

# Water Privatisation and Remunicipalisation: International Lessons for Jakarta

by

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## 1. Introduction

This report aims to provide background to the current court case and public debate about the privatised Jakarta water concessions. It seeks to provide international empirical experience concerning privatisation and the role of public sector in water services, in the framework of water as a human right. It uses this experience to identify distinctive features of the Jakarta contracts, and to discuss parallels between the experiences in Jakarta and in the rest of the world. Finally, it offers conclusions in relation to the possible future of water services in Jakarta.

The report is based on the research carried out by PSIRU over the last 15 years. It draws on reports and peer-reviewed academic articles published by PSIRU, and on other published official and academic reports. The authors would be happy to clarify any points on which there are questions.

## 2. The history and present of public and private water

### 2.1. The human right to water as the goal of water service provision

In 2002, the United Nations Committee on Economic, Social and Cultural Rights defined the right to water as the right of everyone to sufficient, safe, acceptable, accessible and affordable water for personal and domestic uses. In 2006, the Sub-Commission on the Promotion and Protection of Human Rights defined the right to sanitation as the right of everyone to have access to adequate and safe sanitation that is conducive to the protection of public health and the environment.

The right to water implies two obligations for states: the obligation to protect, and the obligation to fulfil. “The obligation to protect requires States to prevent third parties from interfering with the right to water. ... The obligation to fulfil requires States to adopt appropriate legislative, administrative, budgetary, judicial, promotional and other measures to fully realize the right to water”. The right to water also contains entitlements for individuals such as access to a minimum amount of safe drinking water to sustain life and health, and participation in water and sanitation related decision-making at the national and community levels.<sup>1</sup>

The decision by governments and local authorities to entrust public or private operators with the provision of water and sanitation services therefore relates to the implementation of the human right to water. Central and local governments have taken similar decisions long before the United Nations recognised the human right to water and sanitation. There is now a wealth of experience on the implications of public and private operations on progress in realising the human right to water and sanitation.

Empirical evidence offers lessons that are relevant to the situation of Jakarta as well as many other cities around the world.

- First, the public sector has historically secured universal access to water and sanitation in the global North.
- Second, the relative growth of water privatisation in the last 25 years has been associated with considerable problems and has been met by widespread social resistance.
- Third, the most remarkable cases of progress in implementing the right to water and sanitation are found today in the public sector both in the global North and South.
- Fourth, social resistance to privatisation and the recognition of the merits of the public sector have recently led to an increasingly growing trend of water remunicipalisation and renationalisation in developed, transition and developing countries.

All this explains why today the great majority of the world’s major cities are served by the public sector.

## 2.2. History of public and private contributions to developing water and sanitation services

In Europe, urban water systems began developing in the 17th or 18th centuries as a limited service to affluent customers and as a public assistance for fire control. As cities grew in the 19th and 20th centuries, the demand for water consumption grew, and public health issues became more acute. While the initial systems were usually started by private companies, during the 19th century, the utilities were fairly soon taken over by municipalities in nearly all European countries. The same process occurred in the United States: by 1897, 82% of the largest cities were served by municipal operations. At the start of the 21<sup>st</sup> century, the proportion was broadly the same.<sup>2</sup>

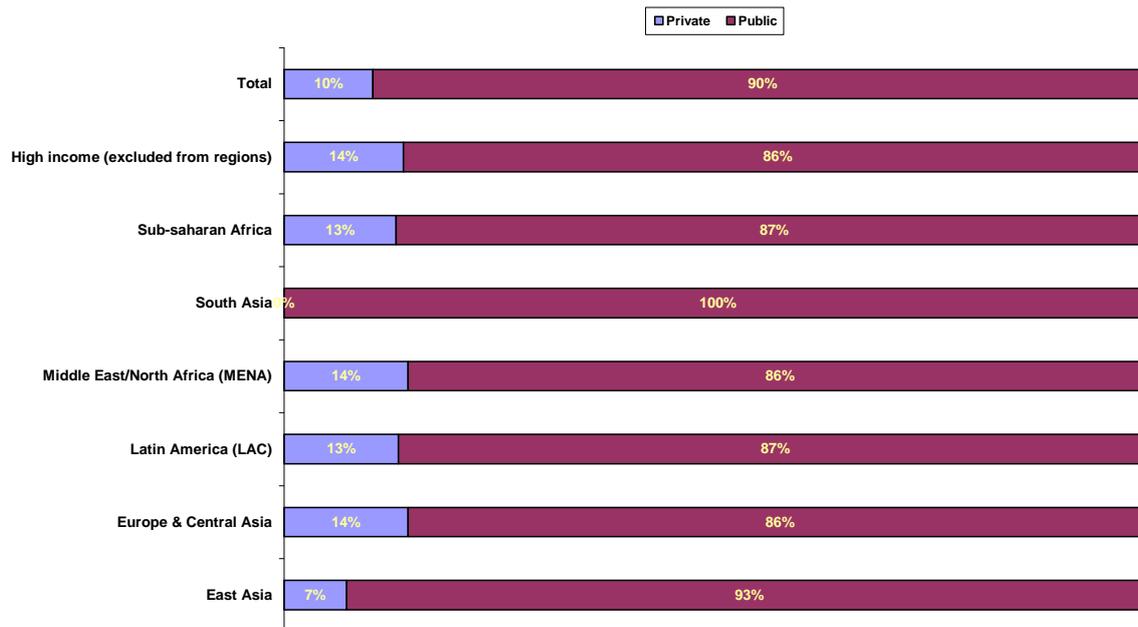
There were a common set of reasons for this, ranging from the limited capacity of private operators to extend public water services to the urban population to the need to avoid the excessively high costs of private sector provision. In addition, municipal governments gained the right to borrow money to cost-effectively invest in the development of their own systems. The extension of water systems in European and US cities thus almost entirely took place under public operators and thanks to public finance. The fundamental role of the public sector in developing water and sanitation services can also be observed in other OECD countries such as Japan.<sup>3</sup> Even in France and the United Kingdom, where today water operations are mostly run by private companies, universal coverage was achieved only through the predominant role of public operators and public finance. Historically, private operations, market forces, and competition have contributed very little to service universalization in developed countries.<sup>4</sup>

As a result, the public sector operates the overwhelming majority of services in cities in all countries. Chart A below shows that in 2006 water services were owned and run by the public sector in about 90% of the largest 400 cities in the world (those with populations over 1million). The proportion run by the private sector is about 14% in high income countries – including the EU, USA, and Japan - and similar in developing countries in Latin America, Africa and Middle East. In East Asia (including Indonesia) there are only 2 cases of water privatisation, Jakarta and Manila.

The proportion privatised has certainly fallen further since 2006, the year in respect of which the analysis was carried out, due to the return of public sector operators in cities such as Berlin (Germany), Buenos Aires (Argentina), Budapest (Hungary), La Paz (Bolivia), Odessa (Ukraine), Paris (France), and Rosario (Argentina). By contrast, there have been very few cases of privatisation since 2006 in large (or small) cities: the only major example is Nagpur (India), which has been the subject of great opposition and criticism.<sup>5</sup>

### Chart A. Public and private water operators in 400 largest cities in the world

Private or public water operators in cities with population over 1 million (October 2006)



Source: PSIRU

### 2.3. The limitations of water privatisation in developed and developing countries

Overall, developing countries have made remarkable progress in extending public water services and making the right to water a reality: the Millennium Development Goal for drinking water was actually achieved 2 years ahead of schedule. Between 1990 and 2010, a period of 20 years, more than 1.26 billion people worldwide gained access to a piped connection on the premises, equivalent to the combined populations of all OECD countries. In urban areas, the average rate of household connections is now, globally, at 80%, and the gap between developing countries and high income countries is rapidly disappearing. Even in rural areas, the use of household water connections has grown rapidly, and the Indian government has now made a commitment to providing household water connections to everyone living in rural areas.<sup>6</sup>

But private companies have contributed very little to this great expansion of public water services, and the companies themselves are now reducing their global activities and becoming smaller. Supported by international financial institutions and bilateral agencies, often by making aid conditional on privatisation,<sup>7</sup> water multinationals expanded considerably from the 1980s to the end of the 1990s. However, the fortunes of international water supply companies have collapsed dramatically in the last 10 years, due to a number of reasons. One reason is their failure to make adequate profits in developing countries as those could not support the rate of return required by international equity capital.<sup>8</sup> Another reason is the fact that, irrespective of theoretical expectations, the private companies failed to show greater efficiency than public sector operations.<sup>9</sup> To the contrary, water privatisation has been repeatedly associated with problems caused by the private sector's prioritisation of commercial considerations over social objectives. The systemic nature of the problems with water privatisation is demonstrated by the fact that these problems are observed under different regulatory frameworks in developed, transition and developing countries.<sup>10</sup>

The problems with water privatisation range from corruption, aiming to secure access to the local market and capture local decision makers and regulators, to a variety of rent-seeking practices that result in inflated pricing.<sup>11</sup> These include: the manipulation of tariff formulas, the systematic renegotiation of prices upward and postponement or downward revision of investment commitments, and overestimation of required investments. Furthermore, private water operators might resort to transfer pricing across vertically and horizontally integrated transactions. This takes place through privileged access to subcontracting or payment to the mother company for the purchase of costly managerial expertise and technical assistance.<sup>12</sup> Although one of the purposes of privatisation has been to obtain investments necessary to extend or improve systems without increasing government borrowing, private contracts have failed to deliver significant new investment

in water infrastructure in developing countries.<sup>13</sup> These problems are discussed in more detail, and with the use of examples, in section 4 of this paper where the problems experienced in Jakarta are compared with those associated with water privatisation in the global North and South.

## 2.4. Unpopularity of privatisation

The multinationals' withdrawal from a large number of countries since 2003 is partly due to the remarkable amount of public resistance to water privatization, a global phenomenon. This is usually based on the perceived injustice of the private operators' pricing and investment policies. The uprising that led to the termination of the private water contract in Cochabamba (Bolivia) in 2000 was the first and most dramatic of a series of conflicts that resulted in the rejection of privatisation proposals in many countries across the Americas, Africa, Asia and Europe in the period 1994-2004.<sup>14</sup> The unpopularity of privatisation is such that two countries in the world – Uruguay and Netherlands - have made water privatisation illegal.<sup>15</sup> In 2011, more than 27.6 million Italian citizens voted against water privatisation in a national referendum.<sup>16</sup> These and other civic campaigns against privatisation have fuelled the list of water remunicipalisations and renationalisations around the world, the extent of which is documented in detail in Annex A to this paper.

Because of the unpopularity of privatisation of water and other public services, such as electricity, the private companies in these sectors, and politicians supporting privatisation, have tried to find new euphemisms for the process in order to avoid the label of privatisation. Thus the water companies have tried very hard to claim that concessions and lease contracts are quite distinct from privatisations. This argument is refuted in the below section on the Jakarta water contract, where we show that in the water and sanitation sector privatised concessions and lease contracts are the normal form of privatisation.

However, the unpopularity of water privatisation alone cannot explain the growing international trend to renationalisation and remunicipalisation of water and sanitation services. In fact, remunicipalisation also reflects the realisation by decision makers of the advantages of the public sector in developing water systems and implementing the right to water and sanitation.

## 2.5. Remunicipalisation of water services since 2000

Annex A to this paper lists the cases of remunicipalisation and renationalisation occurred in the last 15 years in developed, transition and developing countries. Here, it is worth noting that these remunicipalisations and renationalisations occur mainly for three reasons: the widespread problems affecting water privatisation irrespective of country and regulatory regime; the equal or greater efficiency of public water services, and the lower prices resulting from elimination of excessive profits; and, the comparative advantage of the public sector in realising the human right to water and sanitation and achieving other social and environmental objectives. These three reasons have led major cities in the US (e.g. Atlanta, Milwaukee, Indianapolis) and Europe (e.g. Paris, Berlin) to remunicipalise their water services. The case of Paris is symbolically powerful as Paris hosts the headquarters of the two major water multinationals, and because these two multinationals were holding the private contracts that were terminated in 2009.<sup>17</sup> Also, Paris and Berlin (which decided to remunicipalise in September 2013) are the capital cities of the two countries (France and Germany) that are regarded as leading the European Union project.

The cases of remunicipalisation and renationalisation around the world total 81. All of these except three took place between 2000 and 2013. Of the 81 remunicipalitions, 47 are in high income countries and 34 in transition and developing countries. The cases in high income countries show a marked acceleration: 25 out of 47 took place in the five years between 2009 and 2013, while the remaining 22 occurred between 1997 and 2008. The pace of remunicipalisation has therefore doubled after 2009. This is due to the example of Paris which produced an even stronger acceleration in France. Of the 21 remunicipalisations that took place in France, 15 occurred in the four years between 2010 (when Paris remunicipalised) and 2013, while the remaining six occurred in the 12 years between 1997 and 2009. It is also significant that such a high number of cases are concentrated in France, where the experience with water privatisation is more extensive and goes back decades. In middle and low income countries, remunicipalisation takes a slightly different pattern. However, even here there is a number of cases, with high profile cases including Buenos Aires, La Paz, Johannesburg and Dar-es-Salaam. Also, as noted in section the net trend since 2006 is in favour of remunicipalisation. Overall, there is a strong remunicipalisation trend both in the global North and South.

## 2.6. Public-public partnerships

One advantage enjoyed by the public sector for not being subject to the profit maximisation imperative which characterises the private sector, is the possibility of using Public-Public Partnerships (PUPs) as a powerful developmental tool. These are emerging as a preferable alternative to privatisation for developing capacity in the water sector.<sup>18</sup> PUPs are the collaboration between two or more public authorities or organisations, based on solidarity, to improve the capacity and effectiveness of one partner in providing public water supply and/or sanitation services. PUPs are peer relationships forged around common values and objectives, which exclude profit-seeking. The absence of commercial considerations allows public partners to reinvest all available resources into the development of local capacity, to build mutual trust which translates in long term capacity gains, and to incur low transaction costs. By contrast, the private sector's imperative to achieve profit maximisation is incompatible with the need to build capacity in developing countries. Knowledge transfer from private operators to local managers, local authorities and civil society would in fact preclude long term business prospects and undermine the very *raison d'être* of privatisation.<sup>19</sup>

The comparative advantage of PUPs over privatised contracts and other forms of water privatisation (e.g. Public-Private Partnerships, or PPPs) extends to more ample opportunities for replication and scaling up.<sup>20</sup> PUPs are far more diffused globally and induce less social resistance than water privatisation. An international survey of PUPs carried out by PSIRU<sup>21</sup> shows that the number of implemented PUPs largely exceeds the number of privatised contracts in the global water sector. The list in Annex B to this paper includes 137 PUPs in around 70 countries. This means that far more countries have hosted PUPs than host privatised water contracts – according to a report from PPIAF in December 2008, there are only 44 countries with private participation in water. These PUPs cover a period of over 20 years, and have been used in all regions of the world. The earliest date to the 1980s, when the Yokohama Waterworks Bureau first started partnerships to help train staff in other Asian countries. Since the completion of PSIRU's international survey in 2009 the number of PUPs in the global water sector has increased further, a sign of the growing recognition of PUPs as a tool for achieving improvements in public water management. A 2012 PSIRU report for the European Commission identifies 32 new not-for-profit partnerships in the ACP water and sanitation sector, and 33 not-for-profit partnerships in the Asian water and sanitation sector.<sup>22</sup>

## 2.7. Examples of public water services

There are many examples of effective and efficient public sector water and sanitation services in developed, transition and developing countries, on various criteria. These cases can be observed in all continents, not only in affluent countries, and show that public operations enjoy a comparative advantage over the private sector in relation to promoting the human right to water and sanitation. This advantage ultimately lies in the fact that, unlike the private sector, the public sector is not subject to the profit maximisation imperative. This gives public sector management the flexibility to maximise the reinvestment of resources into the system for the achievement of social objectives such as the expansion of service coverage. It also allows public operators to strengthen transparency and accountability through the adoption of advanced forms of democratization and public participation. This level of responsiveness to civil society is never to be found under private operations, because private companies pretend to exert absolute managerial control over operations in order to maximise profits and maximise shareholder remuneration.<sup>23</sup>

The following examples show how, through a combination of remunicipalisation, in-house restructuring (public sector reform with no change in public ownership and public control), democratisation and PUPs, the comparative advantage of the public sector enhances the realisation of the human right to water and sanitation in developed, transition and developing countries.

- **Paris, France:** In Paris, remunicipalisation took place in January 2010 after the expiry of two private contracts covering one half of the city each, respectively held by Suez and Veolia. The private contracts were not renewed in consideration of the lack of financial transparency and accountability which had been repeatedly criticised by public audits body. In the first year of operations, the new municipal operator Eau de Paris realized efficiency savings of €35 million, which allowed for an 8 per cent reduction in tariffs. It has also increased its financial contribution to poor households to the tune of over €3 million per year, launched a water-saving campaign resulting

in social houses saving €50 per year on average, and refrained from cutting off water supply in squats. As regards public participation in decision making, 11 members of the Board of Directors of Eau de Paris are city councillors, two members are workers' representatives and five are civil society representatives. Transparency and accountability are further strengthened by the fact that two civic organisations seat as observers in the Board of Directors.<sup>24</sup>

- **Grenoble, France:** In 2001, water supply was remunicipalised after the termination of a privatised contract with a Suez subsidiary, due to corruption, lack of transparency and excessive pricing. The municipal operator REG has increased investments in maintenance and renewal threefold as compared to the previous private operator, while keeping tariffs at a lower and more stable level. An advanced form of public participation in decision making was adopted by the new public enterprise, with a third of members of the Board of Directors being civil society representatives and the remaining two-thirds being city councillors.<sup>25</sup>
- **Leakage: Public is most efficient:** Leakage is often used as an indicator of overall efficiency. Reducing leakage implies saving on electricity costs, and so the lower the leakage level the higher the efficiency of the utility. When it comes to leakage, the most efficient water operators in the world are found in the public sector. In the Netherlands, where all water supply operators are publicly owned, average leakage is around 4%.<sup>26</sup> In Japan, where virtually all water supply operators are public, the average leakage level is 7.5%.<sup>27</sup> In Germany, where public water operators serve nearly 80% of the national population, average leakage is around 7%.<sup>28</sup> These low levels of leakage are highly unusual under privatisation. One of the reasons is that, as in the case of England, the private sector has no commercial incentive to exceed the “economic level of leakage”, or the level at which it would cost more to make further reductions in leakage than to produce the water from another source.<sup>29</sup> And the economic level of leakage is usually higher than 7%.
- **Phnom Penh, Cambodia:** The in-house restructuring of public operator PPWSA began in 1993 after the downfall of the Khmer Rouge regime.<sup>30</sup> In-house restructuring took place in conjunction with a network of PUPs and twinning arrangements,<sup>31</sup> and service coverage increased from 20% in 1993 to 70% in 2004, and reached 90% in 2007.<sup>32</sup> PPWSA expanded access to water supply in Phnom Penh at a pace and to an extent which is unparalleled by improvements made under privatisation anywhere in the world.
- **Japan:** Japan expanded sewerage coverage from 8 per cent in 1965 to 69 per cent in 2006 (and projected to reach 72 per cent in 2007), using public finance, public operations and domestic PUPs, mainly technical and financial assistance provided by a central governmental agency to local authorities.<sup>33</sup>
- **China:** Over 80% of wastewater treatment plants in China have been developed by municipalities through PUPs with local public sector companies able to mobilise investment finance. This is far more significant than the much-publicised plants built by the private sector.<sup>34</sup>
- **Uruguay:** A World Bank study has compared water services in Uruguay under privatisation in the 1990s, followed by nationalisation in the 2000s. The study showed growth in service access and improved water quality under nationalisation. More precisely, nationalization led to a 15 percent increase in access to sanitation networks, mainly benefitting the poorest, whereas privatisation had no impact.<sup>35</sup>
- **Porto Alegre, Brazil:** Water supply and sanitation are provided by the municipally-owned operator DMAE, which has expanded service coverage despite a rapid increase in population. Access to water supply increased from 95% in 1990 to 99.5% in 2001, and access to sewerage increased from 70% in 1990 to 84% in 2001. Civil society representation within DMAE's Board of Directors is accompanied with participatory budgeting, an exercise in which citizens vote on how to allocate the municipal budget to fund expenditure in different services including water supply and sanitation. Not only do citizens vote on what investments to finance but also appoint a technical committee responsible for overseeing the correct implementation of the decisions adopted.<sup>36</sup>
- **Burkina Faso:** Under full public ownership and management, Burkina Faso's utility ONEA increased service coverage by an annual average of 1.64% from 1990 to 2001. This compares to 0.83% under a private contract from 2001 to 2007 and despite declining urban growth rates.<sup>37</sup>
- **Lilongwe, Malawi:** Funded by the World Bank in the 1980s, a PUP to improve the water and sanitation services of Lilongwe, Malawi expanded the distribution system and strengthened the capacity of the water board. Access to water improved significantly; the PUP helped develop an

effective management support and training programme; the efficiency of operations increased considerably; the level of unaccounted-for-water fell to 16 percent; labour costs were reduced; response time to new service applications and customer complaints improved.<sup>38</sup>

### 3. The Jakarta water contracts

The preceding sections show that the public sector has, historically and to date, proven to have a comparative advantage over the private sector in the achievement of developmental objectives such as the human right to water and sanitation; that the problems of private water concessions are widespread; that many private contracts have been terminated, or are subject to social resistance; and that all this explains why public sector operation is normal.

Against this background, this section demonstrates that the Jakarta concessions are a form of water privatisation, and examines the problems associated with the two Jakarta water concessions, drawing on major source documents produced by local observers.<sup>39</sup> The parallels between the problems experienced in Jakarta and those observed in other cities of the global North and South are then reviewed in section 4.

#### 3.1. The Jakarta concessions as water privatisation

As noted above, the private water companies themselves and their supporters are extremely aware of the fact that privatisation of water, energy and similar services is deeply unpopular, throughout the world. They have therefore attempted to insist that the word privatisation is restricted to the sale of assets, such as company shares or physical networks, and so concession or lease contracts should not be called privatisation. The desired effect of this public relations exercise is to create an image of concessions which is distanced and dissociated from the controversial idea of privatisation. However, as indicated by the definition of privatisation used by the World Bank, concession or lease contracts include the essential elements of privatisation, that is the transfer of rights to streams of income, to private companies.<sup>40</sup> Concessions are therefore considered as forms of privatisation by the overwhelming majority of people and experts concerned with the subject. They are the normal form of privatisation of water services, throughout the world: only the UK has privatised water services through the sale of assets.<sup>41</sup>

Academic articles on water invariably use privatisation to refer to the concession or lease contracts e.g. in USA, France, Germany, Italy, Spain, Greece, Turkey, Australia, Philippines, Malaysia, Thailand, Ghana, South Africa, Bolivia, Argentina, India – and the Jakarta water concession itself.<sup>42</sup> ‘Privatisation’ was consistently used in this broad sense to cover contracts of all kinds, by the UK government of Mrs Thatcher which pioneered privatisation in the 1980s, who considered that outsourcing through contracts, e.g. of waste management or school cleaning, were forms of privatisation, as much as the sale of assets. In the USA, ‘privatization’ is also normally used to refer to any such outsourcing, including concession or lease contracts for water services.<sup>43</sup> Even French authors agree that these arrangements are French-style privatisation (“privatisation à la française”) and refer to the fact that water privatisation has diffused in France more than elsewhere (“l’extension de la privatisation des services de l’eau, en France plus qu’ailleurs... »).<sup>44</sup>

In light of the above, the two Jakarta water concessions should be regarded as a form of water privatisation. Also, the experience with the two Jakarta concessions can be compared to that of other water privatisations around the world. Before we do so, it might help to consider the orthodox theory of privatisation as this has informed the World Bank’s position in favour of concession and lease contracts in the water sector. In turn, the World Bank has influenced the policies and decisions of public authorities around the world, including in the case of Jakarta’s water privatisation.<sup>45</sup> According to orthodox theory, privatisation is expected to unleash the efficiencies of the private sector and deliver social and environmental benefits thanks to the allocation of operating risk. The World Bank has stressed that whether concessions and lease contracts “perform better than full provision by state-owned enterprises depends in particular on whether performance risk is effectively shifted from taxpayers to the private shareholders of the company that enters into a concession-type arrangement”.<sup>46</sup> However, as we show in the following sections, the practice is radically different from the theory of water privatisation: both in Jakarta and globally, the reality of water privatisation is highly controversial and far from the illusions of private sector efficiency.

### 3.2. Problems with the Jakarta concessions and performance

The two concession contracts originated as political acts of the Suharto regime. The privatisation process started with a letter from President Suharto in 1995, and led to two companies being appointed in 1997, without any competitive tendering. The corruption in this process took place through the original share allocations: the British firm Thames Water allocated shares to a firm owned by the son of the president, the French company Suez Lyonnaise des Eaux allocated shares to a firm owned by a crony of Suharto. After the fall of Suharto in 1998, these allocations were rapidly reduced.<sup>47</sup>

Like many privatised water contracts,<sup>48</sup> the Jakarta contracts were revised in 2001 in order to make it easier for the companies. This was because the private companies were unable to make sufficient profits and achieve the targets of the original contracts. The revisions reduced the targets for coverage and non-revenue water to levels below what was achieved by the publicly-owned PAM Jaya in 1995, and even the new targets are weakened by various exceptions and flexibility clauses.<sup>49</sup>

The overall objectives of the renegotiated contract still refer to 'comprehensive coverage...substantial extension...increase efficiency... ensure the quantity, quality and continuity of supply of clean water and potable water... to meet the technical target and service standards... to reduce the quantity of unaccounted for water...'<sup>50</sup>. But the actual performance of the companies is very poor. There has been little extension of the network, with the lowest level of coverage of major Asian cities; the price per cubic meter of water is the highest of any major Asian city; in terms of quality, the water coming out of the taps must be boiled; in terms of efficiency, non-revenue water remains over 50%.<sup>51</sup>

The 2001 revisions also created a new system for payment of the companies, which can best be described as a 'cost-plus' contract with guaranteed profits. The companies are paid according to their costs, protected against inflation, interest rates, foreign exchange rate and even tax changes.<sup>52</sup> These include a 'know-how' fee, or management fee, which is typical of water concessions, and consists in a predetermined yearly amount paid for the provision of technical and managerial expertise by the concessionaire's mother company to the same concessionaire.<sup>53</sup> A World Bank paper noted that the effect of these 'management fees' is to provide a guaranteed dividend for the owners of the operating companies. Also, the payment of guaranteed fees for technical and managerial expertise can be additional to the payment of dividends to the private shareholders.<sup>54</sup> In addition to the management fee, tariffs in Jakarta are calculated to provide a guaranteed return on capital of 22%.<sup>55</sup> Not only these contractual terms remove any element of financial risk from the companies, who therefore have no incentive to operate efficiently, but are also unusually generous. The guaranteed investment rate of return of 22% is high by international standards.

In practice, the tariffs consist in a dual charging system which explains why they are called delinked tariffs. The actual tariff is charged to Jakarta's water users, upon the approval of the Governor, and a much higher charge for service provision is paid by PAM Jaya to the companies. This charge includes the guaranteed investment rate of return and management fee, and represents a combined source of profit for the private concessionaires irrespective of their poor performance. So when the tariffs charged to users are held down to make them affordable, the shortfall of the projected profit has to be covered by PAM Jaya and the government of DKI Jakarta, not by the operators. In 2006, the guaranteed investment rate of return and management fee for Suez' Palyia totalled Rp. 23.5billion. The difference between the subsidised tariffs and the charges demanded by the concessionaires is considerable, to the point that the deficit accumulated by PAM Jaya to pay the charge demanded by one concessionaire alone (Suez' Palyia) reached Rp. 239.58 billion in 2009.<sup>56</sup>

The profit-seeking practices of the private concessionaires have implications for the full realisation of the human right to water in Jakarta. The fact that Jakarta's citizens and water users are receiving a water service of unacceptable quality affects the right to access to safe and acceptable water for personal and domestic uses. The fact that Jakarta's public authorities incur an escalating deficit to subsidise tariffs and ensure that citizens have access to affordable water is also significant. In the absence of privatisation, the deficit accumulated by PAM Jaya to remunerate the concessionaires with a guaranteed profit could be used to promote the full realisation of the human right to water in Jakarta. For example, they could be used to ensure that a public operator accelerates the extension of service coverage to those who still lack access, and provides water that is not only affordable but also safe for all personal and domestic uses without boiling.

## 4. Problems with the Jakarta privatised water concession and commonality with privatised concessions around the world

The problems associated with the Jakarta water concessions are not incidental, or due to fortuitous circumstances, for example because of the selection of the wrong companies, errors in drafting the contractual arrangements and allocating performance risk, or the competence of regulatory authorities. The fact that the same problems can be observed in several cases of water privatisation under different regulatory frameworks and contractual arrangements, both in the global North and South, shows that these problems are systemic and not fortuitous. These problems are in fact determined by the conflict between the private sector's profit maximisation imperative and the social objectives of water service provision. While the human right to water demands that people and the public interest should be put first, water privatisation demands that no one and nothing should come before profit.

This has obvious implications for a human rights-based approach to deciding how water and sanitation services should be organised and managed, not only in Jakarta but elsewhere. It has also implications for the credibility of attempts to address Jakarta's problems by reforming the contract. As the cases below show, many other cities which have privatised water have found, it may not be possible to revise contracts so that they are profitable enough for the companies, and at the same time enhance the right to water and sanitation. The systemic nature of the problems with water privatisation strengthens the evidence on the comparative advantage of the public sector over the private sector in relation to enhancing the human right to water. In the case of Jakarta, it points to remunicipalisation as the more credible option to fully realise the right to water.

The following cases are representative of the problems with water privatisation both in the global North and South. They are grouped under categories that are relevant to decision making in Jakarta, and illustrate the experience with these problems under a variety of contractual and regulatory arrangements: concessions, lease contracts, and English-style divestiture; French-style regulation by local authorities and English-style regulation by an independent regulatory agency. For each case, there is a brief description of the problems occurred and mention of the regulatory and contractual arrangement in place. These cases should not be considered as being exhaustive, and the literature on the problems with water privatisation is extensive.

### 4.1. Management fees or "know-how" fees

Management fees, or 'know-how' fees, are frequently used in France where they take a variety of names, such as "frais de siège", "frais de groupe" or "frais de structure".<sup>57</sup> Their use has been diffused by French multinationals to other countries, for example Italy where they have been at times defined as "prestazioni accessorie".<sup>58</sup> Irrespective of the definition used to describe them, the principle behind these fees is the remuneration of the concessionaire's owners for the transfer of technical and managerial knowledge to the concessionaire itself. The remuneration for this knowledge is decided upfront. Also, the costs of transferring this knowledge from the mother company to the subsidiary which operates the concession are virtual, and so they effectively represent guaranteed income and profit for the concessionaire's owners. Management fees, however, are often used in conjunction with a variety of other techniques aimed at securing the remuneration of the private operator and its owners (see for example section 5.3 on subcontracting and transfer pricing).

- **Grenoble, France:** A controversial lease contract that had been awarded to a Suez subsidiary in 1989 as a result of corruption was renegotiated in 1996. The renegotiated contract provided for the operator to subcontract management and other services to Suez, and guaranteed the increasing remuneration of the operator even in the absence of additional operating risks. The renegotiated contract was also controversial and was terminated in 2001 when water supply was remunicipalised.<sup>59</sup>
- **Arezzo, Italy:** In 1999, a water supply and sanitation concession was awarded to a public-private operator (where the private partner was a consortium including Suez). The concession agreement provided for the payment of a guaranteed management fee to the private operator, in addition to the subcontracting of all works and services to the private operator. By 2002, the regulatory office of local authorities was sanctioning the private operator for its inefficiency and requested the reduction of the amount of the management fees. This resulted in a tense confrontation between Suez and local authorities until - after threatening to demand multi-million compensation in front of an arbitration

tribunal, and suspending payments to local authorities for the use of the infrastructure - Suez obtained the postponement and reduction of projected investments.<sup>60</sup>

- **Dolphin Coast, South Africa:** In 1999, Saur was awarded a lease contract for the provision of water supply through Siza Water, a joint venture with local partners. The contract was renegotiated in 2001 due to a shortfall in revenues and, although Siza Water's operations remained unprofitable, Saur obtained a 21 per cent return on its investment, because of the fixed management fee that Siza paid to Saur each year.<sup>61</sup>
- **Cartagena, Colombia:** In 1995, a 26-year operating contract was awarded to Acuacar, a public-private joint venture between the city council and Aguas de Barcelona, to provide water supply and sanitation to Cartagena. Aguas de Barcelona was remunerated through the dividends paid to shareholders as well as management fees, calculated as a percentage of Acuacar's gross income. This arrangement has allowed Aguas de Barcelona to extract increasing revenues from its Cartagena operations, as management fees were calculated as a growing percentage of Acuacar's gross income.<sup>62</sup>

#### 4.2. Delinked tariffs and guaranteed rate of return

The delinked tariffs used in Jakarta are an unusual charging system for concessions and lease contracts, as private operators prefer to charge the full cost of service to water users. The reason for this is that the threat of disconnecting users is a powerful deterrent against non-payment. However, variations of delinked tariffs are used in relation to water and wastewater treatment BOT (Build-Operate-Transfer) projects, as the project operator is not necessarily the service operator and therefore might not have the power to disconnect users. It is common practice that water BOT operators charge a guaranteed amount to local authorities, who can then pass the charge on to water users or decide to protect users by means of subsidies if prices turn out to be unaffordable.<sup>63</sup> This variation of delinked tariffs is known as a take-or-pay clause, and is similar to Power Purchase Agreements (PPAs) in the electricity sector, where generating companies (known as independent power producers, or IPPs) are paid guaranteed prices, while the public distribution authority charges users a far lower tariff and bears a growing debt burden (there are many such cases in Latin America, and in Asia, Pakistan and Indonesia itself has experienced the problems of this system in electricity, as a result of corrupt PPAs with IPPs).<sup>64</sup>

Delinked tariffs, take-or-pay agreements, and PPAs have the function of guaranteeing the private operators' profitability. However, as the cases below show, private concessionaires can achieve the same goal by entering a clause in the contract which states the level of guaranteed profit for the duration of the contract. Therefore, renegotiating a concession to suppress unpopular delinked tariffs would not change things if the effect of the renegotiated contract was to otherwise guarantee the same level of profit as the original contract.

- **Shanghai, China:** Thames Water abandoned its Da Chang BOT treatment plant near Shanghai after the Chinese government declared that the municipal guarantee of a 16 per cent profit was invalid. The plant had been operating for nine years, but the reaction of Thames to the loss of the guarantee implies that the price charged under the formula was bound to fall sharply once the guarantee was removed.<sup>65</sup>
- **Ho Chi Minh City, Vietnam:** The Thu Duc treatment plant BOT in Ho Chi Minh City began operations in 1999. Under the contract, it sold water to the city water utility at 20 cents per cubic metre, although the price charged by the utility to consumers was only 11 cents. The balance had to be subsidised by the city council. In February 2003 Suez abandoned the contract, reportedly because of disputes over its interpretation.<sup>66</sup>
- **Cochabamba, Bolivia:** Awarded in 1999, the Cochabamba water supply and sanitation concession allowed the operating company Aguas del Tunari, a subsidiary of International Water Limited (IWL), to enjoy a guaranteed 15% real return for 40 years. The concession led to price hikes of up to 200% and was terminated in April 2000, following social unrest.<sup>67</sup>
- **Berlin, Germany:** In 1999, a water and sanitation concession was awarded to a consortium including RWE and Veolia. The contract guaranteed that the return on equity for the private concessionaires would be eight per cent. The contract was highly controversial as it led to "severe under-investment" and the explosion of prices,<sup>68</sup> and triggered a popular referendum in 2011 for the

publication of the secret contract. The contract was terminated and water and sanitation services remunicipalised in September 2013.<sup>69</sup>

#### 4.3. Subcontracting, transfer pricing and other interest-seeking tactics

Other tactics used by private operators to inflate the profits of the mother company include subcontracting works to companies of the same group and paying prices that, in a practice called “transfer pricing”, produce a loss for the local operations but a profit for the mother company. Furthermore, private operators can manipulate tariff formulas by giving information to regulators which results in inflated prices. These interest-seeking practices can be used in addition to, or instead of, practices such as the use of management fees, delinked tariffs and guaranteed rates of return.

- **Paris, France:** In 1984, two 25-year lease contracts for water supply in Paris were awarded respectively to Veolia and Suez. In 2000, the contracts were criticised by the regional audit body for lack of financial transparency and in 2002 an audit commissioned by the city of Paris found that the prices charged by the lease operators were between 25% and 30% higher than the correct amount. In 2003, the national audit body found that the difference between the financial reserves constituted by the operators for the conduction of maintenance works and the amount of the works effectively carried out by the companies was increasing year on year. This tactic had the effect of inflating prices and postponing infrastructure maintenance. In addition, the owners of the operators received payment of know-how fees. The two lease operators subcontracted works and maintenance to subsidiaries of the same groups, and paid the subcontracted subsidiaries so that the mother companies could realise additional profits. Because this situation persisted despite the renegotiation of the contracts in 2003, the city of Paris remunicipalised water supply in 2010.<sup>70</sup>
- **England and Wales:** In England and Wales, the 1989 privatisation of water and sewerage services in the form of outright divestiture was accompanied by the introduction of price-cap regulation enforced by the independent agency Ofwat. Employing more than 200 people in 2013, this is reputed to be one of the most powerful water regulators in the world.<sup>71</sup> However, despite its considerable resources Ofwat has been unable to deal with the companies’ opportunistic behaviour, for example in the form of the so called “gaming”. This tactic consists in overestimating the value of projected investments so that the tariffs allowed by the regulator are higher than they should be. From 1995 to 2006, the companies’ gaming has resulted in over GBP 4.3 billion of extra dividends paid to shareholders across the industry, equal to 9.6% of the total value of projected investments. The deliberate misrepresentation of data has also been the object of investigations and charges brought by the Serious Fraud Office. The scandal emerged as a result of whistle-blowing and not thanks to Ofwat’s regulatory scrutiny.<sup>72</sup>
- **Szeged, Hungary:** Veolia owned 49% of Szegedi Vizmu, the company which runs the water operating concession in Szeged. The concession contract stated that if the tariffs were not sufficiently high to provide an operating profit, the council must make good the loss for the company.<sup>73</sup> A separate works company 70% owned by Veolia and 30% by the local municipality had also been established. Szegedi Vizmu paid the works company a fixed annual fee, described as “very high”, for the execution of all the maintenance work. Moreover, the works company had exclusive rights to works contracts issued by Szegedi Vizmu. This arrangement allowed Veolia to use its works subsidiary as a vehicle to export a high share of the profits realised by Szegedi Vizmu.<sup>74</sup>
- **Kuala Lumpur, Malaysia:** Malaysia is in the process of renationalising its water network. In Selangor province, which includes Kuala Lumpur, the water concession is held by Syabas, owned by the Malaysian private company Puncak Niaga. In 2009 press reports noted ‘numerous irregularities’, involving large fixed management fees, accounting and financial devices such as non-tendered awarding of contracts, as well as high levels of inefficiency. Under its management fee agreement with its parent company Puncak Niaga, Syabas has to pay Puncak management fees amounting to RM8.4 annually and RM32 million since 2005. Syabas awarded 72 percent of contracts, worth RM600 million [US\$180m.], without open tender. Tariffs charged by Syabas are RM0.77 per cubic meter, more than double the amount of RM0.37 charged by the public sector water operator in Penang State.<sup>75</sup>
- **Guinea:** In 1989, a consortium led by SAUR and Veolia was awarded a lease contract to operate water services in 17 Guinean urban centres, and set up SEEG as the operating company. Asymmetry

of information between SEEG and the regulatory agency meant that the formulas used to adjust prices in response to cost changes were misapplied and that tariffs were overvalued. Because of this, the remuneration of the private operator was double the correct amount – i.e. 448 GF/m<sup>3</sup> instead of 214 GF/m<sup>3</sup>.<sup>76</sup>

#### 4.4. Low investments

Private operators have two main ways to enhance profitability. One is to increase the water charges paid for by water users or local authorities; another is to avoid carrying out the agreed investments while being remunerated as if they had implemented the full investment programme. The most extreme form of boosting profits by reducing expenditure on investment is represented by the practice of charging for investments that have already been paid for. However, price hikes and profiting from reduced investment expenditure are not mutually exclusive: private operators often resort to both interest-seeking tactics.

- **Nice, France:** Veolia's Générale des Eaux has managed water supply and sanitation in Nice under a concession contract since 1864. In March 2002, Nice city council renegotiated the water concession and agreed an average 15% reduction in a typical annual water bill. The price cut was possible because an opposition local councillor realised that the company had continued to charge a supplement, introduced in 1987 to finance refurbishing of a channel, long after the work had been paid for.<sup>77</sup> Despite the contractual renegotiation, problems with performance led Nice city council to decide to terminate the contract with Veolia and remunicipalise the service in February 2015.<sup>78</sup>
- **Buenos Aires, Argentina:** In May 1993, a Suez-led consortium started operating a 30-year water supply and sanitation concession in Buenos Aires, Argentina. From May 1993 to January 2002, average household bills increased by 88.2% in nominal terms as opposed to a 7.3% increase in the Consumer Price Index. This period was before the Argentinean crisis and the devaluation of the Peso, and during the whole period the Argentine Peso maintained its parity with the US\$. Not only did water charges increase significantly above inflation. Aguas Argentinas also failed to realise 57.9% of the originally agreed investments for a total of US\$ 746.39 million. When considering investment targets set by the 1997 renegotiation, Aguas Argentinas failed to realise 39% of projected expansions in the water supply network and 59.7% of projected investments in the expansion of the sewerage network.<sup>79</sup> In March 2006, the Argentine government revoked Aguas Argentinas' concession on grounds of failure to provide the promised levels of investment and service quality, and renationalised the service.<sup>80</sup>
- **Gabon:** Water has been privatised in Gabon since 1997, under a joint energy and water concession to SEEG, which is 51% owned by Veolia. In January 2010 some districts of Libreville, the capital, still had no water at all, while others faced cuts of up to eight hours a day.<sup>81</sup> In April 2010, the government commissioned Deloitte to carry out an audit of SEEG's performance. "The audit concluded that SEEG had not met expectations in terms of service, and had fallen short of its infrastructure investment targets".<sup>82</sup> The same problems of under-investment had existed for years and in 2004 led to an outbreak of typhoid in a town after months without a functioning water supply. The problems persisted despite the financial support of the World Bank's International Finance Corporation, and repeated government complaints.<sup>83</sup> Following Deloitte's audit, the concession agreement was renegotiated and brought under the supervision of a regulatory agency, and the French state-owned energy company EDF bought half of Veolia's shares in SEEG.<sup>84</sup> However, in October 2012, the capital Libreville was still affected by water cuts lasting several days.<sup>85</sup>
- **Tallinn, Estonia:** In January 2001, IWL and United Utilities acquired a 50.4% stake in Tallinna Vesi. In May 2001, Tallinna Vesi demanded that the city council agree to pay a total of EEK 235m (US\$ 12.8m) in five years for water drainage. The tariffs already covered surface water drainage and so the council would pay double for the same service. The private operator also stripped the local company of its assets depriving it of resources that could have been used to finance investment. In May 2001, Tallinna Vesi's supervisory council recommended that shareholders pay out EEK 182m (US\$ 10.3m) in dividends out of the profit for the financial year and previous years' retained profit. The reason for payment of such high dividends was the "obvious" overcapitalization of the Tallinna Vesi balance sheet and the large amount of idle money on its bank account. By the end of 2002, two years after privatisation, International Water and United Utilities had together received a total of EEK 636 million - partly in dividends and partly from the capital reduction - and this before the 50% above-inflation rise in water prices expected by 2010.<sup>86</sup>

## 5. Conclusions

We offer a number of conclusions from the analysis we have offered.

Firstly, the Jakarta water concessions are similar in structure to the great majority of privatised water services around the world. They follow the French model of delegated concession or lease contracts, and show many of the features typical of such contracts.

Secondly, the problematic aspects of the contract can also be observed in the experience of other countries, including France, as well as other developing countries. These include the clauses designed to minimise risk and secure profits (the guaranteed rate of return, the 'know-how' fees, the privileged sub-contracting) as well as those enabling the operator to cover all costs while minimising investments (the delinked tariffs, the weakness of the enforcement powers of both the regulator and the public authority).

Thirdly, the performance problems are not unique to Jakarta. As the section on terminations shows, many other cities which have privatised water have also experienced the same combination of high prices, low investment, no efficiency improvements, and poor performance.

Fourthly, as many of these cities found, it may not be possible to revise contracts so that they are profitable enough for the companies, and at the same time deliver the public interest objectives – lower prices, greater investment in extensions and efficiency. In any case, companies will demand compensation for an unfavourable revision of a contract as much as they would for termination.

Fifthly, if a contract is terminated, a public sector operation needs to be re-established. This should be planned for at an early stage, as the necessary capacity-building may take some time. The growth in PUPs is of potential assistance in this process.

Sixthly, the adoption of the human right to water by the UN, and the positive success of many countries in achieving the Millennium Development Goals for water, the current trends to re-municipalisation, and the interest in the potential of public-public partnerships, are all reminders of the historic role of the public sector in extending and delivering water services.

## Annex A - The extent of water remunicipalisation and renationalisation around the world

T = Terminated

E = Contract expired and not renewed

P = Planned termination

S = Sold by private operator

W = Private operator withdrawn

Table 1: High income countries

Country	City	Date	Company	Status
Belgium	Regional (Aquafin)	2004	Severn Trent	TS
Canada	Hamilton	2004	American Water	TE
Canada	Hamilton	2006	Enron	
France	Durance-Luberon	1997	Suez	TE
France	Grenoble	2000	Suez	T
France	Varages	2002	Suez	TE
France	Castres	2003	Suez	T
France	Cherbourg	2005	Veolia	TE
France	Châtelleraut	2007	Veolia	TE
France	Paris	2010	Suez, Veolia	TE
France	Est ensemble (Greater Paris)	2010	Veolia	TE
France	Toulouse	2010	Veolia	TP
France	Eaux Barousse Comminges Save	2011	SEM Pyrénées	TE
France	Bordeaux	2011	Suez	TP
France	Evry Centre Essonne (Greater Paris)	2011	Veolia	TE
France	Nantes	2011	Gradual	TE
France	Rouen	2011	Gradual	TE
France	Montbéliard	2011	Veolia	T
France	Brest	2012	Veolia	E
France	St Malo	2012	Veolia	T
France	Eau des collines (Aubagne)	2013	Veolia	T
France	Vernon	2013	Veolia	TE
France	Rennes	2013	Veolia	TE
France	Nice	2013	Veolia	TE
Germany	Potsdam	2000	Suez	T
Germany	Berlin	2013	Veolia/RWE	T
Hungary	Kaposvar	2007	Suez	E
Hungary	Pecs	2011	Suez	
Hungary	Budapest	2012	Suez	T
Italy	Reggio Emilia	2012	IREN	TE
Italy	Varese	2013	a2a	T
Spain	Medina Sidonia (Cádiz)	2003		
Spain	Arteixo (Coruña)	2013	Aqualia (FCC)	T
USA	North Brunswick (water)	2002	United Water (Suez)	TE
USA	Atlanta	2003	Suez	T
USA	Montara	2003	American Water	T

USA	Laredo	2005	United Water (Suez)	W
USA	North Brunswick (sewerage)	2006	United Water (Suez)	TE
USA	Petaluma (California, wastewater treatment)	2007	Veolia	T
USA	Houston (water treatment)	2007	United Water (Suez)	T
USA	Fairfield-Suisun (wastewater treatment)	2008	United Water (Suez)	T
USA	Felton	2008	American Water	T
USA	Gloucester	2008	United Water (Suez)	TE
USA	Burley (Idaho, wastewater treatment)	2009	Veolia	T
USA	Milwaukee	2010	United Water (Suez)	TE
USA	Gary	2010	United Water (Suez)	T
USA	Indianapolis	2010	Veolia	T

Table 2: Low and middle income countries

Country	City	Date	Company	Status
Argentina	Buenos Aires	2006	Suez	T
Argentina	Buenos Aires Province 1	2002	Enron	T
Argentina	Buenos Aires Province 2	2006	Impregilo	T
Argentina	Santa Fe	2006	Suez	T
Argentina	Tucuman	1998	Veolia	T
Belize	National	2005	Biwater	TS
Bolivia	Cochabamba	2000	Bechtel	T
Bolivia	La Paz/El Alto	2007	Suez	T
Central African Republic	Bangui	2001	SAUR	T
China	Da Chang (Shanghai)	2004	Thames	W
China	Shenyang	2002	Suez	T
Colombia	Bogota (treatment plant)	2004	Suez	T
Colombia	Bogota 1 (water supply)	2010	Gas Capital	T
Gambia		1995	Veolia	T
Georgia	Tblisi		Veolia	T
Kazakhstan	Ust-Kamenogorsk	2007	IR-Group	T
Kazakhstan	Almaty		Veolia	T
Malaysia	States (Melaka, Negeri Sembilan, Perlis, Johor and Pulau Pinang; water supply)	2009		TR
Malaysia	Indah Water Consortium (sanitation)	2001	Prime Utilities	S
Mali	Bamako	2005	SAUR	T
South Africa	Amahthali (Stutterheim)	2005	Suez	T
South Africa	Johannesburg		Suez	TE
South Africa	Nkonkobe (Fort Beaufort)	2002	Suez	T
Tanzania	Dar-es-Salaam	2005	Biwater	T
Turkey	Antalya	2002	Suez	T
Ukraine	Odessa	2008	Infox, LLC	T

Ukraine	Kirovograd	2008	Water Services, LLC	T
Uruguay	Aguas de la Costa	2006	Suez	T
Uruguay	URAGUA	2006	Urbaser	T
Uzbekistan	Bukhara	2007	Veolia	T
Uzbekistan	Samarkand	2007	Veolia	T
Venezuela	Monagas state	2001	FCC	TE
Venezuela	national	2002	Aguas de Valencia	T
Vietnam	Thu Duc	2003	Suez	T

Source: PSIRU

## Annex B: Public-public partnerships

Home country	Location	External partner	External country	Year
Argentina	Buenos Aires province	% de Setiembre		
Aruba		Amsterdam Waternet		
Bangladesh		Osaka Public Works Bureau, Sapporo, East Hiroshima, Kitakyusyu	Japan	2005
Bangladesh	Dhaka	Korea Water (Daejon, Korea)	South Korea	2008
Benin	Lago Nokoué	OSE	Uruguay	2007
Bolivia		Osaka, Sapporo, East Hiroshima, Kitakyusyu	Japan	2003
Bolivia	AAPOS		Uruguay	2006
Bolivia	Cochabamba	Assemae	Brazil	
Bolivia	Cochabamba	REG (Grenoble)	France	
Bolivia	El Alto	REG (Grenoble)	France	
Bolivia	El Porvenir	Amvisa	Spain	2007
Bolivia	La Paz	REG (Grenoble)	France	
Bolivia	Potosi	OSE	Uruguay	
Bosnia		Osaka, Sapporo, East Hiroshima, Kitakyusyu	Japan	2006
Bosnia-Herzegovina	Srebrenica	Waterbedrijf Groningen	Netherlands	2006
Brazil		Osaka, Sapporo, East Hiroshima, Kitakyusyu	Japan	2006
Brazil	National	Assemae	Brazil	
Brazil	Porto Alegre		Brazil	
Brazil	Recife		Brazil	
Burkina Faso	Pabré	Limoges	France	2008
Butan		Osaka, Sapporo, East Hiroshima, Kitakyusyu	Japan	2006
Cambodia		Osaka, Sapporo, East Hiroshima, Kitakyusyu	Japan	2003
Cambodia	Siem Reap	PPWSA	Cambodia	
Chad		ONEP	Morocco	
China		Osaka, Sapporo, East Hiroshima, Kitakyusyu	Japan	2004
China	Beijing	Tokyo Metropolitan Sewerage Bureau	Japan	
China	municipal	Municipal companies	China	
Cuba	Gebara	Aguas del Prat	Spain	
Cuba	La Habana	Amvisa	Spain	1998
Dominica		Osaka, Sapporo, East Hiroshima, Kitakyusyu	Japan	2007
Ecuador	CENAGRAP			
Egypt	Alexandria	Amsterdam waternet	Netherlands	1992
Egypt	Beheira, Gharbeya etc	Amsterdam waternet	Netherlands	1992
El Salvador	Nejapa	Amvisa	Spain	2000
Estonia	Tallinn, Tartu etc	VARIOUS	Finland	
Ethiopia	Afar	Amvisa	Spain	2007
Fiji		Osaka, Sapporo, East Hiroshima, Kitakyusyu	Japan	2006
Finland	Hameenlinna	Municipalities in region	Finland	
Finland	Tampere	Municipalities in region	Finland	
France	Brest	REG (Grenoble)	France	
France	Castres	REG (Grenoble)	France	
France	Paris	REG (Grenoble)	France	2005
France	Rennes	REG (Grenoble)	France	
Guatemala	Champerico	Amvisa	Spain	2007

Home country	Location	External partner	External country	Year
Guatemala	Solola	Amvisa	Spain	1998
Guinea		ONEP	Morocco	
Honduras	Juntas de Aguas	SANAA	Honduras	
Honduras	Lempira	Amvisa	Spain	1999
India		Osaka, Sapporo, East Hiroshima, Kitakyusyu	Japan	2007
India	Delhi	Delhi Jal Board (DJB)		2004+
India	Maharashtra	Tamil Nadu	India	2008
Indonesia	Bogor region, Java	Duinwaterbedrijf Zuid-Holland	Netherlands	2006
Indonesia	Deli Serdang, et al	Tirtanadi PDAM	Indonesia	1999>
Indonesia	Kabupaten Bogor	Duinwaterbedrijf Zuid-Holland	Netherlands	2006
Indonesia	North sumatra	Duinwaterbedrijf Zuid-Holland	Netherlands	2004
Indonesia	Banten, West Java	Amsterdam Waternet	Netherlands	
Indonesia	Makassar	Amsterdam Waternet	Netherlands	
Indonesia	Medan	Amsterdam Waternet	Netherlands	
Indonesia	PDAM Pontianak	Oasen	Netherlands	2003
Indonesia	Pekanbaru	PWN	Netherlands	
Indonesia	Tirtanadi	Indah Water Konsortium	Malaysia	2007
Indonesia etc		Eau de Paris	France	2005
Iraq		Osaka, Sapporo, East Hiroshima, Kitakyusyu	Japan	2007
Italy		REG (Grenoble)	France	
Jamaica		Osaka, Sapporo, East Hiroshima, Kitakyusyu	Japan	2006
Japan	various	Internal sanitation PUPs	Japan	
Kenya		Osaka, Sapporo, East Hiroshima, Kitakyusyu	Japan	
Kenya	Nairobi	NWSC Uganda	Uganda	
Laos		Osaka, Sapporo, East Hiroshima, Kitakyusyu	Japan	2003
Latvia		Amsterdam Waternet	Netherlands	2003
Latvia	Riga, Daugavpils et al	Stockholm Vatten	Sweden	
Lithuania	Kaunas, Klaipeda, et al	Stockholm Vatten	Sweden	
Malawi	Blantyre	Sevilla	Spain	
Malawi	Lilongwe	Severn Trent (pre-privatisation)	UK	
Mali		ONEP	Morocco	
Mauretania		ONEP	Morocco	
Mexico		Osaka, Sapporo, East Hiroshima, Kitakyusyu	Japan	2007
Mongolia		Osaka, Sapporo, East Hiroshima, Kitakyusyu	Japan	2006
Morocco		Paris SIAAP	France	
Morocco		Osaka, Sapporo, East Hiroshima, Kitakyusyu	Japan	
Morocco	ONEP	Eau de Paris	France	2006
Morocco	various	ONEP	Morocco	
Myanmar		Osaka, Sapporo, East Hiroshima, Kitakyusyu	Japan	2007
Nepal		Osaka, Sapporo, East Hiroshima, Kitakyusyu	Japan	2007
Netherlands	all	VEWIN	Netherlands	
Nicaragua		Waterschap De Dommel	Netherlands	
Pakistan		Osaka, Sapporo, East Hiroshima, Kitakyusyu	Japan	2003
Palestine		Osaka, Sapporo, East Hiroshima, Kitakyusyu	Japan	2007
Palestine	Jenine, Tulkarem et al	Eau de Paris	France	2008
Papua NG		Osaka, Sapporo, East Hiroshima, Kitakyusyu	Japan	2005
Paraguay	Essap	Copasa	Brazil	
Paraguay	ESSAP S.A.)		Uruguay	2009
Peru		Osaka, Sapporo, East Hiroshima, Kitakyusyu	Japan	2005
Peru	Huancayo (SEDAM)	ABSA	Argentina	2007
Peru	Lima (Sedepal)	SABESP	Brazil	
Peru	Paita	Amvisa	Spain	2007
Philippines		Osaka, Sapporo, East Hiroshima, Kitakyusyu	Japan	2004
Philippines	Cebu	Visayas State University,	Philippines	2007
Philippines	Cebu	City West Water, Melbourne	Australia	2008
Philippines	various	LWUA	Philippines	
Romania	Botosani	Duinwaterbedrijf Zuid-Holland	Netherlands	
Romania	Iasi	Duinwaterbedrijf Zuid-Holland	Netherlands	2007
Russia	MOSVODOKANAL	Eau de Paris	France	2007
Rwanda		PWN	Netherlands	
Saudi Arabia		Osaka, Sapporo, East Hiroshima, Kitakyusyu	Japan	2005
Singapore	National	Ngee Ann Polytechnic, PUBEU (union)	Singapore	2002
Singapore	National	SWCC	Saudi Arabia	2005
South Africa	Odi, Harrismith	Rand water	South Africa	
South Korea	Nonsan	K-water	South Korea	2004

Home country	Location	External partner	External country	Year
Sri Lanka		REG (Grenoble)	France	2004
Sri Lanka		Osaka, Sapporo, East Hiroshima, Kitakyusyu	Japan	
Sudan	Gedaref	Waterschap De Dommel	Netherlands	
Sudan	Port Sudan	Beheira WDC	Egypt	2006
Sudan	Port Sudan	Duinwaterbedrijf Zuid-Holland	Netherlands	2006
Surinam		Amsterdam	Netherlands	
Syria		Osaka, Sapporo, East Hiroshima, Kitakyusyu	Japan	2004
Tanzania	Dar-es-Salaam	NWSC Uganda	Uganda	2005
Thailand		Osaka, Sapporo, East Hiroshima, Kitakyusyu	Japan	2005
Thailand	Krabi	King County WTB	USA	2007
Tunisia	Sfax's Engineers School	Eau de Paris	France	2006
Tunisia	Sfax's Engineers School	Eau de Paris	France	2006
Turkey		Amsterdam Waternet	Netherlands	2008
Uruguay		REG (Grenoble)	France	
Vietnam		Osaka, Sapporo, East Hiroshima, Kitakyusyu	Japan	2003
Vietnam	BIWASE Binh Duong	PPWSA	Cambodia	2008
Vietnam	Da Nang	Haiphong Water Supply Co.	Vietnam	2008
Vietnam	Ha Long	Indah Water Konortium	Malaysia	2007
Vietnam	Hai Phong		Finland	1990
Vietnam	Ho Chi Minh City	Bangkok MWA	Thailand	
Vietnam	Hue	Paris SIAAP	France	
Vietnam	Hue	Yokohama Waterworks Bureau	Japan	2007
Vietnam	Hue , Ho Chi Minh City	Yokohama Waterworks Bureau	Japan	2003

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