

# GRID LINES

Sharing knowledge, experiences, and innovations in public-private partnerships in infrastructure

## Partnering for water in Côte d'Ivoire Lessons from 50 years of successful private operation

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**T**he public-private partnership (PPP) for the national water utility of Côte d'Ivoire is the oldest and largest water PPP in the developing world. In place since 1960 and today serving more than 7 million people, this PPP has provided quality service for decades and made remarkable progress in expanding access in the 1990s. It even proved resilient to civil strife and the de facto partition of the country in 2002. This African success story shows that a pragmatic partnership between a committed government and an efficient private operator can produce tangible and sustained benefits for the population.

The public-private partnership for water services in Côte d'Ivoire had its start in 1959, the year before the country's independence. The municipality of Abidjan awarded a concession contract to a French private operator for the operation of the water services in the city, which then had a population of 160,000. The operator, incorporated as an Ivorian company under the name SODECI, began operation in 1960, taking over a system with fewer than 4,000 connections. At that time water services in the country were the responsibility of municipal governments, and SODECI gradually expanded into 10 other cities by signing contracts with the local authorities.

In 1974 the central government carried out a major reform of the water sector. Local governments had lacked the resources and capacity to expand the infrastructure. Nationally, only 34 percent of households had access to piped water, and many towns lacked a water system. The reform shifted responsibility for water services back to the central government. A national water fund (Fond National de l'Hydraulique, or FNH) was established to support major public investment in infrastructure. A new tariff policy was put into place, following the principle of full cost recovery

and with a single, nationwide tariff to allow cross-subsidization between Abidjan and smaller centers. Finally, SODECI's mandate was expanded. At a time when several other West African countries were nationalizing their water utilities, Côte d'Ivoire granted SODECI a nationwide affermage contract giving it responsibility for operating all water supply systems in the country.

The reform led to major advances in the water sector nationwide. These were Côte d'Ivoire's "golden years," with rapid economic growth, and the government invested about \$400 million in water supply infrastructure through FNH. The share of households with access to safe water doubled to 63 percent in 1983, and piped water networks were installed in almost 200 towns. At the same time the private operator achieved good levels of operational efficiency. The share of nonrevenue water, for example, was less than 15 percent nationwide, comparable to the levels of well-managed water utilities in Western Europe. The company's management was gradually transferred to Ivorian nationals, and in 1978, 48 percent of the shares were sold to national investors through an initial public offering on the Abidjan stock exchange.

### Moving to a hybrid scheme

By the late 1980s the country's water sector was in a very different situation than those of neighboring countries. A competent operator was in

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place, the infrastructure was being properly operated and maintained, and customers with connections were receiving good service. Yet a large share of the urban population still lacked access to piped water, and rapid population growth in urban areas was generating strong demand for more household connections. Moreover, the sector's financial health was under strain, with revenues too low to cover ballooning debt service. The investment program managed by FNH had gone out of control, and many new projects proved to be unnecessary or designed with large overcapacity.

To reestablish financial sustainability, the government made two strategic decisions. First, new investment would be clearly linked to operational needs. Second, infrastructure development would focus on network expansion for years to come, to make use of the existing overcapacity and satisfy the growing demand from a booming population.

These decisions were reflected in a new PPP contract negotiated with SODECI and made effective in 1988. A new water development fund (Fonds de Développement de l'Eau, or FDE) was established, to be managed by SODECI. The FDE would finance network extension and subsidized household connections under a social connection program. The FDE was to be funded not through government borrowing but through a tariff surcharge paid by connected customers.

This new arrangement made the PPP a hybrid between an affermage and a concession. The private operator was directly responsible for deciding on investments and executing them, much as a concessionaire would be. But because the FDE was funded by revenues collected from customers, the operator did not bear the associated financial risks.

## Rapid expansion in the 1990s

During the 1990s SODECI sustained its good operational performance and even improved on several key indicators. While the share of non-revenue water remained in the 14–18 percent range, water losses per connection were further reduced between 1988 and 2001, from 0.18 cubic meters a day to 0.13. Labor productivity improved significantly, with the number of staff per thousand connections dropping from 6.2 to 3.0, even though there were no layoffs and the total number of employees rose from 1,320 to 1,600. The bill collection rate remained at about 98 percent for

residential customers, though there were recurrent problems in collecting bills from government agencies.

The most notable achievement was the expansion of access to piped water (figure 1). Between 1988 and 2001 active water connections grew from 213,000 to about 500,000—a net increase of almost 290,000.<sup>1</sup> Most new household connections were installed under the FDE social connection program, which allowed households to obtain a small-diameter connection at no charge in exchange for a refundable deposit of about \$35. The estimated number of people served through household connections more than doubled, increasing from about 2 million to 4.3 million, and the share of households with connections rose from 39 percent to 63 percent. Including households served by standpipes and other schemes, the total population served by SODECI about doubled, to more than 6 million, and the share of households with access to safe water rose from 65 percent to about 90 percent.

This rapid expansion was achieved without government funding. Almost all the investment in this period (about \$150 million) was funded from customer revenues. A virtuous circle was established in which growth in the customer base translated into growth in water billed (from about 80 million cubic meters in 1988 to 120 million in 2001) and sales revenues. This, along with the efficiency gains, allowed the sector to become entirely self-financed. Moreover, “regulation by contract,” with a dedicated government unit supervising the PPP contract, proved effective in ensuring that efficiency gains were passed on to customers; the average tariff fell in real terms during the period.

SODECI's responsibilities expanded further in 1999, with the signing of a separate 16-year affermage contract to operate Abidjan's sewerage system and its two wastewater treatment plants.

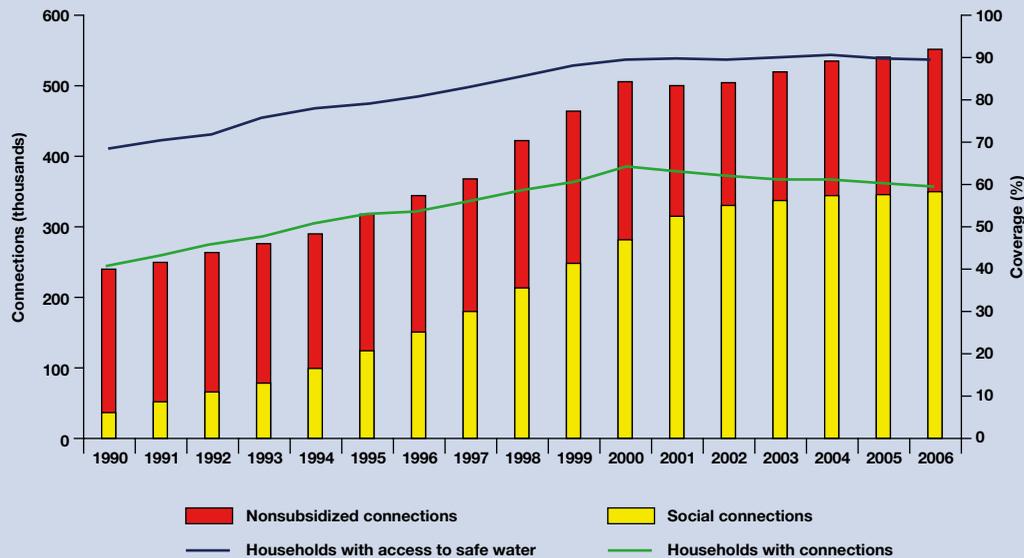
## Resilient despite turmoil

Since 2002 SODECI has faced exceptional circumstances as the de facto partition of the country between government- and rebel-held areas led to unprecedented operational and financial challenges. The share of nonrevenue water has risen from 18 percent to 23 percent, and losses per connection have returned to the pre-1988 level (0.19 cubic meters a day, still good by regional standards). Problems of service interruption have started to

**The PPP became a hybrid: part affermage, part concession**

**FIGURE 1****Access to safe water expanded rapidly in the 1990s**

Water connections and coverage in Côte d'Ivoire, 1990–2006



Sources: SODECI; authors' calculations.

**The private operator maintained good service despite the turmoil**

appear in Abidjan and other cities. No further gains have been made in labor productivity. Not surprisingly, the expansion of access has slowed. The number of active connections has continued to grow but at a slower pace, reaching 554,000 by the end of 2006. In contrast with the previous decade, subsidized connections accounted for only about a third of new ones. No progress has been made in the coverage rate.

Yet SODECI was able to maintain good service by regional standards despite a challenging environment. That SODECI had come to be perceived as an Ivorian company and was appreciated by the population helped sustain the PPP during these troubled years. Both the government and donors provided financial relief. In 2002 the central government allowed the operator to use part of the FDE's proceeds to compensate for unpaid bills of public agencies. And the European Union provided grants to maintain water services in rebel-held areas.

Today SODECI serves more than 7 million people (nearly 5 million through household connections), making it the largest water PPP in the developing world.<sup>2</sup> With the recent return to normalcy in Côte d'Ivoire, the water sector is now poised for a new phase of development. Because of the rapid network expansion of the past 15 years,

most production facilities have now reached full capacity, and a key challenge will be to finance new water treatment facilities while also rehabilitating an aging network and providing further extensions. This will require a revision of the PPP's financial arrangements, with the government probably having to provide financial support for the next investment program.

### Lessons learned

One striking feature of Côte d'Ivoire's water PPP is its pragmatism. This long partnership evolved over time, adapting to changing government priorities. It proved surprisingly resilient during a major national crisis, at a time that several large water PPPs elsewhere in the developing world were terminated. Although the PPP is usually referred to as an affermage, it is in reality a hybrid scheme, designed by the government to suit its needs, that also includes elements of a concession. Such a long, successful partnership offers valuable lessons for policy makers:

- The objectives of the 1988 reform have been largely achieved: developing access through household connections and restoring the sector's financial sustainability. The government's assumptions proved to be correct: that the private operator could carry out the network

expansion program efficiently and that expanding access would lead to greater revenue flow from customers and thus to gradual improvement in the sector's financial situation.

- While the financial arrangement—based on financing all investments through customer tariffs—has been remarkably successful, it is not necessarily replicable elsewhere. The Côte d'Ivoire water sector had exceptional conditions: the large overcapacity in production in the early 1990s and well-maintained and efficiently operated infrastructure. The model, successful in expanding access in the 1990s, has now reached its limits, and the government will probably need to start providing public funding for future investments.
- The presence of a well-performing private operator was a key to the success of the reform. Efficient operation, good service, and a commercial approach helped create a virtuous circle that allowed the sector to gradually become financially sustainable.
- The expansion in access to piped water was achieved largely thanks to the subsidized connection program. As the customer base and sector revenues gradually increased, so did the share of the tariff that could go to support the investment program. Even in a poor developing country, expanding access and achieving financial viability are complementary (not contradictory) objectives—as long as an efficient operator is in place.
- Côte d'Ivoire was the first in the region to promote subsidized water connections on a large scale. While this was largely successful, the disconnection rate has been significant, reaching about 15 percent by 2002. Poor families living



on irregular wages have had difficulties paying regular monthly bills. This as well as more recent experiences in neighboring countries (notably in Senegal) suggests that household connections might not always be the best option for providing access to safe water to the poorest part of the urban population in developing countries.

- One key to the sustainability of the PPP has probably been the private operator's promotion of local management. This underscores the importance of foreign operators transferring their expertise to local staff on a large scale if they want to be accepted as long-term partners. It also shows that an African water utility, run by Africans, can perform as well as the most efficient water utilities in Western Europe or North America.

#### Notes

1. To put this figure into perspective, over a decade the private concessionaire in Buenos Aires installed about 310,000 new connections, and in Manila the two concessionaires installed respectively about 230,000 in West Manila and 250,000 in East Manila.

2. Manila has the largest water PPP, with 12 million people, but it involves two concessions with separate contracts. The other largest ones are those for the utilities in Selangor State and Kuala Lumpur in Malaysia (6.6 million), Santiago in Chile (5.5 million), and Senegal (4.7 million).

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