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PRIVATE SECTOR PARTICIPATION IN WATER AND SANITATION FOR DEVELOPING COUNTRIES

KARL-ULRICH RUDOLPH AND
MICHAEL HARBACH*

In developing and transition countries, the public institutions and administrations are weak. Public utilities have not been successful in implementing and maintaining sufficient water supply and sanitation (W&S) services to the people (apart from some positive exceptions). And without reliable W&S, the socio-economic development in any country will be disturbed. Thus, poor W&S are the reason as well as the result of insufficient development.

This dreadful situation has not changed much during the last decades, in spite of huge investment funds financed by international and bilateral donors for new public water utilities (Shikwati 2002). Since the early 1990s, banks and donors have been discussing

and trying to involve private partners and private investment for water and sanitation services in their target regions.

Figure 1 shows the poor status of maintenance and operations (M&O) of a supply water purification plant in Latin America (chemical reaction chamber full of sludge, even weeds growing!). For this utility, the donors decided to insist on private sector participation (PSP) to secure M&O, which was finally realised (after a long and complex process) in 2005.

Water supply correlating with economic development in Macao

Macao (China) is one of the well-researched cases that demonstrates the interrelationship between water services and economic development. Prior to the closure of a water supply concession contract in 1985, water supply was of poor quality (high salinity and turbidity) and unreliable (frequent failures, supply periods in some areas only a couple of hours per day or not at all). Within three years of the implementation of a new concession contract, the water supply quality had nearly achieved EU-

standards. As Figure 2 illustrates, the level of water supply services (counted in number of connected people) and the economic development (GDP) are well-correlated. Although it is obvious that GDP is dependent on many factors, not only on the level of W&S, no one can deny that a lack of infrastructure, especially water supply and sanitation, would have prevented this positive development in Macao.

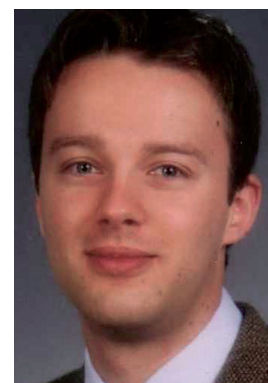


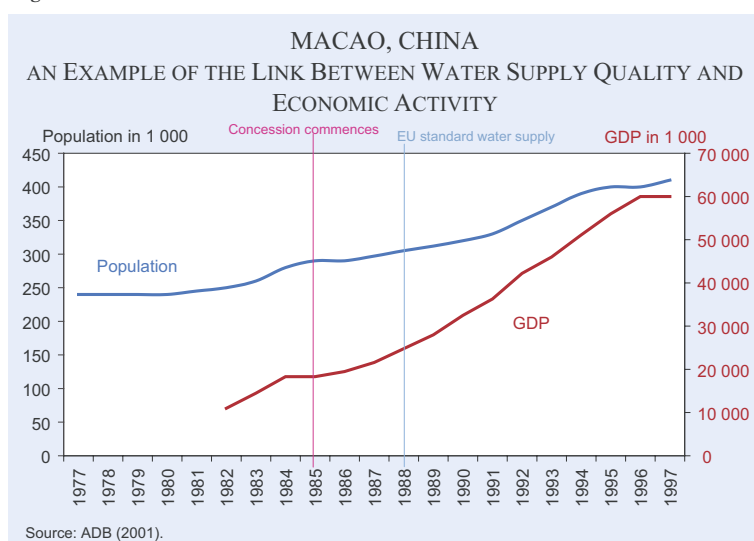
Figure 1
SUPPLY WATER PLANT, CHEMICAL REACTION CHAMBER



Source: GTZ (1996).

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Figure 2



Sanitation and public health, the Durban example

Another well-documented case is Durban, South Africa (Orth et al. 2005). Figure 3 shows a selected supply area, the left part visualising the percentage of appropriate sanitation delivered to the population. The right part shows the number of incidents of waterborne diseases (especially Cholera). Red fields mark regions with no or poor sanitation, green fields indicate high incidents with cholera. The correlation is clear and needs no further explanation.

Beside severe economic costs of waterborne diseases (preventing people from working, and causing sur-

plus expenses in hospitals and the whole medical sector), the huge social impact and human tragedies linked to each individual fate should not be overlooked.

The past 15 years of water PSPs

According to Prasad (2006), there were only two private W&S-investment projects in developing countries before 1987. At that time, water privatisation in France had a tradition of nearly 100 years, the UK had privatised all public water associations two years before, and in Germany a few dozen so-called “Betreibermodelle” (BOOTs) had been realised (the first in 1983, see Rudolph 2001).

The number of PSP-projects in developing and transition countries increased steadily year by year, reaching its peak in 1999 with 38 projects. These PSP-projects involve arrangements ranging from simple service contracts, broad management assignments (with no private capital requirements) and lease contracts (affermage) with private working capital to Greenfield Build-Operate-Transfers (BOT), BOOT-contracts with significant private investment requirements and full concessions gener-

Figure 3

LEVEL OF SANITATION (LEFT) AND NUMBER OF CHOLERA INCIDENTS (RIGHT)

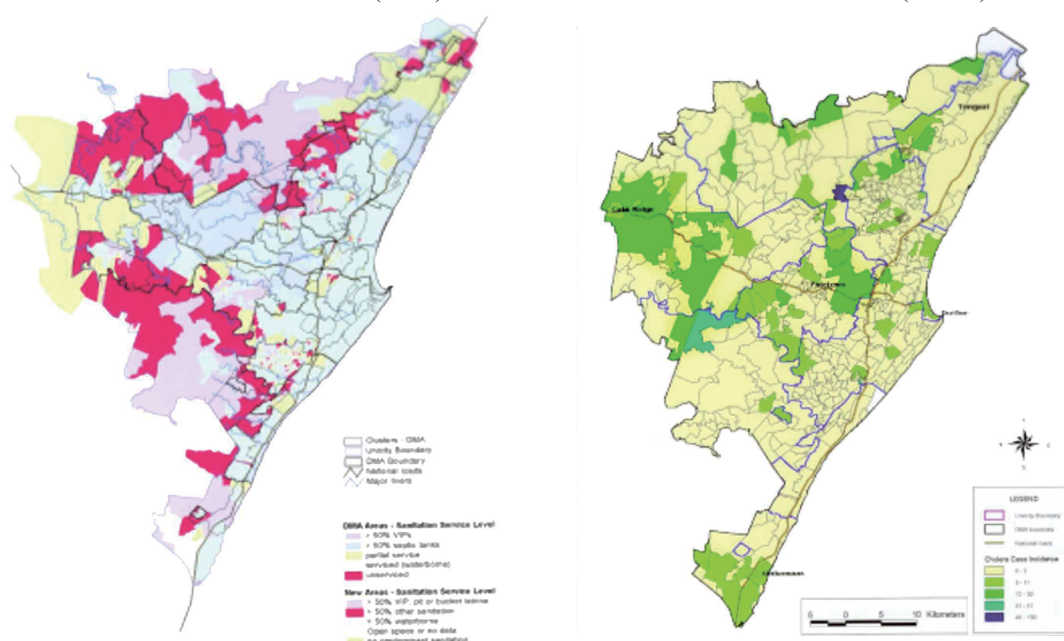
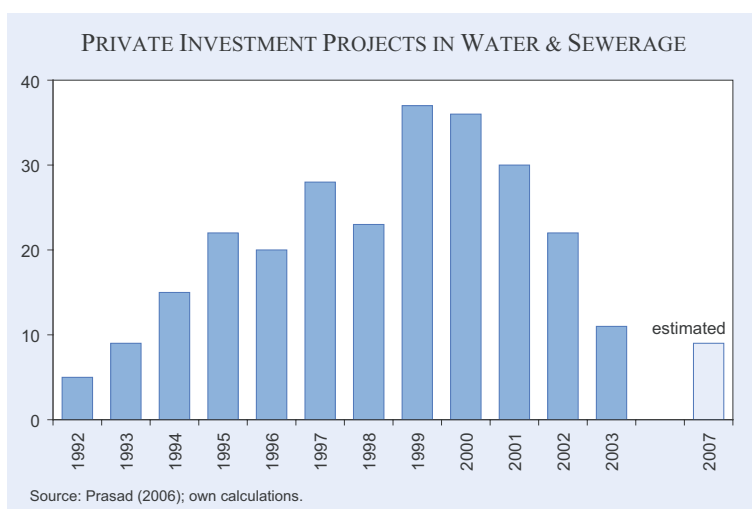


Figure 4



ating legal relations between water customers and private water concession companies.

Due to various reasons (which will be described in the next chapters), the number of PSP-projects has decreased since its peak year 1999 (Figure 4). This decrease occurred despite the fact that demands for better solutions with regards to financing capacity and management efficiency have not been fulfilled.

Recent developments

In 2003, only 11 PSP-projects were realised in the developing and transition world. And until today figures have remained lower than in the peak years with an estimated number of between five and ten realised PSP projects (Izaguirre and Hunt 2005, plus sources analysed by the authors). In 2005, investment flows amounted to USD 1.5 billion, within the USD

1 to 2 billion range for the past five years (excluding the USD 2.5 billion Syabas concession in Malaysia in 2004, according to Marine and Izaguirre 2006).

According to Prasad (2006), 266 projects in developing countries are currently in the “pipeline”, of which 42 percent (111 projects) target a concession type and less than one percent (20) target full privatisation (divestiture).

Though under different working conditions, the development of

PSP projects in Europe and especially in Germany was somewhat similar, Figure 5 shows the number of figures of PSP projects in the reference list of a specialised consulting company (www.professor-rudolph.de). The peak was caused by German reunification and the large number of investments in new water and sanitation facilities was needed to improve the situation in the former German Democratic Republic and Central East Europe (DEG 1999). Especially the very rapid development of sanitation in the former GDR was a unique experience, with lessons learned for worldwide application in transition and developing countries (UBA 2001).

Global players in the water PSP-sector

Since the development and procurement of PSP projects in W&S is a complex issue, and sometimes includes a long and democratic procedure, it is not favourable for small and medium-sized companies without their own lobbying network and large administration (especially for legal issues and other documentation). Hence, the number of players in the PSP water and sanitation sector has decreased considerably.

The French professional water service providers dominate the world market. The global water branches of VEOLIA (former Générale des Eaux) and SUEZ

Figure 5

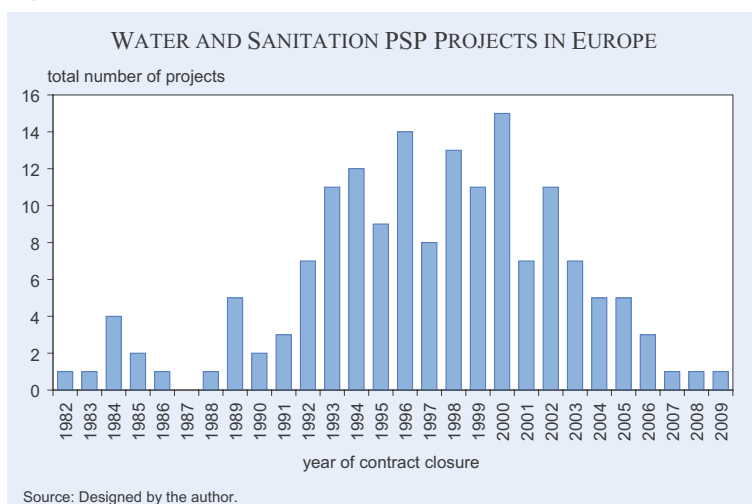
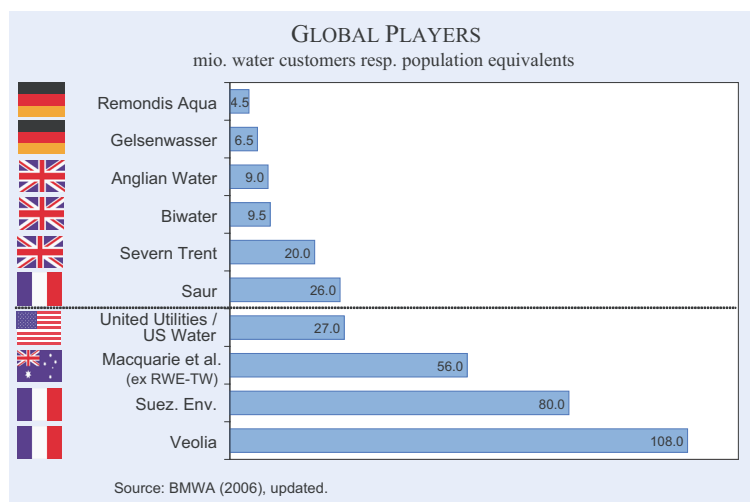


Figure 6



(former Lyonnaise des Eaux) supply approximately 54 percent of the water customers in the PSP world market. Together with SAUR, French companies cover 61 percent of the PSP global market. German companies (including smaller PSP players not listed in Figure 6) have a share of about four percent (after the German power company RWE sold Thames Water to a consortium led by the Australian Macquarie). British private water service providers account for 11 percent or approximately 40 million customers.

Depending on the type of PSP project, the region and (very important) the clients' procurement strategy, there might still be viable competition. In any case the global situation appears to be an oligopoly led by the two giant French companies.

Global network and the factors working against PSP

The decrease in numbers of annual PSP project implementation is caused by the following factors:

1. In various countries, public bodies responsible for W&S have realised that PSP may be a good solution to significantly raise efficiency (a pre-condition for financing), but that one important problem in the water sector will not be resolved by PSP alone: cost-recovery has to be realised in a transparent way, either through public subsidies or water tariffs. On the other hand, private water service companies have realised that they bear more than just commercial risks (manageable with skills and expertise). They had to learn that

politicians and public media (with its populist appeal) might blame the private companies for the water tariffs, even though the costs would have been much higher (and often for less value) without privatisation. Therefore, the clear definition and management of political risks is essential for PSP in W&S.

2. Public functionaries in water utilities (and in this respect, there is little difference between developing countries and industrialised countries like Germany) have recognised that working under a protected monopoly

is much more comfortable than working in a competitive environment. It is understandable that they use their PR and lobbying power in close relationships with their political shareholders (quite often they are the same people as the functionaries and profit from the public monopoly). They tend to emphasise difficulties with profit-oriented private companies, claiming that public administration was always dedicated to the welfare of the customer, with no self-interest at all.

3. Global networks, like ATTAC and internationally linked NGOs, like the BUND in Germany or even members of religious institutions (like the German Brot für die Welt) have strong doubts about the power of competitive markets, and fight against any form of PSP, favouring public monopolies instead. Some activists favour a non-PSP option even in developing countries where it is obvious that water shortage and insufficient sanitation will remain under public control.

However, one argument against PSP cannot be denied: the complexity and the over-bureaucratic approach of the donor-driven PSP tenders has fertilised the global oligopoly illustrated in . Local companies seem to have little or no chance to win PSP contracts.

Failures

It is true that there have been failures in the history of PSP in water and sanitation. But it is also true that the reasons for these failures often lie outside the PSP principle as such and are related to basic prob-

lems which became noticeable in the course of a PSP process:

- **Cochabamba**
From the beginning, a very ambitious and expensive investment scheme was targeted for the profit of construction companies linked to influential politicians. The private company did not insist on changing this scheme to a more efficient one (or could not change the scheme against the will of the client). The international donors concentrated on legal issues, probably neglecting the essential technical-economic environment. Local lobbyists (among them private water vendors who would have lost their profit once the public water supply started working) in close collaboration with the above-mentioned institutions and international networks succeeded in organising public riots. Fierce police reaction caused the tragic death of six people. A realistic cost-calculation comparing the status quo and the status ante with the status post was not communicated in a transparent matter. If the public sector decides not to recover costs through water tariffs (which may be understandable in developing countries), the share of subsidies or revenues must be defined.
- **Manila**
Research carried out by the authors on behalf of the World Bank revealed what experts had probably presumed. One of the two Manila PSPs was successful from the beginning. The second failed to overcome difficulties with definition, billing and collection of water tariffs, due to various reasons (including the Asia crisis). After re-tendering and re-design, the project has recovered.
- **La Paz**
The private concessionaire improved the connection rates and water services to the poor as was defined in the procurement contract, in compliance with the contracted target. Nevertheless, under changed political environment (elections), the public client did not want to proceed, and the private company finally gave up. In the beginning the pressure groups seemed happy. At the moment the situation (although money has been provided by donors) is definitely worse than during the PSP period.
- **Daressalam**
It is very difficult to obtain details and facts describing what happened in this PSP. In the

beginning it was the international donor who applied pressure to set up a PSP (fearing that the public utility would not be able to operate water facilities successfully, even if the investment was granted). As experienced later, this suppressive attitude led to difficulties. As soon as the grant was ready for payment, the PSP was cancelled using a variety of reasons and excuses. The managers of the private company were arrested and forced to leave the country. The public perceived this activity as local patriotism against the “business invader from outside”.

It is the experience of the authors that the full truth about the PSPs in water and sanitation can only be discovered by researching cases individually; internet publications very often feature only one-sided, subjective reports, as the following example shows:

- **Nelspruit**
One positive example is the W&S-concession in Nelspruit, South Africa, which is among the most often cited PSP “failures”. However, a case study undertaken by the authors revealed that the situation has improved considerably, especially for the poor. Even political difficulties (there were never any significant technical difficulties) have been resolved. Connection rates, performance indicators and cost-recovery are much better than for comparable municipalities in the region. As in many other PSP cases, the reality is totally different from the impression gained from information in the Internet.

PSP results so far

The World Bank has recently tried to calculate the number of connections installed by private investors. Depending on the available data, the figures range between 250,000 and 600,000 new connections in 15 years (Clarke 2004). Compared with the more than one billion people without access to safe water supplies (according to data from UN), this figure seems rather low. But the outcome of private sector investment in the water supply and sanitation sector cannot solely be assessed by the number of new connections installed. It is also important to consider the improvements achieved in the water (service) quality.

Overall, 84 percent of the more than 220 contracts awarded for water utilities in 1990–2005 were still

operated by 2005. About 16 percent of the projects have failed (some of these would have also failed in a market economy, not only because of political pressure). Hence, the failure rate is not high (Marine and Izaguirre 2006).

PSP in W&S – a complex issue

The overall positive results and the need for PSP in W&S should not distract from the general difficulties that are linked to the often complex structure of long-term PSP contracts. The W&S sector is a delicate system because of quality requirement and hygienic risks. The social necessity of providing access and (at least and basic) supply (e.g. in RSA: min. 6 m³ per household and month) to the poor is another specific characteristic. These issues have to be solved through a reasonable PSP design, taking into account the natural monopoly of networks for W&S. In other words, PSP in the water sector is more difficult (and riskier in its planning and design because of the very high portion of CAPEX or sunk costs) than in other sectors like power and telecommunication, etc.

In Europe, most of the PSP procurement has been characterised by transparent negotiation (publication → pre-qualification → indicative offer → pre-selection of short-listed bidders → stage-wise exclusion of bidders with proposals worse than others → last offer from preferred bidders → final negotiations → contract closure). But the (sometimes) negative effects of focusing on legal, administrative and financial instead of technical and efficiency-orientated issues has led to the following statement:

PSP projects in W&S are

- seldom tendered as they were originally designed,
- seldom negotiated as they were tendered,
- seldom contracted as they were negotiated,
- and seldom executed as they were contracted.

Another general problem is the fact that the giant global companies are “one-stop-shops”, providing components, reconstruction services, various technologies, etc. This might (and in various cases, certainly did) lead to a conflict of interest between the concession company, whose task is to carry out the concession contract in loyalty to the municipality as concessionaire, and the various departments within the big “one-stop-shop”. Offering a low price in a tender for operational services, these companies are

hoping for extra profit once they are in the position to influence tenders for plant extensions, reconstruction, modernisation etc.

General conclusions

It is obvious that public utilities under the regime of politicians are not able to improve the water and sanitation services in many regions of developing and transition countries. It is also obvious that so-called “privatisation” is disliked by the public and by the media and that this scepticism is supported by political functionaries (according to their institutional and individual interests) and international networks (according to their general opinion about market economies).

General difficulties with PSP, especially the large projects driven by international donors, can be overcome by

- creating PSP procurements in a less bureaucratic way and opening them for regional small and medium-sized enterprises,
- using PSP models that leave legal ownership and long-term governance with the public partner, like management contracts or BOTs,
- ensuring that there is no conflict of interest between operative functions and decisions on the one hand, and trade and delivery of goods (like spare parts, technologies) on the other, embedded in the PSP (as this might happen with concessions and very large one-stop-shop-companies),
- making use of innovative new PSP-models, encouraging SMEs in co-operation with international professionals, as in a franchise scheme (Asian Water 2006).

PSP will remain a difficult option in the water and sanitation sector, more difficult than just collecting grants from donors and operating the facilities without proper cost-recovery. However, achieving the MDG (Millennium Development Goal, to which the international community is committed) and realising a sustainable solution will probably require more efficiency, and in many cases a private partner with professional management skills and some financing power.

The potential of PSP is usually understood as

- a driver of efficiency (institutionalised internalisation of performance incentives),

- a source of financing (making projects bankable and including private capital).

Further more, PSP is the door to the business development of water services (not of water resources!), which may be the major reason for conflicts between those who want this to be a market economy, and those who do not.

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