of Senegal. The village of Ndiass[2] went from six public fountains to 370 water points, of which 320 are private. There is no doubt that this constitutes an increase in the quality of life, but as a consequence, in the absence of education and awareness, also an invitation to consume more. The well in Ndiass serves two other villages: Samekedi, population 2,000 and Mbayar, population 1,000.

These two villages, unlike Ndiass, only have public fountains. Using March 2006 as a reference, if you compare the total monthly consumption in Mbayar with just one neighborhood in Ndiass, Ndeng for instance, with its 400 inhabitants and 40 private fountains, you realise the gap in terms of consumption. A comparison of the difference between Mbayar (450 m³) and the neighbourhood of Ndeng (578 m³), shows a difference of more than 120 m³. The explanation is simple: wasteful water consumption.

In rural areas of Senegal water consumption per day and per person barely reaches 20 litres; in the neighborhood of Ndeng it is 48.16 litres a day per person. That is higher than the 35 litres a day per person recommended by the World Health Organisation.

However, instead of sounding the alarm on the waste witnessed in the neighbourhood of Ndeng, the operators support it: 'We have spent close to 5,380,675 francs CFA on extension work to the village of Mbayar. If we try to pay off our investment with just the water revenues in this village, there is a risk for the viability of the water service, but luckily, with home connections, consumption is higher, which allows us to balance our accounts.'

The purpose of adopting a volume-based rate system is to limit waste and to create solidarity between the different social groups. Pricing is meant to be a disincentive to waste, but this measure is subject to controversy in the context of water reform in rural Senegal. On the one hand, waste is synonymous with water consumption; therefore, billable by the operator. It is evident that any anti-waste policies will lead to a dramatic reduction in revenues, and in the long-term, decreased viability of the service. This contradiction is intrinsic to these reforms, which includes, on the one hand, waste reduction in its expected environmental impact. On the other hand, densification of the system is a disguised way of encouraging users to increase their consumption, thus allowing to adjust the relationship between volume and price in order to reach an affordable rate for all consumers. The

problem is that this policy option works to the detriment of preserving underground water resources, which is already a problem in certain rural locations; be it drying underground aquifers or the need to drill deeper to find water.

THE DIFFICULTY OF EQUATING EXISTING SOCIAL RELATIONS AND THE NEED FOR FINANCIAL EQUILIBRIUM

In order to avoid an effect on social institutions, the operational and management functions are separated for the highest level of visibility and transparency. The management committees that assumed both these functions have been replaced on the one hand by associations of borehole users (ASUFOR), in charge of operational functions, and on the other hand by a manager recruited in the village, who is trained to manage the borehole. For a salary, this manager is responsible for selling water and collecting payments from users on account of ASUFOR. The originators of the reforms wrongly believed that it was enough to separate these two functions and establish explicit rules. Yet, in rural areas, even those in transition, these managers are bound by the logic of existing social rules. They define themselves by their affiliations, they seek to maintain them or reinforce them within the society in question, which they see as a system of socialisation, not a market. Therefore, they are often confronted with the same difficulties as the collection management committees for flat-fee users after the first reforms of 1984. In the village of Ndiass, just for the operating period of 15/12/2005 to 16/01/2006, the amount past due rose to 419,100 FCFA, for total cash revenues of 744, 200 FCFA.

Even if the budget project had set a price (170 FCFA/ m³) under which water could not be sold, the fact remains that water is indeed sold at a loss (150 FCFA/ m³) to farmers, herders, schools, health centers and mosques. To make up for this deficit and upon noticing that users consume more water when there is a public fountain at their disposal, the association's policy has been to increase the number of private fountains by subsidising metres. As a result, the number of defaults has increased amongst users, as illustrated above. The group least likely to pay their water bills are users with private water connections, with past due payments totaling 195,200 FCFA. This raises the whole issue of nonpaying users, an issue not considered when the reforms were designed, on a backdrop of persistent tension between managers and users when water services are cut.

In rural areas of Senegal where poverty rates vary between 72 per cent and 88 per cent, with 57.9 per cent living below the poverty line, even if the price of water is 'affordable', certain users find it increasingly difficult to pay their water bills on time. This most often results in accumulated back payments, leading users to explain their problems to managers, who cannot remain indifferent as trust is built through social interactions.

Faced with nonpayment from certain groups of users, the established managerial norms would require the manager to cut the water service; however, managers prefer to work out a compromise, which in turn threatens the financial viability of the system. Therefore, managers prefer to either accept payments in installments or use their own salaries, either through a cash advance or even going into debt to cover the deficit while waiting to collect the unpaid water bills. This is because in these villages the individual is a part of multiple networks, each with its requisite solidarity and corresponding pressures. The managers belong to the same social landscape, with its particular logic, as the consumers. To completely ignore this logic and to strictly apply the required sanctions in cases of nonpayment is to renounce solidarity with the group to which one belongs. In other words, if a manager breaks the social contract which links him to the other inhabitants of the village, he would be showing his ingratitude to the group, thus choosing the path of social exile by risking a rupture in the social network.

In addition, maintaining these networks is the most secure way of protecting oneself against the uncertainty and vicissitudes of rural life in Senegal. In these villages, creating ties is to give in to the group solidarity because the primary function of these ties is to organise this solidarity. It is participation in these different social networks that results in practice in the very functioning of these societies. Thus, multiple forms of authority are at work in the daily management of water service in rural areas. Faced with the changes introduced from improving the efficiency of the water service and social issues in general, administrators have forced change to the traditional systems alongside the new system without neutralising either.

Water management, as it is currently practiced, reveals the existence of several norms of legitimate practices, which follow either explicit or implicit rules. At least three types of rules co-exist in the management of water service: traditional rules, official rules founded on the rational-legal model, and the pragmatic rules resulting in the confrontation of the first two. In lieu of a sustainable regulation, these are situations of fusion and confusion, discrepancy and competition amongst norms creating a situation of anarchy in water management.

CONCLUSION

Reforms have further transformed the Senegalese administration into a 'client-oriented' administration. Contracts have complicated management by demanding that consumers master the terms of legal recognition, licensing regulations, management contract models, water management contracts and management tools when only one in four Senegalese living in rural areas is literate. Users associations often find themselves isolated and alone at the hands of powerful representatives who impose conditions on users without providing any guarantees of the long-term viability of the service. For example, the strategic guidelines for transferring maintenance to the private sector has been made potentially profitable by guaranteeing private companies a minimum number of maintenance contracts as well as exclusive operation rights in the reform test zones (the Thiès, Diourbel, Kaolack and Fatick regions) for the first valid period of the agreement (five years). An explicit condition for the users associations who want to see their infrastructure restored is to sign a maintenance contract with a private company (EQUIP PLUS), which has been a partner of the state since the very beginnings of the reform. In 2004, 66 ASUFORs had signed maintenance contracts with EQUIP PLUS; however, the maintenance operators are experiencing difficulties due to the fact that they do not have enough contracts to make their operations profitable after having made such large investments. The risk in the medium term is that these companies will back out of the reforms at the end of the contract if they do not reach their objectives; with the associations left in charge of the highly technical maintenance since the state is no longer present.

The standardisation of management has resulted in a great variation of water prices. Depending on the locality, the price can double, presumably to ensure the viability of the water system. This raises the complex issue of the social aspects of access to water. Even if price supports are not precluded, the viability of these reforms requires the establishment of a system of cross-subsidy. The extent of the phenomenon of unpaid water bills results in the precariousness of living conditions for certain segments of the rural population following the social failure of the Senegalese state. Not taking into account customers that cannot afford to pay for the service during the development phase of water reforms raises the problem of solidarity in the context of commercialised public services. If the principle of commercial access to water and consumption-based pricing went along, in the present-day version of the public water service, with a vision of the 'client' understood in the strictest sense as a 'paying customer', the socio-economic evolution which marks our century creates new groups of consumers which no longer fit this paradigm. How then to integrate this new category of consumer into the management of public water service without giving up the undifferentiated and established model of the 'client'?

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* This article is part of a special issue on water and water privatisation in Africa produced as a joint initiative of the [Transnational Institute](#) [3], [Ritimo](#) [4] and [Pambazuka News](#) [5]. This special issue is being published in [English](#) [6] and in [French](#) [7].

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NOTES

[1] A contractual agreement defining the relationship between different stakeholders is part of the operational plan for the implementation of the 1999 reforms. The agreement defines the roles, commitments and responsibilities of the actors: state, ASUFOR (users organisations) and service

Water management reform in rural areas of Senegal

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providers (managers, private companies, decentralised financial organisations). This agreement allows the actors to legally assume the roles and responsibilities conferred upon them by a competent authority in the drilling management administration.

[2] The village of Ndiass is 50km from Dakar, the capital of Senegal. It is the administrative center of the rural community of Ndiass in the Mbour department in the Thiès region. This village has a population of 5,000 divided between seven neighborhoods: Ndeng, Sakirack, Ngam, Kam Warthia, Ndiorokh, K.Ndione and Ndiffoune. Before adopting the second set of reforms in 2000 the village had only six public fountains. Today there are 370 water points of which 320 are private. With the reforms, the committee has financed, with the help of the rural community, the extension of the network to two neighboring villages: Samkédi (population 2,000) two kilometres away and Mbayar (population 1,000) 1.5 kilometres away. Today all 8,000 inhabitants are served by the well in Ndiass.

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(function(d, s, id) { var js, fjs = d.getElementsByTagName(s)[0]; if (d.getElementById(id)) return; js = d.createElement(s); js.id = id; js.src =  
"//connect.facebook.net/en_US/sdk.js#xfbml=1&appId=1465091963738031&version=v2.0";  
fjs.parentNode.insertBefore(js, fjs); })(document, 'script', 'facebook-jssdk');
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Article-Summary:

Changes to the water sector in Senegal that have seen a disengagement of the state and the promotion of the private sector have had unforeseen effects, writes Moussa Diop. Increased waste in domestic water consumption is one of the contradictions, while existing social relations also have a significant impact on the water delivery environment.

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