WATER

P-NOTES

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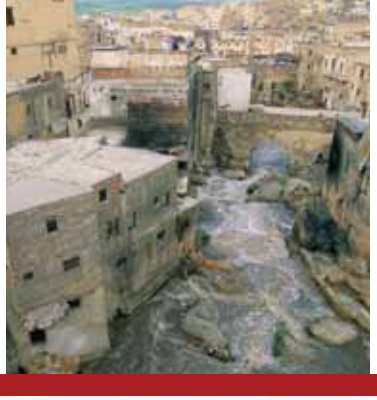

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Public-Private Partnerships for Urban Water Utilities

A Review of Experiences in Developing Countries

Since 1990, many national and local governments in developing countries have contracted with private companies to operate or manage their water utilities under Public-Private Partnership (PPP) contracts. The assumption was that the private sector would improve utilities by bringing in new capital, raising the level of staff expertise, and making operations more cost-effective and efficient. More than 260 PPP contracts have been signed to provide water services in more than forty developing countries.

The recourse to private operators has been accompanied, however, by a good deal of controversy. Several high profile contracts, such as in Buenos Aires, were cancelled in recent years following conflicts between the public and private partners. This has raised doubts about the suitability of PPPs to help improve water services in developing countries. Yet, there has been only little objective data available in the literature about the performance of PPPs, and the resulting debate has been based more on ideology than fact. This study attempts to redress the shortage of information by examining, through objective indicators, the actual performance of PPPs in developing countries over the last fifteen years. It collected data from as many as 65 PPP projects, representing a served population of about one hundred million people—half of the urban population served at one point in time since 1990 by private water operators, and 80% of the population served by a private operator for more than 3 years and under a contract signed before 2003.

Growth of PPPs Since 1990

Between 1991 and 2000, the population served by private operators in developing and transition countries grew steadily from 6 million to 94 million. At the same time, the number of countries with active water PPP projects increased from 4 to 38. However, problems started to appear in the late 1990s, and the number of new PPP contract awards began to decrease.

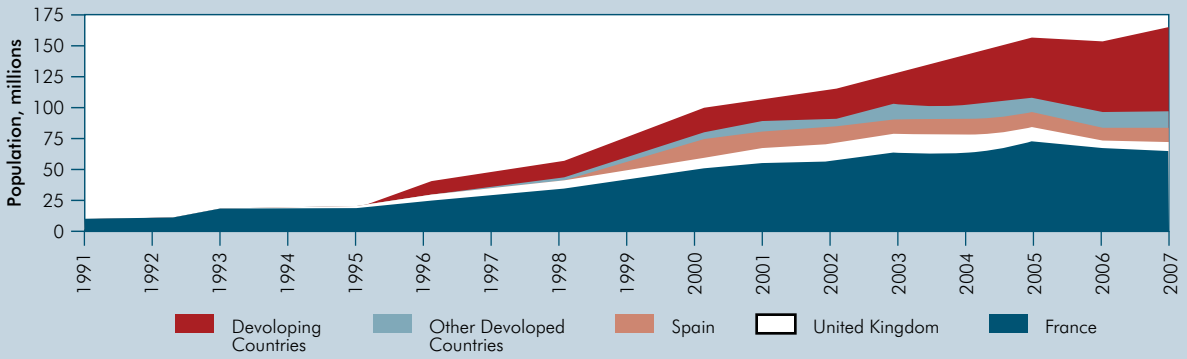
Yet, although the general perception is that water PPPs in developing countries are on the decline, the situation is more nuanced. The population served by private water operators in developing and emerging countries has continued to increase steadily, from 94 million in 2000 to more than 160 million in 2007. Large countries such as Algeria, China, Malaysia, and the Russian Federation now rely on private water operators on a large scale. Out of the more than 260 contracts awarded since 1990, 84 percent were still active at the end of 2007, and only 9 percent had been terminated early. Most cancellations were in Sub-Saharan Africa, a challenging region for reform, and in Latin America, because of overoptimistic concession schemes.

Performance of Water PPP Projects

The study looked at 65 large water PPPs that had been operating for at least five years (or at least three years for management-only contracts), focusing

The following note highlights key information from the World Bank publication *Public-Private Partnerships for Urban Water Utilities: A Review of Experiences in Developing Countries*, by Philippe Marin. It is #8 of the **Trends and Policy Options** series from the World Bank and Public Private Infrastructure Advisory Facility (PPIAF), 2009.

Figure 1. Water Utility PPPs Awarded and Urban Populations Served in Developing Countries, by country of origin of operators, 1991–2000



Source: Author's Calculations

on the actual impact on the populations served by the PPPs, rather than on whether contracted targets for service provision had been met. Four dimensions of service were used to assess how the PPPs performed: the extent to which coverage was expanded; the quality of the services provided; the operational efficiency of the utilities; and the tariff levels imposed.

Increasing Service

In terms of the contribution of PPPs for expanding access to water services, the study found a wide range of variation between projects. The performance of *concessions arrangements* (where the private contractor was held responsible for making additional investments to expand service) proved highly dependent upon the financial design (especially tariff level and subsidies) of each contract. Many fell short of expectations, as private operators often failed to invest the amounts initially committed to the operation. The best performing concession arrangements were usually those which had some amount of public funding to complement what the private contractors invested. Under *lease arrangements*, investments in the utilities originate from public sources and private contractors are responsible for operating or managing the utilities, and these arrangements often fared much better than concessions as far as expanding their coverage of the population. It seems clear that, in the context of developing countries where many poor households may not afford the cost of connection, the provision of funding by the public partner, whether under a "hybrid" concession or a lease, is of major important to promote the expansion of access.

Improving Quality

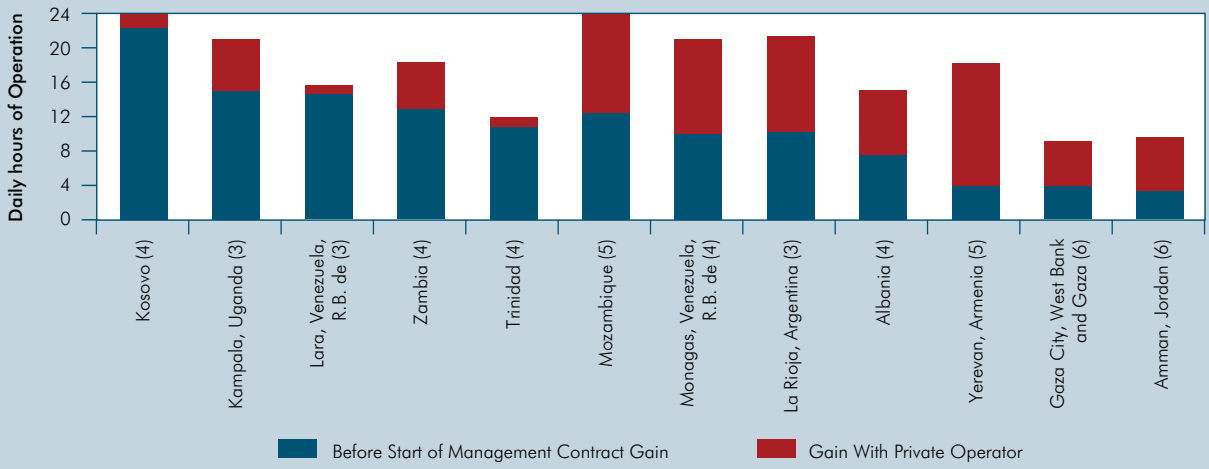
The study focused on the contribution of water PPPs for reducing water rationing, which is a major problem affecting many water utilities in the developing world. Without service continuity, a utility cannot guarantee the potability of the water it distributes because of the risk of contamination through infiltration of soiled water into the network. In addition, pressure fluctuations under intermittent service causes leakages and burst pipes, accelerating the deterioration of the network and/or increasing maintenance costs. Finally, the poor who often live at the periphery of the network are disproportionately affected by these disruptions.

The study found that many PPPs had been very efficient in reducing water rationing, even in some cases succeeding in reestablishing after a few year a full 24/7 service. The largest body of data comes from Colombia, where water rationing is widespread and the national regulator provides reliable data on water rationing. Many management contracts implemented with utilities suffering from water rationing also proved efficient in increasing the average number of hours of services.

Improving efficiency

Operational efficiency was the dimension for which the positive contribution of PPPs was the most consistent, with most projects showing significant improvements in performance. The study analyzed the evolution of three key indicators: level of water losses (Non-Revenue Water or NRW), bill collection

Figure 2. Gains in Service Continuity under 12 Management Contracts



Source: Author's Calculations

ratio, and labor productivity (measured as the number of staff per thousand connections).

Many PPPs were able to reduce water losses considerably, with a few reducing the level of NRW down to 15% or less, comparable to the best water utilities in developed countries. Almost all PPPs showed an increase in the bill collection rate, as well as a significant improvement in productivity. It must be noted that while several PPPs were associated with significant layoffs (as in Latin America), this was often due to over-staffing. There were also several PPPs where no significant layoffs tok place, as for instance in many projects in Sub-Saharan Africa.

Tariffs: a complex topic

The final measure for assessing the impact of PPPs—ariff levels—is a more complex and difficult topic. Tariffs often rose while PPPs were implemented, but this was due in part because tariff levels were well below costs when they were under public management. Tariff increases were necessary for the financial sustainability of the water services, regardless of the option chosen for managing the utility. Because of the multiple factors impacting tariffs, this study could not assess what was the specific impact of private management on tariff levels. The most solid evidence on the topic comes from a recent econometric study by the World Bank (Gassner et al, 2008). Using a sample of almost one thousand public and private water utilities in the developing world, it found no statistical difference in average tariff levels between utilities under PPPs and those under public management, provided that the latest were run under a tariff regime that promoted full cost recovery.

Toward More Sustainable PPPs: Optimizing Benefits

As many lessons were learned during the last decade, a new approach is emerging for maximizing the contribution of private water operators in the developing world. The focus should not be on attracting private financing—something which has usually proved disappointing except in the most advanced countries—but on using private operators to improve operational efficiency and quality of service. This in turns improve the financial viability and creditworthiness of a utility, allowing it to access various funding sources (public, private or a mix of both) depending on its specific situation. While private financing has proved viable in a few of the more advanced developing countries, the bulk of investment in the near future will have to come from public sources. The most successful PPP schemes have been designed around a mix of funding sources, using a variety of schemes:

- Concessions with cross-subsidies from electricity sales, tariff surcharges, or both (as in Morocco, Cote d'Ivoire and Gabon);

- Leases contracts including enhanced incentives for operational efficiency, subsidized connections programs for the poor, and a gradual move to full cost recovery through tariffs;
- Mixed-ownership companies; and
- Concessions with public grants for some investments to spearhead access expansion or rehabilitation while minimizing the impact on tariffs.

With a shift in PPP models, many new players are entering the market. Since 2001, private operators from developing countries have signed most of the new contracts, and some international operators have also transferred their existing contracts to local investors. By 2007, local private water operators served more than 67 million people, or more than 40 percent of the market. This is a major change from the situation back in the 1990s, when the water PPP market was largely in the hand of a few multinationals. These new operators provide much-needed competition in the sector and may also be better able to manage the various risks inherent in the urban water utility business. Their understanding of local culture can facilitate viable partnerships with local authorities and better mitigate political risks. They are often more interested than their international competitors to serve small cities and towns, where the needs are considerable.

Rebalancing the Debate

One clear finding of the study is that PPPs are not a magic formula to address all the causes of failing public water utilities in the developing world. PPP projects are complex undertakings with strong political risks and large uncertainties as to the magnitude and timing of the expected benefits. Contractual targets are difficult to set and baseline data are seldom reliable, generating many opportunities for conflict. Private operators do not always deliver what they promise and have a tendency to seek renegotiations to their advantage. Reforms can become easily subverted by vested interests. Many obstacles can lead to conflicts and costly early termination.

Still, the overall performance of water PPPs in developing countries is more positive than commonly believed. PPPs for urban water utilities have brought significant benefits to tens of millions of people around the world, with successful projects in places as diverse as Chile, Colombia, Brazil, Senegal, Cote d'Ivoire, Morocco, the Philippines and Armenia. Beyond the contribution of individual projects, the introduction of private water operators in a given country can be beneficial for the reform agenda, by generating much-needed pressure to move the whole sector toward higher levels of performance. The public water utilities that have succeeded in improving performance are those that have applied sound commercial management principles, emphasizing financial viability, accountability, and customer service. In that sense, the benefits of PPPs may have more to do with stimulating a much-needed sense of competition and accountability in an otherwise monopolistic sector than in the specific achievements of individual projects.

A new hybrid model has emerged that takes a broad approach to private sector involvement in public water utilities. Successful PPPs often owe their good performance as much to the contribution of public partner as to the private operator. The boundaries between public and private water utilities are also increasingly blurred, with an increasing number of public utilities opening their capital to private investors (as SABESP in São Paulo, Brazil) or signing PPP contracts outside of their jurisdiction, where they act as private entities (as ONEP from Morocco in Cameroun). This is good news, as it fosters a more buoyant and competitive market with more choices for those policy-makers in government who must tackle the immense challenges facing the urban water sector in developing countries. The private sector has much to offer, and in many forms. It might just be time for a broader concept of partnership, one that includes all and excludes none.

WATER PARTNERSHIP PROGRAM

The Water Sector Board Practitioner Notes (P-Notes) series is published by the Water Sector Board of the Sustainable Development Network of the World Bank Group. P-Notes are available online at *www.worldbank.org/water*. P-Notes are a synopsis of larger World Bank documents in the water sector.

Water Sector Board

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