Introducing a brochure by AquaFed

Private operators delivering performance
for water-users and public authorities.

Examples from across the world.

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1. Introduction

Most water-users need drinking water and sanitation services to be organised for them by public authorities. These services must be of good quality, reliable and cost-optimised to suit both consumers’ and authorities’ needs. Hiring a private company to deliver them is among the options that these authorities can choose. This paper illustrates the many achievements that can be obtained by using the capacity of private professionals in the delivery of public water and sanitation services.

Public services that perform well are those that are able to deliver good results simultaneously for many dimensions. For example, improving access to drinking water and improving the level of service to the population are equally as important as managing the utility in an efficient way.

The AquaFed brochure1 which forms the substance of this paper, collates a wide sample of field cases of private management of water or sanitation services that illustrate the good results that are obtained, for all the most significant dimensions, by public authorities who have engaged private operators. Each case describes outstanding results achieved on several of these essential dimensions. The cases come from all around the world (see figure 1 below) and illustrate the wide diversity of sizes of private companies. These cases clearly illustrate that in appropriate conditions public authorities and water-users are able to obtain very high service performance from private operators. There are many other examples with similar results. They all draw on public data and are supported by references.

![Figure 1: location of cases studied around the world](http://www.aquafed.org/pages/fr/admin/UserFiles/pdf/AquaFed_Performance_PrivateWaterOperators_2012-03-14.pdf)

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See also: [http://www.aquafed.org/page-6-114.html](http://www.aquafed.org/page-6-114.html)
2. Introducing Private Water Operators and AquaFed

AquaFed, the International Federation of Private Water Operators, represents private companies that deliver water supply or sanitation services under the direction of public authorities.

Members of the Federation are water services providers of all sizes, operating in around 40 countries, as both locally or internationally owned businesses. The members of the Federation serve the majority of those people who get water from private companies that are mandated and regulated by governments. Some supply water and sanitation daily to a few thousand people, others to hundreds of thousands and others to millions or even tens of millions of people. AquaFed's members' business is to be the operators of public services entrusted to them by governments (central government, local government, water authority) through public-private partnership contracts or licenses to supply drinking water and to provide sanitation services to their populations. They do it as instructed by public authorities and under their control.

In this way these private operators are used by public authorities as tools to implement their water policies.

3. Private operation, a management option for delivering good performance

3.1. An option to be considered

Public authorities that are responsible for the delivery of water supply or sanitation services to the population and other water-users have several options they can choose for organising the operational management of these services. They either manage the service themselves with their own operator (internal management), they entrust an external operator or they organise a joint-venture with an external operator. External operators can be public bodies or private companies. All these options can deliver excellent or poor results depending on the circumstances. In the case of external operators, public or private, success factors are mainly the capacity of the operator, the quality of public policy, sustained political support and above all, the good organisation of the relationship between the authority and its operator(s).

3.2. Private operators are change agents

To achieve their water policy outcomes, public authorities need to identify their goals, mobilise appropriate means and charge their operator(s) with appropriate operational targets. In the case of private operators these targets are imposed through a public-partnership contract (PPP) or an operating license and the corresponding regulations. These targets are usually measurable and time-bound. They will almost certainly evolve over time. When initial targets are achieved or objectives change, new targets can be fixed by the authority.

Regulated private operators are change agents that are used to create improvements in the quality and the efficiency of the service delivered. They cannot be held responsible for the situation of the service at the beginning of their contract or license. They are not a substitute for the public authority. Their responsibility is to achieve progress between the situation at the start of their engagement and the current status of quality and efficiency of the service.

This is where the performance of operators lies. It is in their ability to manage change effectively and improve the performance of the service delivered.

3.3. Organising the road to performance

Performance in the delivery of water or sanitation services requires skills and the appropriate means, including legal, financial and operational capacities. It also requires mutual understanding between the public authority and the operator. The latter cannot invent the goals or targets that will satisfy the authority, these have to be formalised in a contract or a license. Usually, performance against these goals is monitored through performance indicators that are used to measure progress.

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2 See ref. 15
Performance indicators can be very diverse. Some relate to the internal functioning and efficiency of the water utility or its cost-effectiveness. Others concern the service delivered to users, its impact on the environment or its relationship with stakeholders. The indicators are controlled by the public authority and show its priorities. They can vary over time since progress achieved in one direction can permit subsequent progress in other directions.

### 3.4. Common misconceptions about private water operators – “The lamp post syndrome”

Because the work of regulated private operators is formalised, and made transparent by monitoring and reporting, knowledge of their action is far more developed in academic or official reports than knowledge of the action of informal operators, NGOs or even public operators. Contracts and licenses provide for strict monitoring, detailed regular reporting, public information and formally debated political decisions. This is not usually the case for the other types of operators. In addition public scrutiny is higher on private operators than on public ones and expectations are also higher. As a consequence, the level of knowledge of the work of private water operators is far more extensive than knowledge of any other type of water provider. This increased basic knowledge creates a cumulative effect. The number of research papers on private operators is greatly out of proportion to their position in the water and sanitation services sector.

The most important issues are not necessarily where there is the most light. The risk of the “lamp-post syndrome” is the risk of looking at the problems of only the minority of cases where they are most visible or most documented and to miss the majority of cases where the magnitude of these problems might be much higher.

![Figure 2 - The Lamp Post Syndrome](image)

The many research reports on individual public-private partnerships (PPPs) cases show a broad diversity of results and illustrate the challenges of ensuring that public-private partnerships are successful. However, they are not sufficient to give a fair and true vision of the beneficial impact of private management of public water services (Private Sector Participation or PSP). Some commentators have tried to present a global vision of water PSP, however these are marred by methodological limitations since systematically they omit or play down the good results achieved.

Research by the World Bank provides a serious global assessment of private management and evidence of the impact and performance of public-private partnerships contracts (PPPs) in developing countries, where these kinds of contract have developed regularly since the eighties.

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3 See ref. 5  
4 See ref. 5  
5 See ref. 25, 27
4. Needs for high performance water services

Water-users need drinking water. They also need their wastewater to be collected safely and they need to be protected from polluted waters. The majority of them have no other choice than to expect these services from public authorities. The performance of such public services should match the expectations of users at an optimised cost.

The cost of these services is ultimately borne by users, either as consumers through water bills or as taxpayers through public budgets. Public water or sanitation services can only be considered to be performing well if users’ expectations are satisfied, improvements decided by public authorities are realised and the overall cost is optimised.

The “raison d’être” of private water operators is to contribute to all these expectations as instructed and regulated by public authorities. This paper provides examples of performance in a variety of directions identified below as the “dimensions” of performance.

4.1. Diversity of performance dimensions

The performance cases presented in this paper illustrate outstanding achievements in a variety of dimensions. They are sorted according to the following categories.

- **Implementing the human right to safe drinking water:**
  - Extending access to water to un-served people
  - Improving accessibility of water
  - Improving availability of water
  - Securing water safety
  - Improving acceptability of water
  - Contributing to affordability of water services
  - Ensuring more equitable water supply

- **Improving wastewater management**
  - Extending wastewater collection
  - Protecting the environment from wastewater pollution

- **Improving relationship with water-users**
  - Satisfying users’ expectations
  - Making life of users easier

- **Improving efficiency of water utilities**
  - Reducing leakage and water losses
  - Improving energy efficiency
  - Securing revenue streams
  - Managing infrastructure assets sustainably
  - Optimising economics of public services

- **Raising and maintaining staff capacity**
- **Responding to natural disasters**
4.2. Implementing the human right to safe drinking water

Individual water-users need clean water daily. Their basic needs are now the subject of the human right that was recognised at the UN level in 2010 as part of the right to an adequate standard of living. In practice, this means precise requirements. It does not only mean that everybody gets a minimum quantity of clean water. It means that this water should be safe, accessible, acceptable, affordable and can be obtained without discrimination. These dimensions are independent one from another. For example, progress on safety and regess on affordability can occur simultaneously. In terms of performance, the improvements made can be measured on a “radar” diagram (see figure 3 below) where progress on these different dimensions can be measured independently. The starting points differ from one city to another; they can also be very diverse according to different users in the same city.

![A multi-dimensional right](image)

Figure 3. Showing progress towards the criteria of the right to safe drinking water

The field cases presented illustrate all these dimensions of the human right to drinking water. They describe the extension of coverage of water networks (physical access), realisation of domestic connections and increase of regularity of water supply (accessibility), compliance with potability standards (safety), suppression of bad taste or odour (acceptability), subsidy mechanisms (affordability) and pro-poor programmes (equity).

**Access.** The cases provide many examples of the extension of water supply to previously un-served people. In many cases the increase in the domestic “coverage” of water networks is very impressive (see figure 4 below). These achievements are all the more remarkable when one notes that on average the coverage of piped water supply in all cities of the developing world has only progressed by less than 1 percent in the last two decades.

At the global level, an extensive World Bank study has made a detailed examination of the 36 largest PPP contracts in developing countries. Initially these contracts supplied drinking water to 48 million people. After less than 10 years the population served had been increased to 72 million people. This represents an increase of 50% in the number of people benefiting from a good public service on those contracts.

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6 See ref. 20
7 See ref. 3, 18, 19
8 See ref. 27
9 See ref. 6
Accessibility. Operators have created millions of new individual connections thereby facilitating access to water. Urban Senegal is an interesting example. In 1998, 20% of the population was completely un-served, without access to tapwater or to a public standpipe, and 22% were supplied through public standpipes. By the end of 2010, only 1.5% remain un-served and only 10% are still using standpipes. All the others benefit from tapwater at home. Switching people from standpipes to tapwater creates a dramatic improvement in their daily lives.

Furthermore, in all cases where water is not running continuously the operator is requested to improve the regularity of water supply which improves availability of water. The examples of Latur, Limeira, Mbombela, Cartagena, and Algiers are described. At the global level, a statistical survey made by the World Bank\textsuperscript{10} found that on average in developing countries private management has brought a 41% increase of the number of hours a day that water is running at the taps.

Safety. Potability of water supplied is the primary target of all private operators. Their job is to provide healthy water to people\textsuperscript{11}. In Apalit 50% of the population could have its water disinfected. In Petropolis, water is now safe everywhere when only 2% was treated in 1998. In cities where water coverage reaches 100%, safety of water becomes the utmost priority. Examples of England or Algiers are good demonstrations of this situation. In Paris a change in the safety regulation imposed the replacement of 70% of all connections because they were in lead. This was done in only 7 years.

Acceptability. Users dislike water that is coloured. In Limeira the cloudiness and the unacceptable colour that were present before 1995 have been removed so that the water is now correct aesthetically.

Affordability. The cases presented illustrate the many mechanisms that are used to keep access to water affordable for all users. For consumption, cross-subsidies between users are described in Apalit, Limeira, Petropolis. For new connections, subsidy mechanisms are described in the cases of small towns in Uganda and Urban Senegal. In Tangiers more than one third of the population pays for the volume of water supplied at home at a price that is cheaper than the price paid by the water supply company to purchase it from the bulk supplier. It could be added that the Government of Chile has put in place a pro-poor subsidy mechanism funded at the central level that aims to mitigating the impact of the cost of the huge investment program. As the subsidies are tailored to the income of each customer, this mechanism reaches the poorest people effectively.

\textsuperscript{10} See ref. 25
\textsuperscript{11} See example of impact in ref. 10
Equity. Private operators are usually requested by public authorities to ensure, at least progressively, a universal service in the area where they are mandated to supply drinking water. This means that they have to face all individual situations including supplying water to all poor water-users. This is normal and usual. There are cases that illustrate their pro-poor activities. In Cartagena, 86% of domestic customers newly connected to water networks are from lower income classes. In Jakarta the number of connections to low-income users has been multiplied by 8. In 1999 in Mbombela 79% of informal houses did not receive water at all and the remainder only received water irregularly. In 2009, only ten years later, in spite of the growth in number of informal houses, the proportion of informal houses with no access to water supply was reduced significantly from 79% to only 9% and 81% of informal houses were receiving water every day.

4.3. Improving wastewater management

Wastewater management is a key sanitation service. It is essential for human health, economic development and protection of ecosystems. For individuals, it starts by collecting domestic wastewater from households and transferring it away from dwelling areas. Then pollution needs to be removed from the wastewater before its discharge or reuse. If not, water bodies and aquifers become more and more polluted by human activities and both humans and ecosystems suffer.

The field cases presented illustrate significant improvements in wastewater collection and treatment. In Limeira (Brazil), in spite of a 31% population growth, the proportion of people connected to the wastewater collection system was raised from 78% to 100% in less than ten years. Simultaneously wastewater treatment, that was almost non-existent at the beginning, has been extended to all the urban wastewater. In the surrounding suburbs of Rostock, the proportion of the populations that is connected to the wastewater collection system has been increased from 28% to 86%. In Chile where only 17% of urban wastewater was treated in 1998, the proportion of urban wastewater that is treated has been increased to 87% in 2010 and should reach 100% by end 2012.

These improvements in wastewater management are beneficial to people where they live. They also help to sustain and protect both the built and natural environment. In the field cases presented, there are several examples of complete recovery of the quality of beaches. Beaches near Gdansk had been closed since 1978. They have been reopened and this has stimulated a tourist boom in the whole coastal area. In Rostock, the quality of the bathing water in the Baltic Sea at this seaside resort region has also been improved. The Bay of Tangiers is now free from wastewater discharge on the beaches allowing the city to upgrade its tourist resort status. In Algiers the number of beaches opened to bathing has also been significantly increased.

4.4. Improving relationship with water-users

Supplying good quality water to people is not sufficient. The operator has to take care of water-users, their expectations and their interaction with the water utility.

The cases illustrate significant improvements in customer care with many examples of ways through which the life of water-users has been made easier: more reliable billing, customer centres closer to water-users, increased public information, call centres allowing quick responses, etc. These cases also describe outstanding results in increasing customer satisfaction ratings. In Cartagena the proportion of satisfied users has increased from 71% to 87%. In Bucharest, it has rocketed from 46% to 75%.

4.5. Improving efficiency of water utilities

The search for efficiency is rooted in the genes of private professional water operators. Private companies are used to improve efficiency of services, which is one of the main reasons why they are hired by public authorities. In particular, the authorities expect cost-savings that will enable them to limit the increase of water rates that they charge to their water-users.

In the document there are many examples of where significant improvements in reducing leakage and water losses in water networks are saving huge amounts of freshwater. The table below gives a flavour of these achievements.
Energy consumption is another domain where optimisation is key. In Bucharest the annual electricity consumption has been reduced by 75% between 2000 and 2010.

Water utilities can only deliver a good service if they are able to collect the monies due to them from users. Field cases in Mbombela, South Africa, and small towns in Uganda provide examples of significant improvements in billing and cash collection.

Professional water operators care about the sustainability of the services that they deliver. In this respect, they work to improve the management of the existing assets and in particular to maintain the networks in good condition. In the case of the distribution of water in central Paris (intra-muros) more than 50% of the distribution networks were renewed by the private water operators and the average "functional" age of the distribution networks is now 21 years younger than it was at the beginning of the PPP contracts 25 years before.

Efficiency is necessary to be able to deliver a good quality service in all conditions. However, costs must remain reasonable and affordable. When an ambitious new water policy aims at improving the service significantly, it is also necessary for the government to limit the price increases that would inevitably result from the new investments required. This is one reason for hiring a private operator. In any case, budget constraints mean that cost-optimisation is always required from private operators. In addition, competition and regulation drive cost-effectiveness: a public authority would not hire a private operator if a cheaper option that could deliver the same results was available. The cases presented illustrate significant investments that private water operators have been able to undertake despite strict budgetary constraints. In Bucharest, significant cost-savings have allowed the population to benefit from the 3rd lowest water tariffs out of the 44 main Romanian operators, even though all the other operators receive subsidies to help them implement their investment programmes. In England and Wales, annual investments for water and wastewater infrastructure have more than doubled since the 1989 privatisation. However, huge efficiency savings have avoided nearly 70% of the cost of new investments from being reflected in water bills paid by water-users.

### 4.6 Raising and maintaining staff capacity

The water services can only be efficient and well-perceived by users if the staff of the water supplier has appropriate skills. This is why training the personnel to upgrade its capacity is an essential tool for delivering additional performance. Private water operators are used to organise regular training of their staff. In some cases they have even invested in dedicated private training centres. This is the case of Amendis in Tangiers that has built a large training centre. The quality of the training programmes is so good that the centre is entitled to deliver diplomas through an agreement with universities. In Cartagena the initial training programme has been massive: 125 hours per employee in 2000. In Algiers, 55,000 training days have been undertaken from 2006 to 2011, through trained trainers (70% of them are Algerian).
4.7. Responding to natural disasters

Operators of public water services must do more than just operating public systems in normal conditions. They must be prepared to anticipate and react to exceptional events such as heavy storms, floods, droughts or accidental pollution or disruption of infrastructure. This is because users need water every day and experienced professionals know that exceptional events have a high probability of occurring over several decades. The case of earthquakes is particularly difficult since it happens very rarely and is particularly disruptive. A big earthquake can destroy water plants and break the main water pipes. In such case water supply may be completely stopped for days or even weeks since repairing large underground pipes may be particularly difficult. The case of the February 2010 earthquake in Chile is remarkable. There, an earthquake more powerful than the one that destroyed Port-au-Prince in Haiti has damaged water networks in a whole region of Chile. The local private water operators reacted immediately. Only 72 hours after the disaster, 87.5% of the water supply was restored and operating in the areas affected. Five days after the earthquake, 90% of the water services had been restored and regions such as Valparaíso, Metropolitana, de O’Higgins and La Araucanía had 100% of its services restored. This was a costly operation, yet, thanks to the insurance contracts secured by the private operators in charge of the affected areas, the damage suffered by the water industry has not had any cost transferred to the government and has not had or will not have any impact on the tariff that the population in the affected areas pays.

5. Conclusion

This overview of the AquaFed study, which itself is based on contractual and regulatory data and is supported by external references, gives examples of the way that using private operators can be a useful tool for public authorities to meet a wide range of public services objectives.

The successes of cases illustrated are almost entirely due to the clarity of objectives and formalised collaborative working methods that involve the combination of political decision makers, public administrators and regulators, professional operators and water service users.

These approaches are replicable and applicable at different scales and are adaptable to many different circumstances. They are a valuable option for public authorities to consider.
6. **Appendix — Cases illustrating the dimensions of performing water services**

### Implementing the human right to safe drinking water:

- **Extending access to water to un-served people**: Apalit, Cartagena, Latur, Mbombela, Petropolis, Tangiers, Uganda, Urban Senegal, West Jakarta
- **Improving accessibility of water**: Latur, Petropolis, Urban Senegal, West Jakarta, Bucharest, Cartagena, Uganda
- **Improving availability of water**: Algiers, Cartagena, Latur, Jakarta, Limeira, Mbombela,
- **Improving acceptability of water**: Pennsylvania, Rostock, Limeira, Gdansk
- **Contributing to affordability of water services**: Apalit, Urban Senegal, Limeira, Petropolis, Tangiers
- **Ensuring more equitable water supply**: Cartagena, Mbombela, West Jakarta, Tangiers

### Improving wastewater management

- **Extending wastewater collection**: Limeira, Cartagena, Chile, Petropolis, Rostock
- **Protecting the environment from wastewater pollution**: Chile, England & Wales, Gdansk, Limeira, Rostock, Tangiers, Algiers, Petropolis

### Improving relationship with water-users

- **Satisfying users’ expectations**: Algiers, Bucharest, Limeira, Cartagena, Urban Senegal
- **Making life of users easier**: England & Wales, Latur, Rostock, Tangiers, Cartagena

### Improving efficiency of water utilities

- **Improving energy efficiency**: Bucharest, Pennsylvania, Shenyang
- **Securing revenue streams**: Mbombela, Uganda, Shenyang
- **Managing infrastructure assets sustainably**: Paris, Pennsylvania, Algiers
- **Optimising economics of public services**: Bucharest, England & Wales, Paris, Uganda, Chile, Petropolis, Urban Senegal

### Raising and maintaining staff capacity

- **Algiers, Apalit, Cartagena, Tangiers**

### Responding to natural disasters

- **Chile**
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