# DELEGATED MANAGEMENT OF URBAN WATER SUPPLY SERVICES IN MOZAMBIQUE

## SUMMARY OF THE CASE STUDY OF FIPAG & CRA


THE WORLD BANK

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PUBLIC-PRIVATE INFRASTRUCTURE ADVISORY FACILITY

Delegated management of urban water supply services in Mozambique encountered a string of difficulties soon after it was introduced in 1999, but in 2007 a case study revealed that most problems had been overcome and the foundations for sustainability had been established. The government's strong commitment, the soundness of the institutional reform and the quality of sector leadership can be credited for these positive results. Donor support for investments and institutional development were also important. Results reported here are as of the end of 2007.

When the prolonged civil war in Mozambique ended in 1992, water supply infrastructure had deteriorated. In 1998, the Government adopted a comprehensive institutional reform for the development, delivery and regulation of urban water supply services in large cities. The new framework, known as the Delegated Management Framework (DMF), was inaugurated with the creation of two autonomous public bodies: an asset management agency (FIPAG) and an independent regulator (CRA).

### Lease and Management Contracts with Águas de Moçambique in Five Cities

In 1999, FIPAG signed a 15-year lease contract with a private company for water supply in the capital city, Maputo, and Management Contracts for water supply in four provincial capitals – Beira, Quelimane, Nampula and Pemba – in the central and northern parts of the country. The decision to award separate but bundled contracts was influenced by several factors: the existing decentralized market structure, the government's policy to promote the development of financially viable decentralized services, and the expectation that services in the provincial capitals would probably not attract qualified bidders unless bundled.

The private operator, Águas de Moçambique (AdeM), was created by a consortium of foreign water supply operators led by the French private operator, SAUR, and local investors. Selection was based on technical and financial proposals. AdeM's financial bid – including the operator's fee for services in Maputo, management fees for services in the provincial capitals, rates to be charged for delegated works and management of the investment program – was substantially lower than that of the closest competitor. It ultimately proved to be unrealistically low.

### Renegotiation of the Contracts

By 2001 AdeM had encountered serious financial difficulties – exacerbated by the floods of 2000 and delays in the implementation of new investments – and in December 2001 SAUR terminated its involvement. Subsequently FIPAG and AdeM's remaining partners led by Águas de Portugal (AdeP) renegotiated the contracts, introducing higher fees and improvements in the specification of service obligations and procedures. The Revised Lease Contract became effective in April 2004, and will terminate on November 30, 2014, fifteen years after the starting date of the Original Lease Contract. A new Management Contract for the period April 2004 – March 2007 consolidated the four Original Management Contracts. It was subsequently extended for an additional year and terminated in March 2008.

### Management Partnerships with Vitens for Services in Nine Cities

In 2004, FIPAG entered into a three-year contract with the Dutch company Vitens under which the latter provided management support services and training in four small southern cities – Xai-Xai, Chokwe, Inhambane and Maxixe. Another contract between FIPAG and Vitens was signed in 2006 for services in five additional cities in central Mozambique – Chimoio, Gondola, Manica, Tete and Moatize. These contracts were considered transitional arrangements to prepare the services for more conventional delegated management. While Vitens' obligations under the first contract were similar to those in AdeM's Management Contract, its services were provided free of charge and its staffing arrangements were quite different.

### Performance of the Operators

AdeM's performance was mixed but, despite delays and other challenges, services improved and the foundations for financial viability and sustainability were established. Vitens' performance was generally very good but care must be taken in interpreting differences in the performance of AdeM and Vitens, since they operated under different contractual frameworks in different urban settings. Some of the difference in performance can be attributed to FIPAG, which had become a mature institution by the time it engaged Vitens.

*Capital works*: The donor-funded investment programs initially focused on rehabilitation and increasing production capacity. The operators were responsible for design, preparation of tenders and supervision of capital works projects. Due to the floods of 2000 and 2006, AdeM's lack of experience with donor projects, and the lack of mechanisms for effective cooperation between FIPAG and AdeM, implementation of works in the five service areas for which AdeM was responsible was delayed. Construction of works managed by Vitens was completed on schedule. Nevertheless, FIPAG decided not to include the design, preparation of tenders and supervision of capital works programs in future operators' contracts.

*Delegated works:* The Delegated Works Program (funded by an IDA project in the AdeM service areas) was intended to enable the operator to implement rehabilitation works and replacements that would support performance improvements, particularly water loss reductions. AdeM did not succeed in using it effectively. Originally scheduled for completion within the first two years of the original contracts, the majority of delegated works in AdeM's service areas was finally completed in September 2007.

*Coverage and service for the poor:* Delays in the completion of production works resulted in the postponement of new connections and, although coverage through household connections and standpipes increased in all FIPAG-owned systems over the period 2002-2007, it nevertheless remained low (31 percent-56 percent) in 2007. If the number of households that bought water from neighbors with connections is included, coverage ranged from about 60 to 75 percent. Serving the poor remained a challenge but in 2008 poor households were eligible for subsidized connections under a Global Partnership on Output-Based Aid (GPOBA) project, and CRA was considering a 50 percent reduction in the minimum monthly consumption and tariff. A number of innovative institutional arrangements for serving peri-urban areas were being introduced or piloted by AdeM and FIPAG.

*Service quality and efficiency:* Service quality, measured in average number of hours of service per day and time required to respond to customers' requests and complaints, improved in all the service areas under delegated management. By 2007 testing and monitoring of water samples was well-established. Because of the poor condition of the networks, illegal connections and vandalism of meters, unaccounted-for-water remained over 50 percent in most areas. Collection ratios ranged from 0.84 to 0.97. In Maputo a ratio of 0.87 contributed to AdeM's poor financial results. In contrast, staff productivity in Maputo (5.4 employees per 1000 connections) compared very favorably with efficient large water companies in the Africa region. Staffing ratios were still high in the other areas, but were improving as the number of connections increased.

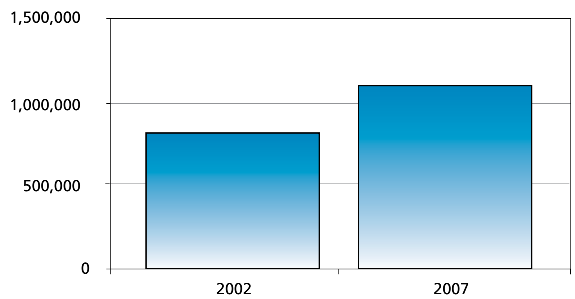
*Tariffs and financial results:* CRA introduced real average tariff increases of 5 to 10 percent per year in the AdeM service areas over the period 2002-2007 with the objective of achieving full cost recovery. These tariff increases benefited FIPAG and did not affect AdeM's compensation. Overall, FIPAG's financial performance improved steadily and it was expected to be able to begin servicing debt in 2010. In 2007, AdeM's lease contract operations in Maputo were not yet profitable due to low coverage, high non-revenue water and the cost of its technical assistance contract with AdeP, but its performance was improving.

*AdeM's management teams:* The staffing of AdeM's management teams was problematic and there were numerous turnovers in the top levels. Team members were not always effective mentors for local managers. A number of the contracted experts had never worked in SAUR's or AdeP's operations in France or Portugal. As a result they were unfamiliar with the operator's corporate culture and lacked a network of useful contacts within the company. Under pressure from FIPAG, AdeM eventually assigned more staff who had worked for AdeP. Another problem was the failure to develop a successful management support strategy for the four provincial capitals. Under the original contracts, AdeM fielded a single team in

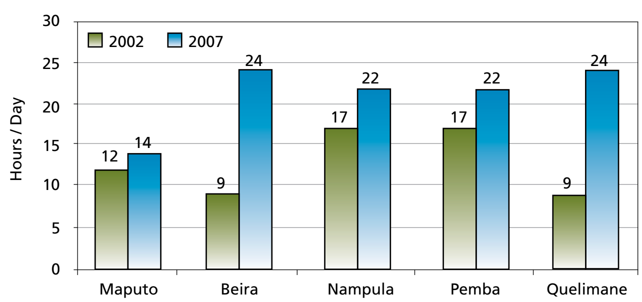
Maputo with responsibility for managing all five service areas. When operational costs in Maputo proved higher than expected, resources for the other cities were squeezed. Under the revised Management Contract, AdeM was required to assign dedicated staff to the provincial capitals but, though improvements resulted, a dynamic approach to management support did not develop.

*Vitens' management teams:* Vitens used an innovative staffing model that seemed to enhance the rapid transfer of skills and responsibilities to FIPAG management staff and local professionals. All Vitens expatriates were regular employees of the company in the Netherlands. Only the team leader was resident in Mozambique. Others traveled to Mozambique for three weeks at a time three times per year. Vitens' practice of hiring Mozambican college students and recent graduates to serve as local team members enabled it to maintain continuity between visits and promoted the development of local expertise.

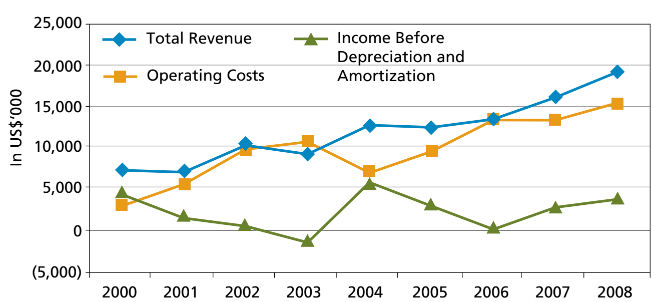
**35% Increase in Total Population Served by Águas de Moçambique**




**Average Number of Hours / Day Service**




**FIPAG's Financial Performance**




*Local managers and staff:* Significant improvements were noted in the technical performance and attitude of staff over the period of all the contracts, though further strengthening was still needed in leadership skills among managers and client relations among staff. Outside Maputo, in the absence of effective day-to-day management by AdeM, FIPAG appointed local "delegated managers" under incentive-based contracts and gave them access to expert advice. In contrast, in 2007, the top management team in Maputo was still composed entirely of expatriates and FIPAG was concerned about the lag in replacing them with local professionals.

## Maturity of the Institutional Framework

Despite difficulties, AdeM maintained a forward-looking attitude and the government of Mozambique remained committed to the reform. FIPAG and CRA enjoyed the widespread respect of all stakeholders and their autonomy was credible. FIPAG had developed a systematic approach to specifying and monitoring performance targets. CRA managed to strike a balance among the competing objectives of protecting consumers, keeping tariff increases within politically acceptable limits, promoting efficiency and enabling FIPAG to gradually achieve financial sustainability. CRA had become pro-active in monitoring consumer satisfaction, resolving customer complaints, and promoting improvements in services for the poor.

## Lessons Learned

*Baseline data, management of risks and accountability:* The difficulties experienced by AdeM and FIPAG early in the original contracts demonstrated the importance of producing reliable audited baseline data before private operators are asked to accept significant financial risks, and the need to allow for corrections after operations begin. A method of discouraging the moral hazard associated with low bids is needed - perhaps through the rejection of bids that are significantly lower than consultant estimates. Contracts should include adequate incentives for achieving contractually specified targets and standards.

*Small service areas:* Bundling of service areas that have large disparities in size, risks and profitability may be justified and can create economies of scale and scope, but safeguards need to be put in place to ensure that the operator will dedicate sufficient resources to smaller service areas. Cost-effective management models that provide an adequate professional presence in small service areas need to be identified. FIPAG's approach (appointing local delegated managers and providing them with professional support) and the Vitens model (hiring and mentoring young local professionals) are promising models that could be tried elsewhere.

*Investment strategy:* To the extent feasible, the sequencing of capital works and rehabilitation should take into account not only technical engineering factors but also financial, political and social priorities, such as expanding coverage. Delays in the implementation of works frequently occur when new institutional arrangements are being created. Adequate time and resources need to be allowed for the start-up of such arrangements.

*Allocation of responsibilities:* If private operators with lease or Management Contracts are expected to assume design, tender preparation and supervision responsibilities for the implementation of donor-funded capital works, they should have proven expertise in the implementation of donor projects. Effective mechanisms for coordination between the operator and the asset management entity/owner must be created.

*Private operator's team:* To ensure that the high cost of international operators is justified by the effective transfer of scarce management skills, most team positions should be filled by professionals who have worked for the operator in its home country or a similar context for a minimum number of years. Professionals provided by the operator should have proven experience in managing change and mentoring local managers. There should be a clear framework for phasing out international experts and promoting local staff or appointing local professionals to senior positions.

*Promoting local private participation:* To reduce costs and ensure the sustainability and expansion of reforms, contracts should be structured so as to promote the emergence and strengthening of local private operators and professionals.

*Credible and stable institutions:* Despite challenges, the reforms in Mozambique were sustained and the benefits are now being reaped. The conditions that made this possible were the firm commitment of the government to the reform, effective consultation with stakeholders which engendered widespread support for and confidence in the reform, the creation of a strong public asset-holding entity and a non-political regulator, the continuity and professionalism of the sector leaders, and the perserverance of the remaining private partners.

*Serving the poor and peri-urban areas:* High connection costs and minimum monthly charges may make service unaffordable for the poorest. Targeted subsidies for connections and lower minimum domestic charges may help. In addition, the utility and the regulator should actively take advantage of local knowledge and seek creative solutions for serving peri-urban areas. Strong coordination with local authorities particularly at the community level, partnerships with local small-scale providers, and decentralization within the utility to bring it closer to the customers are potentially effective approaches. ■

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