Water as a public service

by

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The authors work in the PSIRU in the Business School at the University of Greenwich. They have published a number of journal articles and many reports on water and public services, been invited speakers at academic conferences and meetings organised by the World Bank, OECD, UNCTAD, ILO, UN DESA, DFID, EU Ecosoc, and others, and participated in many meetings with trade unions and other civil society organisations. PSIRU was coordinator of the EC-funded Watertime project 2002-2005, and the authors are also participants in the SWITCH, GOVAGUA and PRESOM projects. For further information see www.psiru.org.

Preface by PSI

PSI union members in 150 countries are working to deliver quality public water services to all citizens. This is not an easy task when the public utilities are so starved of capital that they can't afford to pay a living wage, ensure proper training or supply the necessary safety equipment, let alone to invest in expanding and maintaining the network to those not served.

This publication outlines some of the steps that must be taken to ensure that citizens can access water and sanitation services. It follows on an earlier paper, Water in Public Hands, published in 2004. That paper served to clarify why the public sector must own and manage water services. It was welcomed by many actors in the water sector and has contributed to change in water policies.

Three years have passed since Water in Public Hands and we have witnessed further withdrawals by the multinational water corporations, especially from developing countries. Not only is there not enough profit to be made from poor people, but there is growing public resistance to commodification of water services. The privateers continue to search for new ways to make this sector a source of profits. Private equity firms are seeing the potential from the steady revenue streams, especially in rich countries. And small independent water suppliers continue to reap excessive profits from people not served by formal public systems.

In order to meet the UN's Millennium Development Goal in water and sanitation, many actors must work together. It is estimated that an extra 1.6 billion people need to be connected to a water supply by 2015, and an extra 2.1 billion people to sanitation.[1] But it is increasingly clear that neither private operators nor private capital will bring us any closer to these targets.

Citizens in many countries are calling for new policies to deal with this crisis that is killing thousands daily and depriving many more of their hopes for decent lives. The focus of the past 15 years on privatisation, on market dynamics and top-down decisions by development banks and donors has been rejected. Countries must assume their responsibilities; to avoid this is tantamount to criminal neglect.

There simply is no getting around the fact that the key actors in the water and sanitation sector are and will remain public sector organisations. This paper looks at some of the key elements required to increase capacity amongst these public operators, most of whom operate at local levels.

One of the most unrecognised areas in this sector is the workforce. If we want to reach many millions of citizens with new or improved services, we will need more skilled workers, whether in top management or in line staff. Very few policy makers have adequately addressed this issue. Training is a fundamental element in improving public services, but has fallen out of favour with the development banks and donors.

PSI is supporting a number of initiatives to increase worker participation in decision-making. There is a growing body of knowledge showing that workers are an essential partner to improving and delivering public services, with indications on the best ways to create partnerships.

PSI also supports initiatives to link public water managers, for example by instigating mechanisms of public-public partnerships. We are working at the UN Secretary General's Advisory Board on Water and Sanitation with a proposal to create mechanisms to allow systematic water operator partnerships. Unions are making alliances with citizens' groups to demand the necessary tools to implement the Human Right to Water. We call on the global institutions and donor countries to do the same.

1. Introduction and summary

This paper is about how the international community can support the governments, public institutions, citizens and workers of developing countries in extending and improving water and sanitation services. It is based on extensive empirical research over the last decade on water services in transition and developing countries.[2]

The starting point for the development of water services is the present realities, which need to be recognised and understood in terms of their historical development. The provision and extension of water services is a major economic activity, which requires the use of capital, labour and the natural resource of water itself. It is therefore necessary to examine the constraints and possibilities for mobilising these resources. Finally, the development of water services is driven by political objectives of achieving greater social and economic development, and so political mechanisms and processes are also essential aspects of the service.

This report is therefore divided into five sections, on history, labour, capital, natural resources, and politics. Each of the last four sections ends with a discussion of how international support can assist countries in their attempts to develop universal water systems.

- The first section examines the historical development of water services in high income countries, based on public finance, especially through the growth of municipal borrowing capacity and national taxation, the different development in middle and low income countries before and after independence, and the failures of the recent privatisation experiment.

The following three sections look at the economics of providing public water supplies, through the three classical factors of production – labour, capital and natural resources.

- Labour is required to build, maintain, operate and manage the system and its finances. There is a need for training programmes to develop a competent workforce at all levels, from senior management to line staff, for greater recognition of the importance of workers' relationships with communities, for involvement of workers in reform processes, and for adequate levels of pay. Donors need to re-develop policies for supporting training and capacity-building.
- Capital is needed to build new systems for capturing, treating and distributing water and treating sewage. The needs must be assessed locally and through democratic processes, and then public finance mechanisms need to be used to raise this finance, through central or local governments. Donors can help build capacity for taxation and borrowing, and provide matching financial support for water services, and assist northern investors in southern water services.
- The natural resource of water itself needs to be captured at the same time as conserving and allocating its use, and protecting the environment. Public mechanisms for evaluation and decision-making are needed, and should be supported by donors.

The final section looks at political processes.

- The existence of public water supplies depends on a political commitment to deliver clean water to all, and on public authorities with capacity to deliver services. Political activity is positively important in order to strengthen this commitment and improve public accountability and transparency. Donors can assist this by avoiding imposing external policy conditionalities, and by offering public-public partnerships to support capacity-building.

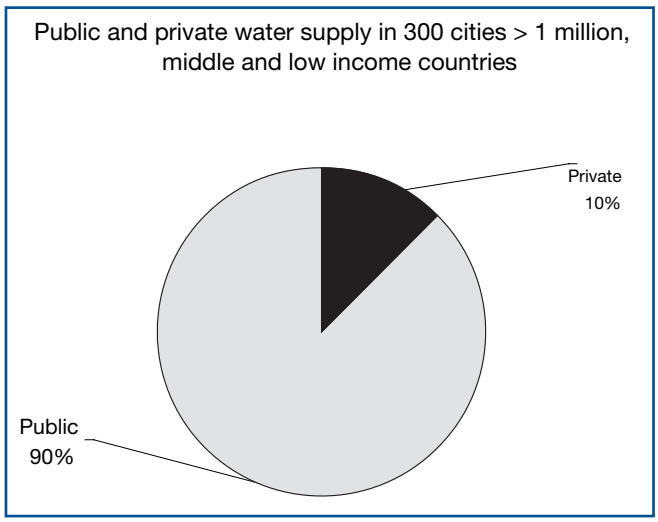
The policies proposed for international support are summarised in a table in the concluding section.

2. Historical development of water services

2.1. Dominance of the public sector

Any realistic attempt to develop water services in middle and low income countries must focus on how to develop public sector water services. Despite all the attention that has been given to water privatisation in the last 15 years, the water services of the world remain overwhelmingly provided by the public sector. In middle and low income countries, 90% of the largest cities – those with a population over 1 million - were served by a public sector operator in mid-2006. This dominance of the public sector is growing, as the private companies retreat from many of the concessions and leases in developing countries. In rural areas, where there is little profitable business for the private companies, the percentage of water services provided by the public sector is even closer to 100%. The overall proportion operated by the public sector is thus at least 95%. The data is very similar in high income countries - France and the UK are exceptions, not the norm.[3]

Chart A. : The dominant role of public sector water



Source: PSIRU database, UN DESA Urban Agglomerations 2003

The history of the development of water and sanitation systems in the high income countries of the north shows a common pattern. In Europe, urban water systems began developing in the 17th and 18th centuries as a limited service to affluent customers and as a public assistance for fire control. As cities grew in the 19th century, the demand for water consumption grew and the 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, including the UK. Only in France did the old 19th century private operators survive, which is why the only large water companies in the world are French: Suez (formerly Lyonnaise des Eaux) and Veolia (earlier Vivendi and the Compagnie Générale des Eaux) since 1853. If anything, the process of municipalisation was even more rapid in the USA than in Europe: by 1897, 82% of the largest cities were served by municipal operations.

Municipalisation was seen as a way to overcome the systemic inefficiencies of the private contractors: "During the 19th century, the previously private systems came under public ownership and public provision because of the inefficiency, costs and corruption connected to them…. Democratically elected city councils bought existing utilities and transport systems and set up new ones of their own. This resulted in more effective control, higher employment, and greater benefits to the local people. Councils also gained the right to borrow money to invest in the development of their own systems".[4] This was linked to the growth of municipal socialism (or 'gas and water socialism'), which drove the development of local public services in Europe and even in the USA, for example in the city of Milwaukee.[5] This ideology saw the public sector as a mechanism to fulfil a set of economic and political objectives - economic development, public health and improvement of social conditions for the urban poor.

The municipalities developed financial mechanisms, superior to the private sector, including borrowing long-term money from local savers, at low interest rates because of the security of their flow of income from taxes. In the USA, for example, this capacity was a crucial part of the process: "The central issue was the ability of cities to incur debt to fund major projects and to sustain the high costs of operation. As the 19th century unfolded, city finances underwent changes in scope and complexity that ultimately made the development of public water supply systems achievable." [6] In some countries, water charges continue to be collected through property taxes rather than metered payments - in the UK the majority of households continue to pay annual charges based on the value of their property, rather than metered consumption of water.

Box A : France and UK: system extensions under public regimes

France and the UK are the only two OECD countries whose water operations are mostly run by private companies. Both countries have virtually universal connection to water supply for urban populations.

However, in both countries the cost of extending water and sanitation networks was met through public finance mechanisms. Water services in the UK were provided by municipalities until 1974 and then by state-owned regional authorities until 1989. Virtually 100% connection of urban population had been achieved well before that date: the privatised water companies of England have, historically, contributed little to the extension of urban water supply systems in England or Wales (still less in Scotland and Northern Ireland, where the systems remain public).

In France, the role of the private companies has evolved over a long period, rather than being introduced as a political act at a single point in time. But during the the 19th century, when the dominant system was private concessions, there was very little growth in connections to the network. The municipalities found it was not legally possible to force concession companies to extend the network as public policy required, and therefore introduced municipal companies ("régies") as the vehicle for investment and operation. Virtually all the growth in extension of the network

took place under this form during the first 70 years of the 20th century. This included major extensions in rural areas following the Second World War, paid for by the urban population, a massive cross-subsidy only possible as an act of public policy. From the 1970s, delegation to the private sector grew again to become the dominant mode, but this time typically under "affermage" lease contracts, under which responsibility for investments remained with the municipalities. Thus even in France the extension of the system was carried out by and through municipalities, not through private operators.[7]

While it remains possible for people to hypothesise or imagine that such private water companies might be vehicles for investment to extend water systems, there is no historical record of this happening – not even in France or the UK.

Table 1 : Types of water system and connections to the system in France

		Dominant type of operator	Investment	Operation	Connection at start of period	Connection at end of period
Period A	1848-1900	Concession	Private	Private	0%	2%
Period B	1900-1970	Régie (municipal)	Public	Public	2%	90%
Period C	1970- present	Affermage	Public	Private	90%	-

Source: Based on C. Pezon (2003)[8]

Despite the dominant role of municipalities, central governments have played a significant role in financing water systems. This has sometimes involved paying directly for the water supply service, so that there is virtually no role for charges (eg Ireland); distributing some part of central tax revenue to support local authority spending on water and other services (eg Canada); providing cheap loan finance for local authorities to use for capital investment (eg USA); or collecting part of water charges centrally and redistributing it to authorities which need to invest (eg France). In Europe, the EU itself plays a major role in public financing of water systems in poorer states, and through low interest loans from its public sector development instrument, the European Investment Bank (see section 4).

The formal structure of water operations has changed in recent decades. Even in countries where there has been no privatisation, water services are increasingly carried out by corporatised bodies, rather than by a municipal department. For example, in the Netherlands the municipal water companies are formally constituted as limited companies, although they remain 100% owned by municipalities, and it is sometimes suggested that this PLC status itself is a distinctive form of organising water services which then makes continued public ownership less important.[9] Under the Dutch system, however, the companies are accountable to elected public authorities, who are also responsible for price regulation, and for decisions about merging or restructuring the operating companies, while the companies compare their own performance through a public cooperative association, not through a regulator.

Regulation is given great emphasis in discussions of water governance, but it has had little role in the development of water systems in high income countries, except in the USA where regulatory

systems are extensively used in public services. In Europe it has played almost no role at all, with regulatory functions being carried out by the public authorities themselves as part of their role as owners. No other country in Europe uses a system of regulation like OFWAT, the economic regulator for the water and sewerage industry in England and Wales.

Table 2: Differences between public and private water with PLC status: England and Netherlands

	England	Netherlands
Ownership	Privately owned	100% municipally owned
Price regulation	OFWAT regulation every 5 years	Municipal control
Accountability	Shareholder accountability	Accountable to municipal objectives
Restructuring and competition	Corporate takeover bids, licences decisions	Mergers and service contracts, municipal
Performance monitoring	OFWAT benchmarking	Cooperative benchmarking
Formal status	PLCs	PLCs (most), municipal department

2.2 Developing countries: independence and colonial legacy

Water supply in developing countries has a different history. In the colonial period, whilst the imperial countries were extending public networks in European cities, water supply in the colonies was focused on a colonial elite. The restrictions were economic as well as political. Even where systems were extended, the local population had to pay charges based on full cost recovery, without benefit of cross-subsidy, meaning the service was unaffordable to the great majority, as in the case of Kampala, Uganda.[10]

These elite systems left a physical legacy of incomplete networks: “In most colonial cities the reconstruction of the underground city was only ever partially completed with disastrous consequences for public health. During the early decades of the twentieth century, at a time of rapid public health improvements across Europe and North America, cities under colonial control such as Baghdad, Bombay and Lagos, all experienced devastating outbreaks of disease on account of their chaotic and inadequate urban infrastructure”.[11] Colonialism also left a socio-economic legacy of more unequal societies, which both makes the problem more acute and makes the requirement for redistributive public finance greater.

Box B: Kampala Uganda: British insistence on full cost recovery limits service

In the early 20th century the city of Kampala, Uganda was experiencing malaria, cholera, typhoid and plague. In response to a proposal for a public water supply of the kind that had rescued London from cholera in the 19th century, the British colonial office remained adamant that "it is quite out of the question at present to contemplate any subsidy from general revenue for a municipal water supply of this nature" (under-secretary of state Gowers, October 1926) - an early example of an insistence on full cost recovery. The official acting as governor in Uganda responded that "If Kampala is to await the installation of a pipe-borne water supply until such time as it will pay for itself….then I venture respectfully to think that no such supply will be forthcoming within a period of time which need now be taken into consideration, and the community must perforce continue to drink polluted and contaminated water and to be exposed to the risk of epidemics of a serious nature and the loss of valuable lives". (acting governor Jarvis, January 1927). A public water supply was subsequently authorized and constructed by 1930, financed from a loan, to be repaid out of user charges and taxes. By 1938 full cost recovery had been achieved, but at a price – the water was unaffordable for ordinary Africans. Even at standpipes the cost of a family's water was equivalent to about 18% of a labourer's wage.[12]

After independence, it was possible to start developing the physical and social infrastructure of public services for all. The commitment to water supply and other public services was thus closely associated with the process of building independent states with political accountability to their citizens for the first time. But development in non-industrialised countries has continued to be strongly affected by the economic and political demands of international agencies and donors, and water services are a clear example of this.[13] The patterns of water privatisation in Africa closely reflect the patterns of colonialism: British, Portuguese and German operators are almost exclusively present in countries which were formerly part of the British or Portuguese empires, or part of the German empire before the First World War, while French operators dominate former French colonies. It is not surprising if this privatisation process is resented as a reintroduction of colonial relations.

In many developing countries, central government has played a greater role in the water systems than in the north. Driven by independence rather than industrialisation, these countries had neither strong municipalities nor a strong local middle class, and so central state ownership of water providers is more common than in the north. In Sri Lanka, a country with an excellent developmental record on health and education, water has been primarily the responsibility of a central government parastatal. In a number of countries, including Uganda and Honduras, central government has retained ownership of the capital city's water operation, which has then been used as an agency to support development of municipal services elsewhere. In Argentina, the extension of water systems throughout the country were carried out by a central government water agency.[14] Policies and conditionalities of the international agencies have nevertheless insisted on making municipalities responsible for services. The International Monetary Fund (IMF) and World Bank (WB) conditions of the early 1990s forced Argentina into breaking up and privatising its previously national system, and there have been continuing pressures on Sri Lanka to do likewise.

2.3 Privatisation: a failed experiment

In the 1980s and 1990s the World Bank and donor agencies promoted a strategy to develop water systems in developing countries through privatisation. This was expected to deliver finance for investments, efficiency improvements, and better governance than they believed possible through the public sector in developing countries. It was expected that multinational companies would be attracted by a large new profitable market, and that the process would be welcomed by populations disillusioned with the corruption and inefficiency which the World Bank associated with the public sector. It was so central to donor policies that a World Bank official told an international conference in 2000 that 'there is no alternative' to privatisation.[15]

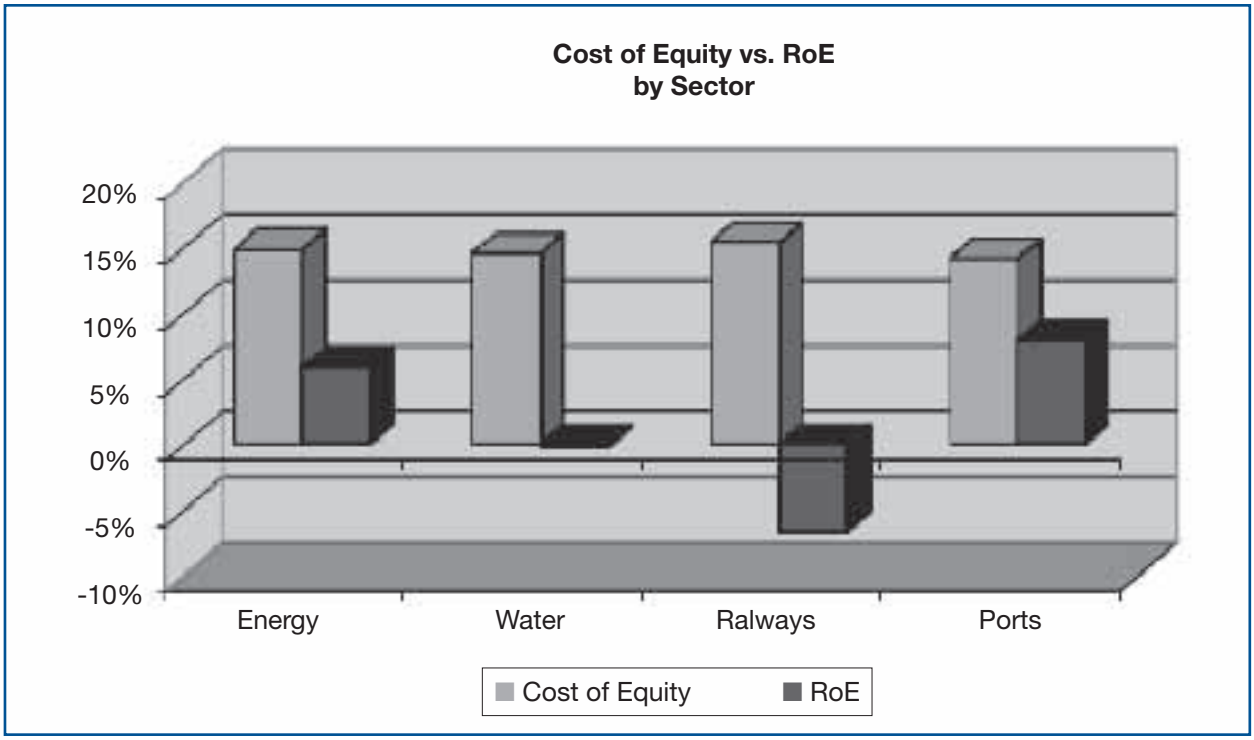
This experiment has now clearly failed, on all counts.

The private contracts have failed to deliver investment in new infrastructure as promised. After 15 years, only about 600,000 households have been connected as a result of investment by private water operators in sub-Saharan Africa, South Asia, and east Asia (outside China) – representing less than 1% of the people who need to be connected in those regions to meet the UN Millennium Development Goals (MDGs).[16] This may be compared with the results of the 'decade of water' in the 1980s - when funding was provided to the public sector - which is usually referred to as a failure, yet reduced the overall percentage of people living without safe water supply from 56% in 1980 to 31% by 1990, results far better than the privatisation experiment has delivered.[17]

The fortunes of international water supply companies have collapsed dramatically, due to a failure to make adequate profits in developing countries. Since 2003 the multinational companies have halted and reversed their expansion. Suez, the company with the largest presence in developing countries, announced in January 2003 that it intended to reduce its presence in developing countries by one third, and only make future investments which were financed by the business itself, free from currency risk, and achieved a target rate of return.[18] All the multinationals have been attempting to sell water operations since 2002, but found difficulties in finding buyers. Bechtel's water interests were up for sale for over a year and in the end were bought by a public development bank; Bouygues' water company, SAUR, the fourth largest in the world, was for sale for 2 years, before being bought by a financial investor, who refused to take on the non-European operations; Thames Water, the third largest water multinational, was formally put up for sale in November 2005, and finally sold to a financial investor in October 2006, after selling most of its operations in developing countries. In 2006, the Suez group itself was the subject of two takeover bids from companies interested in its electricity and gas business: it is unlikely that either buyer would want to retain the international water business.

One key reason for this was that developing countries could not support the rate of return required by international equity capital. A World Bank study showed that returns on infrastructure investment in developing countries, including water, fell far short of the cost of capital.[19] International equity finance is very unlikely to be a significant source of capital for investment in infrastructure in future.

Chart B. Multinational utilities fail to make big enough profits from developing countries



Source: Estache at al 2004[20]

The failure to achieve an adequate return on capital was partly due to a remarkable degree of public campaigns against water privatisation, a global phenomenon. The uprising which led to the termination of the private water contract in Cochabamba (Bolivia) in 2000, was the first and most dramatic of a series of reversals: in 2004 another uprising in El Alto, the poor suburb of La Paz, led to the termination of Suez' concession in that city. Suez' concession in Manila (Philippines) had become the subject of a bitter dispute with the regulator, and by 2006 had been 84% renationalised. The collapse of the Argentinian economy led to the ending of water concessions in Buenos Aires and Santa Fe, as the companies failed to force Argentina to guarantee profits in dollars. In Africa, contracts were terminated in Gambia, Mali, Chad, Nkonkobe (South Africa) and Dar-es-Salaam (Tanzania).[21] Privatisation has faced similar rejections and reversals in developed countries: in the USA, for example, the city of Atlanta terminated Suez' concession because a public sector operation would be better value. Even in the UK, after 17 years of water privatisation, a clear majority of 56% favour a return to public ownership, according to the results of an opinion poll in June 2006. The unpopularity of privatisation is such that two countries in the world have made water privatisation illegal.

Box C: Making water privatisation illegal: Netherlands and Uruguay

In at least two countries the privatisation of water supply has been made illegal.

In 2004 the Netherlands parliament passed a law, supported by all except one small right-wing party, which prevents any private company from operating a public water supply. The law states that drinking water services to consumers may only be provided by entities which are 100% public or publicly-owned.[22]

On Sunday 31st October 2004, in Uruguay, a referendum proposing a constitutional amendment on water was approved by 62.75% of voters. The amendment included a number of elements, including the statement that access to piped water and sanitation are fundamental human rights, and that social considerations take priority over economic considerations in water policies, and also that: "The public service of sewerage and the public service of water supply for human consumption, will be provided exclusively and directly by state entities"[23]

The private companies have also failed to show greater efficiency than public sector operations.[24] Empirical evidence from studies in all continents shows that ownership does not appear to make any significant difference to efficiency. It is no longer possible to assume that the public sector is less efficient than the private sector, as summarised by a World Bank research paper: "…in general, there is no statistically significant difference between the efficiency performance of public and private operators in this sector…For utilities, it seems that in general ownership often does not matter as much as sometimes argued. Most cross-country papers on utilities find no statistically significant difference in efficiency scores between public and private providers."[25] An IMF policy paper on public-private partnerships (PPPs) in 2004 agreed, stating that: "It cannot be taken for granted that PPPs are more efficient than public investment and government supply of services…. While there is an extensive literature on this subject, the theory is ambiguous and the empirical evidence is mixed…"[26]

The evidence in the water sector comes from studies in all continents. A paper on Latin America published by the Brookings Institute in 2004 concluded that "while connections appear to have generally increased following privatization, the increases appear to be about the same as in cities that retained public ownership of their water systems".[27] In 2004 the Asian Development Bank conducted a survey of 18 cities in Asia, which included two cities with private sector concessions - Manila and Jakarta. These were performing significantly worse than average on some indicators of coverage for water and sewerage, investment, about the same on six indicators, and relatively well on another five indicators (including revenue collection, and minimizing the number of staff per 1000 connections).[28] A 2004 study by economists, covering 110 African water utilities, found no significant difference between public and private operators in terms of cost efficiency.[29]

Table 3: Selected ADB water indicators for 18 Asian cities

		Manila	Jakarta	Average of 18 cities
Water Coverage	(%)	58	51	79
Sewerage Access	(%)	7	2	51
Non-revenue Water	(%)	62	51	34
Capital Expend/Connection	(US$)	18	47	88

Source: Water in Asian Cities. ADB. January 2004.

The failure of the privatisation experiment has confirmed that the public sector must be the important vehicle for expansion in the future, as in the past. The World Bank's infrastructure policy review in July 2003 noted that private finance had accounted for less than 10% of total investment in water in developing countries in the previous decade, and concluded that: "*the Bank will need to more strongly promote sustainable public sector investment and service delivery*".[30]

The recent history of water services has been marked by the development of public sector water services in many countries, often associated with political programmes or emerging from social movements resisting privatisation. The table below gives examples from all continents of achievements by public sector water operators in developing countries.[31]

Table 4: Examples of effective public sector water services in the south

Country	City or State (area of operation)	Public operator	Issues and other comments
Burkina Faso	Ouagadougou	ONEA	- Reduced leakage rates - Financial turnaround - Improved financial collection rates
Uganda	Kampala	NWSC	- Improved collection rates - Reduced leakage - Staff involvement in reforms
Brazil	Porto Alegre	DMAE	- Public participation - Governance - Effectiveness and efficiency
Brazil	State of São Paulo	Sabesp	- Financial turnaround - Extension of service coverage - Social sustainability of reform (e.g. jobs)
Honduras	Tegucigalpa, Honduras	SANAA	- Financial turnaround and service improvement - Workers' participation - PUPs in rural provision
Mexico	Nuevo León State	SADM	- Operational autonomy - Internal accountability - Non-market orientation
Cambodia	Phnom Penh	PPWSA	- Increased bill collection rate - Reduced UFW - Extended coverage - Improved labour conditions
India	Hyderabad	HMWSSB	- Business and human resources plan - Decentralisation - Training - Restructured staffing responsibility
Malaysia	Penang	PBA	- Corporatisation - Public service ethos - Sound management - Democracy and accountability
Vietnam	Hai Phong	HPWSC	- PUPs (international and ongoing domestic) - Public participation - Decentralisation - Education and motivation of staff - Cost recovery

Source: various

3. Labour: workers, training and communities

3.1. The importance of workers

Every economic activity involves labour. Even in a capital intensive service like water, the contribution of workers is essential, at all levels. Many investments in water installations have become useless because there is no provision for employing people to maintain and operate them. Yet during the last 15 to 20 years, workers in the water sector have been seen as a problem by the mainstream policy institutions - a cost which employers should minimise by reducing the number of employees or keeping their wages as low as possible. Private companies were expected to help solve this problem by dismissing more employees than the public sector organisations (as happened, quite brutally, in some privatisations). The IMF has often imposed ceilings on public sector wages.

Labour needs to be recognised again as a key factor of production, and "public service workers…. need to be put at the heart of expanding services for all." (Oxfam 2006). Workers do not generally avoid doing their jobs, and often do more than they are strictly paid to do - as pointed out by Francis Fukuyama.[32] The knowledge and commitment of workers, and the capacity of their unions to participate in restructuring and improvements, should be seen as key strengths to be encouraged. Water services need a properly paid, trained and stable workforce.

Box D: Workers, unions and improved performance

Workers and their unions have played a central role in a number of the most interesting reforms of public sector water operations in recent years.

Phnom Penh, Cambodia: In 1993, Phnom Penh Water Supply Authority's (PPWSA) "staff of 500 was largely underqualified, underpaid, inefficient, and lacked motivation. Nepotism was rife, and morale and discipline among the workers were low". In restructuring PPWSA, higher management was given more direct responsibility. "The number of PPWSA employees was reduced to less than 400. Salaries were increased, in some cases by up to 10 times, and performance-based bonuses were introduced. Those who performed badly were penalized". "Now, more than 10 years on, each of the 82,000 PPWSA connections in Phnom Penh is metered, and 70% of the city is connected to the water distribution network (from 20% in 1993). … Because of its higher collection ratio, PPWSA has fully recovered its costs" (Bryant, 2004).

SANAA, Honduras: since 1994, the management of the Servicio Autonomo Nacional de Acueductos y Alcantarillados (SANAA) obtained full support from the trade unions in a bid to reorganise the company by adopting a two-pronged strategy. Workers were motivated by promoting their dedication, enthusiasm, integrity, pride and unity. Also, employees were involved in auto-diagnostic exercises on key organisational aspects. Restructuring took place through decentralisation, contracting out and reduction of overstaffing. As a result, finances improved and the company's capacity to build pipeline networks increased three-fold in three years. In the same period, the capacity to supply water to the capital city Tegucigalpa increased five-fold. Leaks were also reduced so that in Tegucigalpa savings amounted to 100 litres per second. The continuity and reliability of supply also improved allowing the majority of the population to receive piped water 24 hours a day (Lobina & Hall, 2000: pp. 47-48).

Buenos Aires province, Argentina: in 2002, following a failed privatisation, a new public sector operator, Aguas Bonaerenses S.A.(ABSA), was formed to take over the service. It included representation of water workers and consumers associations in the regulatory agency and the management of water company. In two years, water supply coverage increased from 68% to 71% while sewerage coverage grew from 43% to 45%. Also, over 100km of pipes have been replaced, water pressure strengthened and wastewater treatment plants reactivated (Amorebieta, 2005: pp. 149-157).

Kampala, Uganda: In 1999 a new managing director was appointed to the National Water and Sewage Corporation (NWSC). A reform process was started, creating a more decentralised structure, and collective agreements were signed with the union. These stated that the union would be involved in all aspects of the restructuring, that the new unit management committees, at all levels, would include a union representative. The agreements also covered voluntary early retirement, re-employment to retired staff in event of expansion, and a new payment by results system.[33]

3.2 Pay, conditions and employment

In all sectors, workers need to be properly paid, trained and supported to be productive. Henry Ford doubled the wages of car workers in the early 20th century in order to make them more productive. In water services in developing countries, key workers responsible for the crucial tasks of maintenance, connections and collection of bills are often so poorly paid that they have an incentive to be inefficient and extract extra payments and bribes just to survive. Creating decent levels of pay is a pre-condition for delivering an efficient and effective service. A number of successful improvements to public sector services – for example in Phnom Penh and Kampala - have involved increases in pay levels, so that workers no longer need to resort to other ways of supplementing their income.[34]

The number of workers also needs to be related to the services that must be delivered. Many banks and analysts assume that the less workers, the better, and so use a standard measure of employees per thousand connections – the lower the number, the better the performance. This measure is technically weak – if a water operator carries out its own construction, it will appear to employ far more workers per connection than another operator which outsources the work to contractors, even at a greater cost. But it also fails to recognise that extending services and providing better services often requires extra workers.

This becomes especially important given the ambitious expansion targets of the Millennium Development Goals for water. While there has been much discussion of the finance needed to achieve these targets, there has been very little written about how much labour is needed to achieve these goals – the official UN report on the water MDGs in 2005, for example, said almost nothing about labour, except to mention donation by communities of free labour.[35]

A report by Brian Matthew estimates that 161,000 extra workers are needed globally to achieve the MDGs in water. This is calculated by reference to the numbers actually used in two projects to develop “training, capacity building, and motivation”, and then scaling this up to a global level.[36] This implies that 10,000 people can be connected per extra worker employed.

Table 5: Estimate of extra staff needed to achieve MDGs in water (globally)

	Staff numbers	Implied average annual salary	Costs over 10 years (USD$millions)
Advisors (capacity building)	3,750	15,000	562.5
Integrated team staff (software)	37,500	1,000	3,750.0
Hardware technicians	45,000	6,000	2,700.0
Maintenance staff	75,000	1,000	750.0
Hardware and support costs (materials , transport, allowances at $24 per person)			22,400.0
TOTAL for MDGs	161,250		30,162.5

Source: Matthew 2005 [37]; and PSIRU calculations

3.3 Training

The importance of training, which is central to the preceding estimate, is obvious. Competent water operators include a systematic and general programme of training and development for all employees to ensure that they can make an efficient contribution to the operation.[38] Comprehensive projects supporting water development not only invest in infrastructure but also make provision for training the whole workforce to a high level.[39]

Donor policies since 1990 have had a damaging effect on training. In the 1980s the World Bank treated training as an important part of its water programme, and was developing regional centres for training and courses where professionals and others could be trained and refreshed and exchange experiences. This policy was abandoned in the 1990s, and the Bank and other donors – including the UK, France and Finland – cut back on their aid for training water workers in developing countries. One aid official explained that training had become 'unfashionable'. Technical institutions in countries such as Kenya and Tanzania, which were formerly flourishing as training centres, have been rundown as donor resources dried up.[40]

Privatisation has not helped: a five-year management contract in Guyana, which was supposed to build the capacity of the local operator, provided only on-the-job training, and at the end of the contract no local workers had gained any qualifications, so the organisation had no capacity to sustain its own skills and knowledge. There may be a more general loss of training following privatisation and liberalisation, principally because an increased use of outsourcing reduces the incentive and capacity of employers to train – a fall in the training of electricians was noticed across Europe following the liberalisation of that sector in 1998.[41]

Box E: Training for water workers: Ho Chi Minh City (Vietnam) and Porto Alegre (Brazil)

The Asian Development Bank (ADB) provided a loan of USD$52 million to support the development of water and sanitation services in Ho Chi Minh City between 1995 and 2004. The project provided support for improving the volume and quality of bulk water supply, for strengthening institutional capacity, and included specific technical assistance for training. "About 184 staff received training in corporate planning, organisation development, water supply maintenance and management, financial management and accounting, computer systems, and English language skills. It was provided through a mixture of in-house training, external training, and overseas training: 33 staff received short-term training at the Metropolitan Waterworks Authority, in Bangkok. Specific courses were run on water tariff setting methodologies and financial issues in the water supply sector, for financial and accounting staff members. One hundred staff were trained as trainers, and a training section was created to carry on continuing training activities".[42]

The water service of Porto Alegre, Brazil, is noted for its public participatory budgeting procedures and its efficiency and effectiveness at providing a universal water and sanitation service. It operates a continuous programme of training and education for all its employees. In 2000, it ran a total of 143 training courses involving 1,819 workers for a total of 3,833 hours of classes. Training covered technical/operational aspects (82%), as well as administrative (5%) and managerial issues (13%). It runs a specific programme aimed at enhancing employees' computing skills, with courses tailored to their specific professional requirements: 131 workers attended these classes in 2001. In partnership with the municipality of Porto Alegre, the Departamento municipal de Água e Esgotos (DMAE) has been running an educational programme since 1998 aiming to eliminate illiteracy among employees: up to 800 of DMAE's employees were illiterate or partially literate. By 2001, 50% of these employees had taken part in DMAE's educational programme. It has since been extended to provide courses for all workers to become literate to at least primary grade.[43]

3.4. Workers and communities interface

In public services, labour has an additional contribution, because of their interface with the public. Studies of service delivery in India and Pakistan noted the strength of the commitment of workers, even in very unfavourable circumstances, to making the service work better, and the central importance of the relations between workers and communities in improving a service.[44] The same point was noted a decade ago; an important feature of improvements in public service delivery in Ceara, Brazil, in the 1990s, was the commitment and involvement of the workers. This was constantly reinforced by the government's repeated public demonstrations of admiration and respect for what they were doing.[45]

Box F: Reciprocal commitment between workers and communities

Water and sanitation workers on a slum project in Ahmedabad (India) were exposed to regular contact with local communities and NGOs, and this public exposure strengthened their commitment to supplying poor households with network services; this in turn generated a positive cycle of gratitude from local inhabitants, and consequent pride by employees – even engineers previously notorious for their aloofness: "At the end [of each project] we feel that we have really accomplished something. People give us so many blessings. We see and feel this sentiment." Staff are not simply driven by maximizing material gain, but also by a sense of pride in improving the lives of poor citizens.

A similar combination of improved monitoring and increasing the direct contact between workers and citizens in the rural water supply project in Azad and Jammu (Pakistan), where reducing contracting out also reduced the opportunities for corruption (see above). Workers on the project were expected to work unusually closely with the communities, and formed close bonds with them: villagers reciprocated by calling them "heroes". One junior engineer said that "we will go where no one else will go. We will work late into the evenings, we work on Sundays, we work with the people, we don't exclude them. This is how we are seen by the people".[46]

3.5. International support

Aid agencies and development banks need to reinvent clear and positive policies on the role of workers in their programmes and policies. These policies should include:

- A recognition that labour is an important economic input into the process of extending and operating water and sanitation services
- A general commitment to fund ongoing training of water workers at all levels so that public sector organisations have a sufficient pool of trained staff, and sufficient annual funding to sustain a well-trained permanent workforce.
- Recognition that trade unions can play a key role in restructuring public sector organisations.

4. Capital: finance for investment

4.1. Paying for investments

Water services depend on an extensive network of pipes, pumping stations, treatment plants, and reservoirs. As a result, a very high percentage of the cost of water systems is the cost of investments in this network, and so water is a very capital-intensive sector.

Extending water services to all requires a lot of capital to finance the new networks, and it is very expensive. Those still needing connecting are poor, and the resources required to connect them cannot be provided by the poor themselves. There has to be distribution from those with greater incomes. It is difficult for low and middle income countries to find enough capital, and to afford the cost of interest and repayments on this capital. Further redistribution is therefore desirable, from rich countries to middle and low income countries.

The MDG targets make the problem even greater because they demand achievements in a very short timescale regardless of economic growth. Accelerated investment of this kind has to be financed through borrowing, which in turn has to be based on a sustainable flow of income. The failure of the privatisation experiment has shown the difficulty of creating that flow from charges on the incomes of the poor themselves, and so public taxation revenues are the necessary base.

For all these reasons, public finance mechanisms remain the key method for raising capital to finance the extension of water services.

Box G: The problems of restricting public spending on infrastructure

It is important that public sector accounting and fiscal rules do not unnecessarily limit financing investments. IMF conditions and government policies limiting tax revenue and borrowing have contributed to a long-term fall in public investment in many developing countries since at least 1980. The growth rate of all investment in developing countries – private as well as public – has fallen from 2.1% in the 1980s to 1.7% in the 1990s – the worst fall was in lower middle income countries. (McKinley 2005)

In 2004, in response to pressure from countries including Brazil and Argentina, the IMF proposed altering its rules concerning public sector borrowing to finance investment: *"greater importance be attached to safeguarding public investment, especially in infrastructure, and they welcomed the staff's suggestion that appropriate attention be paid to the current fiscal balance, which excludes capital spending and revenues"*.[47] This means that the IMF was prepared to accept that the element of public spending which consists of investment in infrastructure and other services could be excluded from the constraints of IMF conditions aimed at reducing public spending.

4.2 Demand for investment

The starting point for any discussion of finance for investment in water must be a local assessment of what extensions and improvements are required. Much discussion until recently has ignored the importance of establishing these needs. Local assessments should involve a democratic process of public and open debate on the needs and priorities of the city or region or country. Extensions to existing systems may include unofficial settlements and slums as well as official settlements. Improvements may include dealing with leakage, renewing the system to make it work more reliably, building new reservoirs and treatment plants to improve water supply, improving sewers and wastewater treatment, or agreeing to truck municipal water to slum areas currently not connected to the network.

The decisions must be made locally and be based on local priorities, otherwise financial planning may conflict with local interests. Millennium development goals are one set of global political objectives, but are only an input from the global institutions – local political objectives should be paramount. The local needs assessment will also enable public authorities to discuss how much can be financed locally: raising finance from national and local savings is easier and less risky than using international sources. Projects driven by external proposals for profitable ventures have often led to costly financial commitments out of line with local needs and capacities.[48]

The problems and dangers of externally-led estimates of demand can be seen in various ways.

The various global estimates of the costs of reaching the MDGs, ranging from $6.7 billion per year to $75 billion per year, reflect the interests of international companies and bankers in estimating potential global markets. The base of these estimates is variable, and the figures themselves are useless for local decision-makers who are concerned with what each city or country requires.[49]

A number of water reservoirs and treatment BOTs have been far more than cities have needed or been able to afford, for example in China (Chengdu), Turkey (Yuvacik) and Vietnam (Thu Duc).[50] Local assessments of requirements for investment are usually far lower than those by external actors. The Orangi project in Karachi (Pakistan) successfully campaigned for the rejection of a $70 million project proposed by the Asian Development Bank as unnecessary. [51] The municipal water company at Debrecen (Hungary) estimated that the city needed to invest between 2 and 2.5 billion florints for water and sanitation – compared with proposals from two private companies' for 3 billion and 6 billion.[52]

Box H: Gurria report: - designing local projects to match the needs of global financiers

The Gurria task force was set up by the Global Water Partnership and the World Water Council to examine the question of finance for water. It produced its first report in March 2006 (Gurria 2006).[53]

Gurria starts by recognising the importance of the demand for investment, but sees this as a matter of potential investors designing financially viable projects – not of local citizens deciding on their needs. Gurria proposes using aid to subsidise the identification of profitable projects: "financed through grants, development of service strategies, project preparation and structuring capacity will remove a major obstacle in financial flows. The setup of a 'project preparation fund' … could facilitate this process".

- If the need for water services has to be reduced to a series of projects, then a universal service will not be developed. The bankers will decide who gets water, by choosing the bankable projects. The rest of the people without clean water supply will be ignored. The financial markets are not only indifferent to their problems, they are concerned to avoid any responsibility for them.

Gurria correctly identifies solidarity finance as a vital element in developing water services, especially for the poor, and also argues for multi-stakeholder partnerships. The attraction for Gurria – and financiers - is that such partnerships can legitimise the use of a reliable flow of future payments, which is "essential for matching better demand with supply of services and their financing…these partnerships will create feasible financing and repayment mechanisms and exploit local financing options that are often overlooked."

- The real importance of solidarity finance is that it pays for the universal access to water services for people who cannot afford it themselves, as the key instrument for delivering political goals. Gurria's report minimises the role of politics, and democratically elected governments are reduced to the same status as companies and banks in his partnerships: "in which all parties cooperate (local and national government, users, public and private operators, local and international financiers)".

The Gurria report is repeatedly insistent that central governments should devolve resources and authority to the local level, in line with orthodox neo-liberal ideology, which identifies the central state as a general threat to markets. Gurria sees the role of central government as ensuring a reliable repayment service: "Central governments should empower, facilitate and strengthen the capacity of local stakeholders in development, structuring, implementing and managing local projects and services to enable effective local financing."

- The report ignores the important role played by central government in water services in many countries, and says nothing about what it expects to happen in those localities which have no bankable projects to offer financiers. It is only concerned with financial capacity, and is not concerned with strengthening the political capacity of local government to decide on needs and how they wish to implement them.

Like other reports on financing, the Gurria task force places great emphasis on "innovative" financing mechanisms, as though the lack of investments in low income countries is not due to their poverty but to a lack of imagination (e.g. the web site offers 'A multi-criteria search … to search for innovative financing experiences in the water sector'). The report mentions a number of 'new' sources of finance, which include "the offer of local-currency loans by multilateral financiers, using the proceeds of bonds raised in local capital markets" (e.g. the European Investment Bank has issued a bond in Botswana).

- There is no reason for seeking out 'innovative' financial instruments –long-established instruments like government and municipal bonds, or grants and funds from central taxation, have successfully delivered investment in water systems for over a century. In any case, Gurria's example is not a 'new' source of funds, but a case of development banks borrowing money from the oldest source of all - local savers. But this weakens the financial capacity of the democratic institutions - instead of the elected government issuing bonds and deciding how to use the proceeds, the development bank draws out the local savings, and then controls their allocation through pure banking principles.

4.3. Sources of income

4.3.1.Taxes and charges

Ultimately all expenditure on water has to be paid for either through taxation or through user charges. Even if water is distributed free of charge to the users, it is still paid for – through the tax system. Even when capital expenditure is financed by loans or bonds, these loans have to be repaid, with interest, through either taxes or user charges.

The balance between these sources has implications for what is possible. Charges can get money only from the people directly connected to the system concerned. If charges are strictly applied to recover costs of supplying each household from that household – full cost recovery, or FCR – then money for connecting new users is limited by the incomes of those users themselves. If cross-subsidies are introduced, existing users can also be required to contribute to new connections, but the charges still do not touch the income or wealth of people or businesses in the area, only their consumption of water. Local taxes, such as rates based on property values, or local income tax can widen the base to include these groups, but they still do not touch people elsewhere in the country, let alone other countries. The general revenues of national taxation draw on the largest pool available to countries, the incomes and trade of the economy as a whole. This is most likely to make the necessary investment affordable, because it can be spread across many more people and businesses, and also reflect people's ability to pay.

If money is raised by the water operation making a surplus, the money comes ultimately from charges. The burden of finance thus falls on the existing body of consumers. In some countries water and sewerage have been financed out of local taxation, such as a form of property tax. Even where there is a separate charge for water, this charge may effectively be a property tax where most homes are not metered – e.g. in the UK, where most households pay a charge based on the value of their property, not the volume of water consumed, even under the privatised system in England and Wales.

Other countries have used cross-subsidies between different services to finance water: for example, the municipal utilities of Italy and Germany have used profits from electricity services to finance water systems.[54] Cross-subsidies remain a potentially important mechanism for delivering solidarity financing for infrastructure development, as recently re-emphasised by a World Bank paper: "if the country can't generate the tax revenue to finance well targeted direct subsidies, well targeted inter-user, inter-usage or inter-regional cross-subsidies can deliver."[55]

4.3.2. Taxation capacity: extending the base

Taxation is a more progressive way of paying these costs, especially when extension of the water system is treated as a public good with general social and economic benefits. People with lower incomes pay less taxes, so they pay less overall for the cost of the water system – people on higher incomes pay more. Using national taxation is more progressive than using local taxation, because a local population may consist overwhelmingly of poor people, where there are few

wealthy people to subsidise the poor. Using international taxation, would be even more progressive, for the same reason, because it would draw on the incomes of people worldwide, enabling services in developing countries to be financed by the income and transactions of corporations and the wealthy in high income countries, as well as the wealthier citizens of the country itself.

Table 6: Widening the base: charges and taxation

	Local Unconnected	Local Connected	National	International
Charges (FCR)				
Charges with cross-subsidy				
Local taxes				
National taxes				
International taxes				

Taxation has to be treated as the fundamental base for financing infrastructure investment, including water, whether as a direct source or as guaranteeing borrowing. A recent review of infrastructure financing by World Bank economists acknowledges this very clearly:

> "the main responsibility for financing many of the investment needs will fall onto the taxpayers rather than the residential users, at least in capital intensive transport and water and sanitation…recent experience also shows that to ensure the sustainability of reforms and to ensure the fair distribution of their gains, possible trade-offs between efficiency and equity need to be diagnosed very early on".[56]

The importance of taxation implies that countries should develop and increase the amount of taxes they raise. The IMF and the World Bank recognise this:

> "in most developing countries the problem is collecting enough revenue to provide essential public infrastructure and human development services. Tax revenue in low-income countries as a share of GDP is about 14 percent, compared with about 19 percent in lower-middle-income countries and 23 percent in upper-middle-income countries…Overall, it appears that there is scope in many countries for raising additional revenues." (World Bank/IMF 2004)

Research by the Institute of Development Studies (IDS) (Sussex University) also identifies the capacity to raise taxes as crucial for the state to develop both power and accountability. The basis of taxes, and the effectiveness of the state in collecting them, are crucial elements in the legitimacy of the state and the political interactions between citizens, interest groups and the state. IDS found that in post-apartheid South Africa, tax payments have risen steadily, implying a greater willingness to pay taxes where they are seen as legitimate. IDS identified problems where dominant elites managed to avoid or reduce tax burdens:

> "Latin America has a low average tax take, wealth (especially property) is under-taxed, and there has been heavy dependence on indirect taxes with a narrow base, multiple rates and high levels of exemption. To a significant degree, elites have exercised sufficient influence over the details of fiscal legislation and over the tax collection process to ensure that, even where the overall tax take is high, the burden falls mainly on indirect taxes and on poor people. Tax administration has tended to be highly centralised (though this is now changing); capacity to tax is limited; there is extensive tax evasion, especially by wealthy people; and processes of making and changing tax policy are not very transparent."

Access to taxation capacity remains key to the sustainable financing of services, even at rural level. Commenting on successful rural schemes in Africa, Brian Mathew suggests that the best prospect for long-term financing of such services is local taxation:

> "As such it is of importance to any developing country considering the real cost of a support system for its national water programme. Across the developing world the use of local taxation to fund this kind of support service remains problematic for the present, however, largely due to other competing demands and the lack of effective local tax gathering mechanisms. …. These kinds of support systems require a regular level of funding to work properly, and for long-term sustainability local taxation would seem to be the most workable solution."[57]

However, as argued above, the great advantage of using central government financing is that it enables the greatest redistribution, by drawing on taxes paid by everybody in the country and directing it where it is most needed. The poorer the population of a community, the more they need finance from a source which can draw on richer communities. The disadvantage is the lack of local control over this revenue.

4.3.3. Central government support for local water and sanitation

Since taxation is the key source of income which underpins public borrowing, and since central government has the broadest and most equitable tax base, it is not surprising that central government plays an important role in many countries. It continues to play a significant role even in high income countries.

In the USA, for example, there exists a 'revolving fund' of money borrowed by the federal government at the lowest interest rates, which municipalities can use for investments and then repay over a number of years, so the money returns to the fund and can then be borrowed again by other municipalities. European states continue to support capital investment by subsidies from central taxation. In Germany, where water is run by thousands of municipal operators, about one-third of all capital investment is financed by central government.[58] Even in the privatised parts of the UK, about 9% of capital investment by the private companies comes from government subsidy. In France, both municipal and private systems draw on funds held by regional authorities, the Agences de l'Eau, which impose a special tax on water consumers.

This kind of mechanism is also operated at international level by the European Union itself, which collects taxes from all across Europe to support a 'cohesion fund' for redistribution to poorer member states: one of its main functions is to finance the heavy cost of investments in water services required by new member states in Europe (see box I).

Box I : Europe: funding water investment from central taxation

The European Union collects taxes from all EU member states and distributes them through its cohesion policy. On average the EU collects about 20 in taxes from every person in the EU each year to support investment in water and sanitation alone.[59] During the period 1994 to 1999, environmental investment financed from the Structural Funds amounted to over 9 billion.[60]

The impact on coverage in less wealthy regions and member states was significant : "In Greece, the number of urban areas connected to main drainage almost doubled between 1993 and 1999, increasing the population covered to over 70%. In Ireland, the proportion covered rose from 44% in 1991 to 80% in 1999. In Portugal, the population connected to drinkable water supply rose from 61% in 1989 to 95% in 1999 and that connected to main drainage from 55% in 1990 to 90% in 1999. The Funds also helped to increase water supply in regions with a serious shortage. In Italy, for example, supply was expanded by over a third over the programming period."[61]

Overall, this central support for infrastructure and other measures had a major effect on economic growth. In Greece, GDP in 1999 was 9.9% higher than it would have been without the central cohesion funds, in Portugal 8.5% higher.[62]

In some developing countries, water has been developed as a central government responsibility, and so water services are mainly provided through state-owned entities, and financial support is provided by governments. Examples include Sri Lanka, Uganda and Honduras. In countries where water is provided by municipalities, the income of municipalities is invariably supported by central government transferring significant amounts of taxation to support local tax revenues. Funding is also provided from central government taxation to support local government expenditure through various mechanisms. This may be of greatest importance in smaller towns and cities, and in peri-urban and slum areas, where the local tax base is of limited capacity. The examples from Central America show the potential importance of this support.[63]

Box J: Central support for local water services in El Salvador and Nicaragua

San Julián, El Salvador, is a small municipality with a total population of 22,700, which includes an urban centre with 5,200 people. In 1997 the municipality formed an autonomous company to manage the water system for the urban centre. The company is managed by an elected board of directors and a permanent staff of five people. It has a new water supply system built with external funds and an old unimproved wastewater collection system. 96% of the population has access to the municipal water supply system, every household connection is metered, and service is provided 24 hours per day.

Financing for infrastructure improvements have come from the national Social Investment Fund for Local Development (FISDL), through a grant of $343,000, except for 36 connections paid with excess revenues generated by the company, so neither the company nor the municipality carries any debt burden for the new connections. User fees cover all recurrent costs and depreciation, and generate some excess revenues to finance modest system expansion.

Other small municipalities in Itagua and Marinilla developed similar systems. In all cases the important factors included enlightened local leadership capable of generating popular support; participatory and transparent consultation processes (assisted by USAID in San Julián); access to external capital financing through a loan or grant from national

government. In all three cases there is clear public accountability: in Itagua a general assembly meets annually to review operations, assess the performance of the board, and elect new board members; in Marinilla, the elected municipal council approves all major decisions and in San Julián, the board of directors of the company is popularly elected by a general assembly of water users.[64]

4.4. Finance and borrowing

To accelerate investment various sources of finance may be used. Money can be borrowed within a country, from banks, or directly from the public by selling bonds. This can be done by either municipalities themselves, or by central governments. It is the traditional form of borrowing for public services throughout the world: government and public sector bonds are a major part of investor activity. This kind of borrowing is already widespread in developing and transition countries. The cost of capital is determined by the interest paid on the loans. In principle it is also possible to get money invested as equity by shareholders, if private enterprises are involved: in this case the cost is determined by the dividends paid to shareholders.

Following the failure of private concessions, private equity cannot be expected to be a significant source of finance. Attempts to involve local contractors are not likely to change this: small-scale local enterprises in developing countries are even less likely to provide capital to finance investment on the scale required than multinational companies. The multinational companies themselves have withdrawn equity finance and identified local savings as a potential source, and tried to tap these through bonds and loans - but at a much greater cost than direct municipal or government bonds. In Jakarta (Indonesia), Suez had originally borrowed $56 million from Europe to finance its investment, but in 2005 it issued a bond in Indonesia, on which Suez is paying only 12% interest, which it used to repay the European loan. But their contract with the Indonesian regulator includes a guarantee of a 22 per cent rate of return on capital. The cost to Indonesians is thus nearly twice as great as if the Jakarta city council or the government issued a bond, and charged users only the interest of 12 % on that bond.[65]

For all types of finance, the money can in principle be raised from local, national or international sources. National or local borrowing is certain to become more important as a source of financing, because of the risks in international financing of essential services, which were highlighted by the case of Argentina. When the economy collapsed, the “dollarisation clauses”, which guaranteed to protect the dollar value of companies’ income, were unenforceable. Developing countries should also want to avoid borrowing internationally because of the risk of changes in exchange rates creating unsupportable burdens – and investing money in foreign currency reserves to protect themselves against this risk is an inefficient use of national resources: “because countries may be accumulating low yielding foreign assets such as US securities at the expense of investing in the local economy.” [66]

The failure of private shareholder finance, and the risks of international lending, suggest that the preferred future sources for financing capital investment in water in developing countries will be

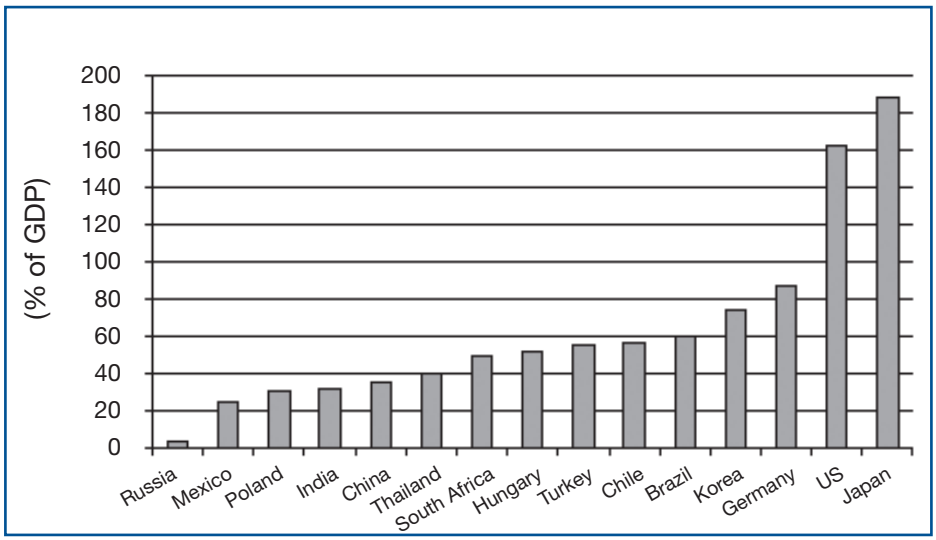
public sector borrowing from local and national sources, together with international borrowing mechanisms which can shield countries and investors from currency risks.

Table 7 : Sources of finance for investment

Source of funds	Local	National	International
Operating surplus	Surplus	-	-
Equity (shares)	Local enterprises	National enterprises	Foreign enterprises
Bonds	Municipal bonds	Government bonds	Government bonds
Loans	Local banks	National banks	Development banks International banks,
Grants and aid		National government revenue (taxes)	Donor government revenue (taxes)
Size	*Local savings, but small shareholder capital*	*National savings*	*Global*
Currency risk	*0*	*0*	*Currency risk increases real cost*
Cost of capital	*National rates*	*National rates*	*International risk-adjusted rates: high unless intermediate takes risk*
Possible intermediate agencies		*National government; municipal development fund; revolving fund; water bank etc*	*Public Water fund; regional water funds*

In order to borrow money within countries, capital market mechanisms must be set up to provide security for people investing their savings.[67] Various countries in Asia and Africa– including India, Kenya, Tanzania, Namibia and Botswana – have issued bonds on their domestic markets, and even some cities, for example Ahmedabad (India).[68] The use of bond markets in developing countries remains much lower than in developed countries, as shown by the chart. One problem is the length of the debt (the date at which the government or municipality has to repay it). Often these are less than 10 years, which is not suitable for a long-term investment in a service like water. Some countries have managed to issue longer debt: Egypt and Namibia have both issued 20 year bonds.[69]

Chart C: Local bond market as a % of GDP: selected countries.



Source: Kuenzel: Local Currency Bond Market Developments in Mediterranean, African and Caribbean Countries, July 2005

Most cities lack the capacity to issue their own bonds, and in any case a bond from a single city is less attractive to investors than a bond spread across a number of local authorities. As a result, many countries have developed various types of public sector agency for pooling the borrowing. Since 1988, the government of Tamil Nadu has been implementing the Tamil Nadu Urban Development Project (TNUDP), financed by the International Development Agency (IDA) and the World Bank. In order to facilitate small and medium towns' and cities' access to the domestic capital market, a Water and Sanitation Pooled Fund (WSPF) was organised as a bond bank. The funds raised by bond issues are disbursed as sub-loans to the participating municipalities. The WSPF issued its first bond in November 2000 at an interest rate of 11.85 per cent and a five year term; a second bond in December of 2002 carries an interest rate of 9.20 per cent per annum and a term of 15 years.[70]

There are a number of other examples of public sector financial agencies which raise loan finance for municipalities to invest. The Local Water Utilities Administration acts as development bank, technical support agency and informal regulator in the Philippines, which helps the positive performance of the Philippine Water Districts.[71] Some of these have international credit ratings, for example the Japan Finance Corp. for Municipal Enterprises (JFM). Or the state may own a development bank which has the remit to provide low-cost investments in order to develop the national economy: for example, the Brazilian Banco Nacional de Desenvolvimento Economico e Social (BNDES), which has an international credit rating.

After the Second World War, the Netherlands created another kind of institution, the Netherlands Water Bank, owned by the water boards and central government. It has the highest possible international credit rating of AAA, thanks to the implicit support of the government and the fact that it only lends money to public sector bodies.[72]

4.5. Micro-finance and cooperatives

There are a number of cases of local communities developing a self-help approach to extending water systems, especially in slums and peri-urban areas: see box K below for two examples.

A community, however, has more limited financial powers than a municipality or local government. It can only develop water or other urban services on the basis of the ability to pay of the actual or potential users. Without powers of taxation, it will not be able to rely on the resources of people other than the users. Its ability to borrow will be limited by the income from users, and it will almost certainly be unable to issue bonds or take long-term loans. For long-term sustainability, support from local or national government finance is necessary.[73]

Water cooperatives are based on similar principles, where the finance comes entirely from the users. A few water cooperatives have grown big enough to be able to borrow money at good terms and conditions: one of these is SAGUAPAC in Santa Cruz, Bolivia.[74]

Box K: Community water and sanitation

Faisalabad, Pakistan, has a population of two million people. Two-thirds of them live in *katchi abadis* (unofficial squatter settlements) with little or no official provision for services. The ASB is a neighbourhood body which has introduced self-financed water and sanitation connections in *katchi abadis*. This consciously emulated the Orangi Pilot project (OPP) in Karachi, which developed low-cost sewerage through community-financed connections in *katchi abadis* in Karachi. The OPP itself lent Rs 100,000 from which micro-loans were made for households and businesses to construct their own local sewerage and water connections in the lanes of the settlements, and repay the loans: the repayment rate has been over 88%. The ASB created a local water services committee (WSC). Households pay both the WSC and the official water and sanitation authority (WASA) when they are connected. The ASB has tried but failed to recruit and retain professional engineers. It is heavily reliant on the personality and drive of one leader. Although international donors have come to offer support, this has rarely been accepted.[75]

In India, the National Slum Dwellers Federation and *Mahila Milan* (savings groups formed by women slum and pavement dwellers) have over 700,000 members, and they are working in many cities on community-designed and managed public toilet blocks, where space or finance constraints prevent improved provision to each household. The community-managed toilet block programme stimulated the national government to set up a special funding facility to encourage comparable programmes throughout the nation.

(Source: Building homes, changing official approaches. The work of Urban Poor Organizations and their Federations and their contributions to meeting the Millennium Development Goals in urban areas. Celine d'Cruz and David Satterthwaite. Human Settlements Programme. IIED http://www.iied.org/urban/)

4.6 International support

"What is the global public finance equivalent of ending apartheid?"
- Mike Moore, director of water and forestry service, South Africa, 2003.

4.6.1. Development banks and pooled market mechanisms

Development banks should be the main source of international finance for public infrastructure investment. This is a key role of a development bank, and the advantage is that money is available at much better terms than the public authority could obtain for itself. Problems arise, however, because the banks may apply conditionalities requiring private sector involvement, and the loan may be used as way to impose policies which damage public services. Despite this, the development banks all continue to lend to public sector bodies, and the conditionalities applied vary considerably.

Another possibility is therefore for donors to improve the access by developing countries to international investors. A very few cities in middle income countries have obtained direct international credit ratings for their bonds – for example Bogota (Colombia) and Seoul and Taegu (South Korea). There are two reasons, however, why this is not likely to prove a successful short-term route for raising international finance. One is the desire by investors to spread risk, because investment in developing countries is seen as risky in general, and investing in one specific municipality, or even a group of municipalities within only one country, does not spread risk sufficiently. The second reason is of capacity: it places extra demands on municipalities, or even a group, to expect them to be able to manage borrowing from international investors.

Intermediate bodies are therefore necessary, so that international investors can make a single investment that is then spread across a range of cities, and the intermediate body is responsible for assessing the credit-worthiness of different water operators or municipalities. One such intermediate body is the national government or public sector agencies such as those discussed in the previous section.

Another possibility is to create regional funds which bring together water bonds issued by public authorities in a given region: international funds can simply invest in the regional funds, which in turn invest in water (or public service infrastructure) bonds in specific countries and cities. Northern funds, especially pension funds and ethical investment funds, could be interested in investing in 'public water bonds' issued by such intermediate agencies, especially in view of the shortage of northern long-dated bonds. Northern governments could facilitate these investments and reduce the risk both for investors and southern governments, for example by providing protection against currency risk, or by providing tax relief for funds investing in such bonds, or, for low income countries, by providing capital grants to match the investments in such bonds.

4.6.2. International support: extra income

Through a combination of taxes and user charges, many middle income countries may be able to cover much of the costs of operating water services at the level required by the MDGs, including the cost of capital. But, especially for low income countries, their own economic resources may be insufficient to cover the cost of the accelerated expenditure required to meet the MDG targets.

The provision of extra capital still leaves the requirement for international cross-subsidy for the costs of paying the debt and running the service. The UN study on the MDGs estimates that for low income countries to achieve the MDGs, even after a massive increase in public expenditure by the countries, requires international support equivalent to over 60% of the operating costs.

This is a measure of the financial solidarity required to achieve the MDGs. In effect, rich countries must provide 2 dollars for every 1 dollar paid by citizens in low income countries. Without this, the MDGs will not be achieved at the accelerated rate specified, and the poor will continue to lack clean water and sanitation. This support should also be sustainable for the low income countries, that is they must be able to rely on raising the money as needed for the foreseeable future. The support should thus be as similar as possible to a tax levied on the richer countries by the poorer countries.

One possible form would be an international tax which simply increases the country's financial resources. Another would be to provide a matching 'water solidarity charge', in the form of a long-term obligation to match income from water charges and rates with double the amount from northern aid budgets. Such obligations could be based on treaties, in the same way as the WTO creates long-term binding obligations on countries.

5. Natural resources

The third factor of production is natural resources. The key natural resource involved in water services is, obviously, water itself. This booklet does not cover this issue in great detail, but the public sector and the public domain again have important roles to play.

Some of the oldest democratic bodies were developed to decide the fair allocation of water. Historically, this is because of its importance for agriculture, and the need to agree the distribution of a scarce resource. Water resource management is now recognised as an important element of public policy on water resources generally, in order to conserve limited aquifers and protect the needs of the natural environment. A number of laws have recently been developed, in Europe and elsewhere, to enable public participation in these decisions.

Cities and towns need to capture reliable sources of large amounts of water to support their unnaturally concentrated populations. The aqueducts, dams and wells necessary for this capture of water involve large amounts of capital investment, but these projects are unlikely to be economic for the private sector. Hence public finance is again crucial, as noted by David Grey of the World Bank:

> "Generally it has been the case that early investments in water security were public investment from fiscal resources. ….. All rich countries will have achieved 'water security', with a publicly funded 'minimum platform' in place. Most poor countries will not have achieved this… early returns to investment in water resources, particularly in countries with high hydrological variability, are likely to be quite low. It is posited that a significant public investment will need to be made before there is adequate security for private investment to follow and growth to ensue… the standard tools of project economic analysis, such as marginal rates of return and ability-to-pay, which are commonly applied by governments and donors alike may be inappropriate to weigh crucial early investments, and their use may in fact forestall growth."[76]

The construction of new reservoirs is not the only way to make more water available. Reducing high leakage rates can make available far more of the water which is already being captured in reservoirs, and so increase supply without any further need for new sources. Reducing unnecessary consumption by industry and business, and more efficient household consumption, can also enable societies to manage with existing supplies.

One reason these measures are important is that the construction of dams and reservoirs has a major impact both on the environment and on the livelihoods of local inhabitants. Large dams can destroy the habitat and livelihoods of hundreds of thousands of people, but at the same time they provide lucrative contracts for construction companies, which form a powerful international lobby group. Dams have therefore been the most acute examples of conflicting interests in water uses, as well as environmental and human impacts. It is essential that there should be strong public mechanisms to decide on strategies for making more water available, to evaluate the human

and environmental cost of dams against the need for the project, and that these mechanisms should enable public authorities in each country to take final decisions in the public interest.

A bold attempt at multi-stakeholder governance, the World Commission on Dams, produced a set of recommendations designed to provide public procedures and rules for determining whether a dam should be constructed. The recommendations were however rejected by the World Bank, the principle financier of dams worldwide, and the dams lobby and the Bank have continued to exert pressure for massive projects, which continue to be the subject of massive resistance by social movements.

6. Politics and public institutions

6.1. Political solidarity

Politics is central to the provision of public services, including water. Demands for improved and extended water services from communities, consumers, environmentalists and others are political demands. National and local policies to develop water are part of political programmes. The Millennium Development Goals are themselves statements of political commitment to providing water supply to hundreds of millions of people. Without a political commitment to universal access, the only people with water and sanitation would be those who could afford to pay enough to make it profitable for commercial companies to supply them.

The political commitment may be expressed in terms of human rights, or universal service, or development, but the development of these services centrally depends on a commitment to action based on solidarity. Developing these services to all people involves accepting redistribution of income, otherwise people on low or no income are left to struggle or die. This solidarity principle is not present in policies which seek only to expand business opportunities in these or other sectors, because the market can only result in the provision of services which are profitable.[77] Public services such as water, electricity, healthcare and education are essential to enable countries to grow economically, and are also central to social development: they enable people to have a better quality of life, longer life, and greater freedom to develop their own capacities and potential.[78] Countries which give political priority to public services have higher rates of coverage than others on the same level of national income.[79]

Box L: South Africa: extension of services

In 1994, as the apartheid era ended, 15.2 million (38 percent) of South Africa's population of 40 million lacked access to basic water supply (defined in South Africa as being within 200 meters of a supply of 25 liters of water per person per day). Eight years later, the new democratic government had built infrastructure to meet the needs of nearly 10 million rural population, and expects that by 2009 all citizens will have access to basic water supply. South African ministers and officials have identified political commitment and the use of public finance mechanisms as two of the key factors.[80]

The World Bank and other donors have argued that interference by politicians has led to inefficient management and inadequate finances dependent on subsidies which are given as a mechanism to win votes rather than provide services. These are real problems, but they arise from politics by patronage, whereby services are used as instruments to reward cronies. The use of conditionalities by donors, insisting on contracts for private companies in exchange for grants and loans, reinforces this kind of patronage politics rather than doing anything to eliminate it.

6.2. Corruption, political activity and contracts

The World Bank has also placed great emphasis on the problem of corruption in developing countries, and argued that reducing the role of politics is a necessary step to fighting corruption. This fails to recognise that corruption is a problem not only of developing countries, but also developed ones – many leading politicians in European countries, including France, UK, Germany, Italy, Spain, Austria, Sweden, have been convicted or have resigned over corruption scandals. Privatisation can make the problem worse, because corruption is strongly associated with the awarding of government and municipal contracts (see box M).

Rather than eliminate political involvement altogether, what is needed is the active engagement of a different kind of politics, based on accountability, openness and transparency. There has been a recent growth in such political activity on water issues, opposing privatisation policies, and demanding instead an accountable, local public service, and the campaigns have often become key issues in elections.[81] These campaigns have involved a range of social organisations, including communities, consumers, unions, environmentalists, and in some cases local businesses. They have often involved political parties, and the campaigns have become key issues in elections: many of these campaigns are described in 'Reclaiming Public Water'.[82] This kind of political activity should be seen as a starting point of a solution.

Box M: Corruption and contracting, north and south

There are well known problems with corruption involving governments and public services in both north and south.[83, 84]

In 1999 the entire European Commission resigned because of proven systematic corrupt practices in their own expenditure even on such matters as security and statistics;[85] the presidents of both Italy and France have been under investigation for corruption; and there are investigations into corruption in the awarding of USA contracts in Iraq, involving Halliburton, whose former CEO is the vice-president of the USA.[86] Northern countries protect their own companies from being investigated for corruption by developing countries: the Wall Street Journal has described how the US embassy successfully pressured the Indonesian government to drop corruption charges against US companies.[87]

In water, as in other sectors, corruption is closely associated with issuing contracts to the private sector.[88] Executives of subsidiaries of the world's largest two water companies, Suez and Veolia, have been convicted in France, Italy and the USA of corruption in order to obtain long-term water concessions; the third largest company, Thames Water, has been fined in both Chile and Indonesia for collusion in awarding contracts.[89] International agencies are involved in this process too: in 2005 the World Bank office in India insisted that a consultancy contract should be awarded to PricewaterhouseCooper even though they failed to meet the criteria of the tendering process.[90]

Contracts are also a key element in corrupt processes in water services in developing countries. A study of corruption in water services in India found that contractor cartels were operating in every case studied, and that politicians and staff are bribed with a share of the profits.[91] Corrupt behaviour by staff charging the public to receive the service was also widespread, in order to enhance their income and gain advancement – a form of corruption which destroyed public confidence in the system.[92]

Solutions to corruption involve developing greater public accountability and staff commitment (see below), as well as reducing contracting procedures.[93] In a rural supply project in Pakistan, private contractors were eliminated for all but the most technically complex of the project's 1,260 schemes: instead, community members provide the required labour under supervision of technical staff.[94]

6.3. Accountability, decentralisation, civil society and taxation

Political activity is also a starting point for a solution to the problem of remote and unresponsive public sector institutions. In many cases, people experience an inefficient bureaucracy which they have no effective way of controlling or improving. These problems of state institutions have been used as arguments in favour of privatisation, and explain why privatisation had some initial appeal. But the experience of privatisation itself has removed any illusion that privatised services might somehow be more responsive and accountable - in regions with the most experience, such as Latin America, privatisation has become massively unpopular. If the problem of existing water services is the lack of local influence, then it is made worse, not better, by centralised restructuring, initiated by the global bureaucracy of a development bank, designed by international management consultants, which invariably results in a standard 'new public management' approach.

Political responses have emerged which provide ways of re-inventing the public sector to create better services. One example is in Brazil, where a number of cities, of which the best known is Porto Alegre, developed systems known as participative budgeting, where the annual spending programmes for all services, including water and sanitation, are subject to a completely public process of debate and decision-making. In the state of Kerala (India), the state devolved 40% of its income to local elected councils, which go through a similar process of public budgeting, reinforced by a general right to information by which all documents are publicly available.

Participatory systems have financial advantages: The Municipal Department of Water and Sanitation Services (DMAE) has succeeded in financing considerable extensions of service coverage in a decade and all at a low cost for consumers.[95] Participatory mechanisms are better at identifying investments of value to poor localities, can develop consensus on tax and pricing levels necessary to fund the system, and can develop consensus on distribution of the costs: 'the whole city is a tax base'.
On a smaller scale, there are now a number of examples where water services have been restructured and improved by local political processes, where community organisation transforms previously moribund local authorities.[96] In Pakistan, community organisations in slums settlements in Karachi and Faisalabad developed initiatives to construct local sanitation systems which were then connected to the mains system of the local authorities – external finance from donors was refused, in order to retain local control of development. Another example of the local development of water services took place Hyderabad, in the state of Andhra Pradesh (India), where interactions between citizens, managers and frontline workers resulted in the development of much better services.[97]

These initiatives involve interaction between community groups, political organisations and various elements of the state. This is different from the idea of 'community involvement' as promoted by the World Bank and others for the last two decades. This was developed in the 1980s, during the 'decade of water', but not for idealistic reasons. The main attraction was that 'the community' was seen as the cheapest way of delivering under a policy which recognised that the finance available was inadequate - not the perception that a change of approach might actually lead to

better, more sustainable outcomes. It also fitted with the ideological move to perceiving water and sanitation as a product with the expectation of full cost recovery.[98] And it created an artificial divide between 'civil society', seen as consisting of virtuous NGOs, as completely separate and distinct from political processes, public institutions and the state.

Recent research from the Institute of Development Studies (IDS) in the UK has provided a better and more complex way of seeing the relationships and issues.[99] Social organisations and their activities are closely bound up with politics and the state:

> "Civil society is not an autonomous, largely virtuous force up against an over-mighty state. … Groups with different interests, connections and capacity for action are organising in response to incentives and opportunities – many of them created by state actors and institutions. The aggregation of interests within civil society in turn influences the state's capacity to respond. …The borders between civil society, political society and the state are often quite blurred. … Connections to the state and political parties can strengthen the capacity of groups to mobilise, and need not result in co-optation."[100]

6.4. International support: public-public partnerships and public space

6.4.1. Public-public partnerships (PUPs)

Water institutions need to have political standing, public legitimacy, legal powers, financial resources, and a sustainable labour force. Established water operators in the north and the south have developed these capacities. Many in the south have not yet been able to do so.

Public public partnerships (PUPs) are a mechanism for providing support for capacity-building for these operators. The UN Secretary General's Advisory Board on Water and Sanitation (UNSGAB) has adopted a similar notion of Water Operator Partnerships (WOPs) on a non-profit basis as a major instrument to implement the policy of strengthening water institutions in the south. The objectives of PUPs should be to help deal with problems of lack of managerial, technical and financial management capacity of public sector water operators. PUPs should not be expected to be managing agents for large-scale infrastructure investment, nor agents implementing specific policies e.g. cost-recovery mechanisms. However, PUPs should aim to provide local management and workers with the necessary skills to identify problems, choose solutions, and implement chosen strategies, including the ability to manage capital financing mechanisms.

Experience with PUPs so far in water falls into two main categories:

- International partnerships, of which the best known are the 'Baltic sea' partnerships in the 1990s. Established public water authorities such as Stockholm Vatten or Helsinki Water partnered cities in the Estonia, Latvia and Lithuania, which had left the Soviet Union. The PUPs were focused on building the capacity of municipal public sector water operators to manage financial and operational aspects. These PUPs were aid-funded by national aid agencies, and often

linked to capital investment projects, for example wastewater treatment plants, which were also funded by a mixture of aid and development bank loans. Others include partnerships between Amsterdam Water and cities in Indonesia and Egypt.

- National partnerships include initiatives within countries, such as the support provided by SANAA in Honduras for rural water services, or transnational initiatives such as the support provided by Brazilian association ASSEMAE to Cochabamba.[101] Similar partnerships have involved public water operators in contracts which are more like consultancy; eg, the support from Uganda's NWSC to Nairobi and Dar-es-Salaam and Rand Water's involvement in the Odi and Harrismith initatives in South Africa. The experience with PUPs goes beyond international partnerships between cities. These partnerships have also been used internally between supporter and supported within one country, to develop and maintain improved services. The main examples here are the support provided for rural water services in Honduras by the national water company SANAA.[102]

Box N: PUPs examples: Amsterdam Water in Indonesia and Egypt; PDAM Tirtanadi in Indonesia

Amsterdam Water Service (AWS) has been involved in a twinning partnership with the Indonesian region of Surinam since 1996. AWS employees are seconded to work with colleagues in Surinam water service on the improvement and expansion of the general drinking water service, distribution networks, reducing unaccounted water, setting up a management information system and ensuring supply to rural areas. AWS is also exploring how to set up, maintain and manage a new water treatment plant in the rainforest.

In Egypt, AWS has been working since 1992 with water services in Alexandria, Damietta and the province of Beheira in Egypt. Activities include reducing the level of unaccounted for water (leakage), introduction of quality guidelines, improve management process, introduction of preventive maintenance systems, protection of groundwater resources, improve surface water quality, organise knowledge exchange between the companies involved. By making the right adjustments, the Beheira Water Company managed to double its production capacity within one year!

The PDAM (public water utility) in Tirtanadi in North Sumatra (Indonesia) is owned by the provincial government of North Sumatra. In the province of Northern Sumatra, through 'Operational Cooperation' PDAM Tirtanadi is involved in a partnership designed to improve water services in other, smaller (district-level) PDAMs. On 17 July 1999, a twenty-five year cooperation contract was signed between PDAM Tirtanadi and PDAMs in Deli Serdang, Simalungun, Central Tapanuli, Nias, and South Tapanuli districts. Management Cooperation contracts were also agreed with PDAMs in Labuan Batu and Dairi District.

Source: Public-Public Partnerships in Indonesia, Amrta Institute for Water Literacy Indonesia www.tni.org, March 2006

Official donor encouragement is needed to realize the potential of public partnerships. In the absence of commercial objectives, the risk to public money often does not appear justifiable, and so most public operators will simply not tender for consultancy work, which the private sector has much greater incentive to compete for. Without a positive effort, the potential of the public sector to support development will remain largely under-utilised.

The UN has now agreed to promote the concept of non-profit water partnerships, based on the concept of PUPs. A register will be created of potential support partners, so that water services needing support can approach the register to find a support partner.

6.4.2. The feasibility of PUPs on a global scale

It is numerically feasible to propose a systematic development of PUPs on a global scale, in terms of matching cities. About 78 of the cities in high income countries with populations over 1 million are run by public sector operators, and there are a total of 314 cities of similar size in middle and low income countries. This gives a ratio of about 1:4, which implies each public utility in a city in a high income country could adopt four cities in developing countries to give global coverage. However, some of the public utilities in middle and low income countries also operate effectively (e.g. Porto Alegre), and so could operate as supportive partners themselves. If just 22 fall into this category, that boosts the supportive partner numbers to 100, leaving 292 to be supported: a ratio of 1:3

So each OECD and non-OECD effective public water utility could adopt just three other cities over one million. These 'adopted' cities contain a population of 550-600 million. The ratios are likely to be similar for cities in lower population bands.

Table 8 : Large cities with population over 1 million (2003)

	Number of cities with population more than 1 million
High income countries (public sector operators)	78
China	93
South Asia (India, Pakistan, Sri Lanka)	48
Other	173

Source: UN DESA

6.4.2. Enabling public space for political activity

Northern states and development banks should at the least refrain from imposing their own preferred political and technical options on developing countries. Some donors have accepted that imposing conditionalities such as privatisation is undesirable as well as counter-productive, because it removes the scope for democratic decision-making on these issues. The generalised acceptance of this principle needs to be translated into practice – there is a contradiction between renouncing the use of privatisation as a conditionality, while financing and promoting World Bank agencies such as the PPIAF, whose sole purpose is to promote privatisation.

Apart from ending policy conditionalities, donors should in general intervene less in political activities – such as funding approved NGOs – except to support initiatives which help encourage a public space for debate and decision-making. As the IDS report suggests:

> "A more promising approach, especially for donors, might be a more indirect one – looking for ways to support an enabling environment for constructive engagement between state and taxpayers, or service providers and consumers; and supporting better data collection and dissemination, more local policy analysis, more transparent and institutionalised budget and policy processes, and access to good ideas."[103]

7. Conclusion

The extension of water and sanitation services must, in reality, be done through the public sector. This requires political activity, with transparent and accountable procedures, to create the political demand and win political power to introduce social solidarity policies. It needs political and public sector institutions capable of raising the necessary taxation and borrowing, and of delivering the services. These institutions must be able to draw on a sustainable supply of trained and committed labour, and affordable long-term capital, and must be able to exert the political authority to mange water resources.

Table 9: Framework for supportive aid

	Factor	International support
Economic factors	Labour	Training Public-public partnerships (PUPs)
	Capital	Public finance technical assistance Guarantees and matching aid International pooling mechanisms
	Natural Resources	Assessments based on public interest
Political factors	Political and institutional capacity	No conditionalities Support for public space Public-public partnerships (PUPs)

International support should cease to be seen as part of trade policy aiming to generate contracts for the benefit of northern firms, whether water companies, construction companies or consultants. It should instead be directed at supporting the political and economic factors which are crucial to the functioning of public sector services. It should avoid using conditionalities to impose policies developed externally, and instead provide aid to develop the provision of substantial training, to support the development of public finance instruments and policies, and to provide financial support for this public finance, directly and indirectly.

It should not intervene to influence and control government policies, but should encourage the creation of open public political space to enable the public development of policies. It should offer support from existing public sector institutions to help strengthen and develop the necessary public sector institutions in developing countries. It should help develop a sustainable pool of local skills and institutions able to operate long-term public utility services.

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9. Notes

1 UN Millennium Project 2005. Health, Dignity, and Development: What Will it Take? Task Force on Water and Sanitation. Earthscan, 2005. Table 4.3 p. 41

2 The reports of the PSIRU on water are all available on the unit's website at www.psiru.org . This also includes links to some of the main journal publications of the authors. This submission is based on a longer report which has been prepared for Public Services International www.world-psi.org

3 For a more detailed discussion of this data see Emanuele Lobina and David Hall "The comparative advantage of the public sector in the development of urban water supply". Progress In Development Studies (forthcoming, 2007)

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