

# Innovations in Financing Urban Water & Sanitation

SOPHIE TRÉMOLET, RACHEL CARDONE, CARMEN DA SILVA, CATARINA FONSECA

INTERNATIONAL WATER AND SANITATION CENTRE

## **Executive Summary**

The Millennium Development Goals (MDGs) identified water and sanitation services as key factors in lifting people out of poverty. However, the influential Camdessus Report estimated that financial flows to the sector must at least double to achieve the MDG water and sanitation targets. Financing is a necessary (but not sufficient) condition for achieving adequate water and sanitation services and the resulting benefits on health, education and economic activity.

Traditional approaches to financing the sector are not meeting this challenge and have contributed to the development of unsustainable, oversized and inefficient facilities. Typically, governments, development agencies and the private sector fund large infrastructure projects, such as dams and reservoirs, through a top-down decision-making process that leaves little room for unserved people to express or satisfy their needs. While better off people in cities have piped water at low cost, millions of urban dwellers are excluded because systems cannot expand to meet their needs. In particular, people moving to urban areas, slum dwellers and people in small towns are often excluded.

Over recent years, innovative financing solutions have emerged to encourage financial flows into the sector from a wide range of organisations, each with its own responsibilities, but working together in greater coordination. These innovations seek to offer financial systems better suited to devolved services and to provide options for low income service users and communities.

## **The pattern of financing to address urban vulnerabilities**

**Part 1** of this document focuses on understanding the current pattern of financing to address water and sanitation urban vulnerabilities. It identifies a need to cost the complete “value chain” of services, from protecting sources to dealing with wastewater

and sludge, and including the “soft” costs of training, advocacy and knowledge sharing, as well as infrastructure.

National Governments and Official Development Assistance (ODA) have invested more heavily in water than in sanitation, while the sector as a whole only attracts about 5% of total ODA money. Water and sanitation also have a relatively low priority in Poverty Reduction Strategy Papers (PRSPs). In recent years, ODA has given greater emphasis to grants and budgetary support than to loans. NGOs and new philanthropic organisations are turning towards the sector, but their contribution tends to be fragmented and is hard to assess. The local private sector plays a significant role in reaching people in urban areas who are not served by the main service providers. However, the role of the international private sector, once regarded as the route to effective services, seems to have peaked. There is disillusion on both sides with large scale private sector concessions.

User fees are – and should remain – the main source of finance in the sector. People excluded from mainstream services pay “fees” for poor quality water from street vendors. Connection charges – in some cases equivalent to a year or more of income – are significant barriers to extending services. Finding ways to spread these costs or meet them through cross subsidies is one of the most effective methods of extending water services. A significant group of unserved people do not have title for their land; integration of water and sanitation policy with government slum management objectives would improve access. Funding mechanisms are also needed for decentralised services in small and medium-sized towns. However, donor money usually goes to the larger service providers who focus on existing customers, who may make up less than half the urban population.

There is a need to leverage household and community financing for urban sanitation, as the

sanitation MDG target is very likely to be missed in several regions.

Another significant gap occurs because key costs are not taken into account. If capital maintenance costs are not included in programme budgets, then systems cannot be replaced, expanded or properly maintained. Vital “soft” services such as capacity building and policy development are often unfunded, leaving utilities and governance organisations short of skills and resources, and making it difficult to increase expenditure even if funds increase.

Financial innovations to address these deficiencies seek to move towards output-based subsidies where providers are paid for what they deliver, especially to poor customers. Innovations also seek to channel money to small-scale service providers or municipalities. Scaling up successful financial innovation is a problem – many pilot projects remain islands of success because there is no method of sharing knowledge and experience, or because the project relies to an unsustainable degree on outside expert support.

A comprehensive strategy is needed to attract new sources of funding to the sector and to adjust spending priorities. Tariff reform is a critical first step, but shifting public sector revenues, increasing public-private partnerships, and coordinating international donor financing are also important.

**Innovations in financing in the urban context**

**Part II** identifies specific innovations in financing water and sanitation in the urban context. These have developed in response to the decentralisation of services, the growing awareness of the gaps that need to be filled, and the need to understand the level and nature of demand. Broadly, innovation marks a shift from a supply-driven to a demand-led approach. Innovation in financing seeks to maximise harmonisation and collaboration by funders, to support effective decentralisation of services and decision-making, and to help utilities to become commercially viable. Innovations seek ways to leverage local liquidity and to apply microfinance

approaches to the sector. By these means, even poor people can access funds and therefore services, paying affordable costs that are predictable and spread over a longer period. At the international level, donors are urged to harmonise their efforts and to base their decisions on need within recipient countries rather than other factors. Adopting country level programmatic approaches can channel funding flows to the sector in a targeted and coherent way. Innovations also help international donors to directly support devolved organisations and even in some cases local community organisations, like those that are part of Slum Dwellers International. From the perspective of the urban WSS utility sector, in transition towards a public business approach, project development and transaction support is critical to increase efficiency and to extend connections to poor areas.

At the national level, the major task is to help governments to shift financial resources to devolved bodies to match their new responsibilities and to finance effective structures and practices that are demand responsive. Real world examples are described to meet these challenges, including participatory budgeting, the use of Municipal Development Funds, and public-private partnerships. Empowering local government organisations to raise funds has proved effective in increasing sanitation coverage as well as for water. The use of municipal and utility bonds in this respect is being extended. Innovative ways have been introduced in some countries to cross-subsidise services so that the connection charges for the poorest people are covered. In Burkina Faso a sanitation surcharge is used to develop services and skills and to generate demand so that people finance their own on-site sanitation.

At the community level microfinance can stimulate the small scale private sector and allow households to manage the capital costs of starting or connecting to services. Innovative schemes are described where people save the money that

they would have spent on water from street vendors, using some for more effective services and the rest to fund economic activity. The creation of federations of community groups to access funds is also described.

Utilities and municipalities too can form associations to access finance, for example through revolving funds. In all these approaches international support agencies can play a significant role, especially in scaling up demand-led approaches and building capacity within devolved bodies.

**Remaining challenges and next steps**

**Part III** maps out key remaining challenges and next steps. Holistic interventions and longer time frames are needed to allow time for success to take root. There is also a need to identify the true scale of urban poverty, accurate data on expenditure (for example by households on sanitation) and per capita costs. There is an urgent need to find ways to share information honestly about failures as well as successes.

An accompanying paper presents case studies from Côte d'Ivoire, Cambodia, Bangladesh, Togo, Bolivia, Ghana and South Africa. Summaries of these case studies are included as Appendix 2 to this document.

**Paper outline**

This paper is structured as follows:

**Part I** focuses on understanding the role of financing in addressing water and sanitation vulnerabilities and the required actions to achieve the required scale of improvements.

- **Section 1** presents the current state of play: how financing for water and sanitation is currently provided and to which groups. It analyses whether the vulnerabilities that have been identified in a companion paper<sup>1</sup> are adequately met by existing financing;
- **Section 2** discusses what remains to be done, identifying areas where appropriate financing has not been forthcoming and mentioning current innovations to address those gaps, which are developed in Part II;
- **Section 3** analyses where there may be opportunities for increasing finance to the sector in the broadest sense, assuming that adequate financing mechanisms have been identified.

**Part II** identifies existing innovations in financing water and sanitation in the urban context, contrasting traditional and innovative financing mechanisms and their potential to address vulnerabilities.

- **Section 4** introduces key concepts about innovative finance;

- **Section 5** provides examples and analyses of different innovative finance mechanisms and approaches, and how they are used to address vulnerabilities.

**Part III** maps out the next steps in financing water and sanitation for the urban poor and identifies knowledge gaps and key questions.

- **Section 6** identifies the challenges in finding financing mechanisms that meet the needs of the urban poor;
- **Section 7** identifies the knowledge gaps.

**Appendix 1** A list of acronyms and a glossary of financial terms appears as Appendix 1 to this document.

**Appendix 2** A separate document, Case Studies: Innovations in Financing Water & Sanitation, includes in-depth case studies of innovative financing mechanisms from the Global South. Summaries of these case studies from Togo, Cambodia, Côte d'Ivoire, Bangladesh, South Africa, Ghana and Bolivia can be found in Appendix 2.

---

<sup>1</sup> See Evans, B (2007).

**Table of Contents**

<b>Executive summary</b>	i
Paper outline	iv
Introduction	1
The problem	1
Previous financing initiatives	1
<b>Part I. Understanding the role of financing in addressing water and sanitation vulnerabilities and in reaching required scale of improvements</b>	<b>3</b>
<b>1 The current state of play</b>	<b>3</b>
1.1 What is there to finance?	3
1.2 Where does financing currently come from?	6
1.2.1 Users contribute a substantial amount, and not only through user fees	8
1.2.2 Domestic public sector expenditure in water and sanitation is very low	9
1.2.3 ODA: grants are on the rise for middle-income countries and large projects	9
1.2.4 Non official assistance organisations make a substantial but unknown contribution	11
1.2.5 The private sector plays a modest but critical role, especially in poorer urban areas	11
1.3 Who is receiving finance?	12
1.3.1 Financing seldom reaches the poor	12
1.3.2 Large service providers usually receive the bulk of available financing	13
<b>2 What still needs to be done?</b>	<b>14</b>
2.1 Pick the low hanging fruit: subsidise or minimise connection fees	14
2.2 No land tenure, no financing for water and sanitation	15
2.3 Small and medium-sized towns are less well funded	15
2.4 Some countries are left out	16
2.5 Sanitation is proving to be a particularly difficult challenge	16
2.6 Some costs for providing sustainable services are left unfunded	16
2.7 Improving targeting with financial innovations	17
2.8 Scaling-up financial innovations remains a challenge	17
2.8.1 Pilot projects with no learning or integration components	17
2.8.2 The challenge of decentralisation and capacity building	18
2.8.3 Supporting small scale providers	19
<b>3 Where is additional financing going to come from?</b>	<b>19</b>
<b>Part II. Identifying innovations in financing water and sanitation in the urban context</b>	<b>22</b>
<b>4 Features of innovation</b>	<b>22</b>
<b>5 The use of innovative financing approaches for the urban water and sanitation sector</b>	<b>22</b>
5.1 Mechanisms at the international level	23
5.1.1 What do harmonisation and collaboration look like?	25
5.1.2 How can international agencies work effectively at decentralised levels?	28
5.2 Mechanisms at the national level	32
5.2.1 How to shift government's role to become an enabler of the water and sanitation sector	32
5.2.2 How can decentralisation lead to better WSS service delivery?	32
5.3 Mechanisms at the municipal (and utility) level	36
5.3.1 How can utilities become commercially viable?	36
5.3.2 How to extend coverage in slum areas and small towns	37
5.3.3 How to leverage local liquidity	39
5.4 Mechanisms used by the domestic private sector	41

5.4.1	How to create a better operating environment for decentralised service provision via SSIPs	41
5.4.2	How to apply micro-finance products to the water sector	41
5.5	Mechanisms used by poor (users)	46
5.5.1	What does a demand-led approach look like?	46
5.5.2	What level of service is available at an affordable cost?	48
5.6	Mechanisms used by INGOs and other external support agencies (ESAs)	49
<b>Part III. Mapping out questions and next steps</b>		<b>51</b>
<b>6</b>	<b>The challenges for financing mechanisms to meet the needs of the urban poor</b>	<b>51</b>
6.1	Macro aspects	51
6.1.1	The need for longer timeframes and a combination of supply-side and demand-side approaches	51
6.1.2	New risks require holistic interventions	52
6.1.3	Innovative financing mechanisms are still anecdotal and context specific	52
6.1.4	Innovation is not the same as pro-poor	53
6.2	Meso level	53
6.2.1	The long route from approval to disbursement, to impact	53
6.2.2	Integration of facilitation skills and support needed throughout pilot programmes to avoid creating islands of success	53
6.2.3	Making finance more accessible	53
6.3	Micro level	53
6.3.1	Sometimes additional finance is not the solution	53
6.3.2	The role of the intermediate level in scaling up community innovations	54
6.3.3	Limited product diversification in microfinance	54
6.3.4	Financial sustainability of microfinance institutions	54
<b>7</b>	<b>Identifying knowledge gaps</b>	<b>54</b>
7.1	Scale of urban poverty	54
7.2	Data on expenditures	55
7.3	Per capita cost data	55
7.4	Increasing the learning curve in the sector	55
7.5	The sanitation problem	56
<b>Appendix 1: Acronyms and glossary of financial terms used in this document</b>		<b>56</b>
<b>Appendix 2: Summaries of case studies: Innovations in financing water and sanitation</b>		<b>61</b>
<b>References and further reading</b>		<b>64</b>

**Introduction**

**The problem**

Accessing appropriate financing for water and sanitation services is critical for establishing services that meet the needs of vulnerable groups and are sustainable over the long term.

Traditional approaches to financing have in many cases reached their limits. “Free” money, such as cash grants or gifts in the form of donated equipment or installations from overseas donors or philanthropic organisations, has sometimes proved more of a curse than a blessing. In some cases, this type of financing has set a course for an unsustainable utility, with oversized facilities that are poorly maintained and not operated to capacity because of a lack of funds. On the other hand, the accumulation of loans, even at concessionary terms, has weighed heavily on the finances of developing countries, already laden with high interest charges and so unable to set aside funds to upgrade existing services or simply manage them.

In particular, inadequate financing for urban water and sanitation services has led to difficulties in expanding networks beyond the core urban centres. Unserved groups, such as newcomers to urbanised areas, slum dwellers or small town inhabitants, have limited access to water and sanitation services, which curtails their opportunities to access better health, schooling and economic activity.

Lack of finance is only one of many issues that explain why 1.1 billion people still lack access to water services and 2.6 billion are without improved sanitation. Lack of awareness of the positive impact that adequate water and sanitation services can have on human development, weak governance, graft and corruption, inadequate technical solutions and insufficient human resources, are some of the other factors that have so far prevented the development of water and sanitation services in line with rapid population growth and urban expansion. However, although financing is not a sufficient condition for extending services, it is a

necessary one. There is therefore a need to better understand where financing for water and sanitation services should come from and in what form, in order to address vulnerabilities and reach required scale of improvements.

Finance for the water sector in urban areas traditionally comes from three sources: government budgets, development agencies (bilateral, multilateral, and NGOs), domestic-based private operators, (and, to an extremely limited extent, the international private sector). In most lower and least developed countries, the bulk of resources derives originally from donors, who channel funding either directly to specific projects (e.g., upgrading or installing infrastructure), or via the government. In most middle-income countries, government is able to fund social development through tax revenues, while donor agencies often supplement this, again channelling additional funds through the government or directly to projects. Typically, not much is known about users or their capacity or willingness to pay for services, and as the system is structured to be top-down, it never really seemed to matter.

The model outlined above leaves a lot of room for improvement, and over several years there has been a great deal of thinking about how to increase innovation throughout the water sector’s financial apparatus. Innovation, in this sense, means anything outside the ‘traditional’ scope of development finance, whether involving international donors and external support agencies (ESAs), or governments, or users. Broadly, recent developments include a range of innovative mechanisms being applied in the water and sanitation sector, as well as innovation approaches to sustainable, scalable finance for the sector.

**Previous financing initiatives**

The United Nations identified water and sanitation services as a key element in lifting people out of poverty and integrated those objectives in the Millennium Development

Goals (MDG). Water and sanitation objectives were defined in terms of the number of people having access to services, either on an individual or collective basis. It is commonly accepted that meeting the MDGs for water and sanitation will require financing on a massive scale. Part of the problem is that no one knows exactly how much it will cost. Estimates range from US\$6.5 billion per year according to the United Nations MDG Task Force on Water and Sanitation<sup>2</sup> to US\$75 billion per year according to the World Water Vision.<sup>3</sup> Most importantly, a better understanding is needed of where financing is going to come from and how it can be channelled to the sector.

The Millennium Development Goals helped to focus the minds of policymakers and the international community on the financing challenge. Prior to that, the debate within the international water sector community had concentrated on management models, i.e., on whether water and sanitation services should be provided privately or publicly. Supporters of the private sector management model had in mind that the private sector would bring private financing together with more efficient management. Such an approach was flawed from the outset: private water operators have only limited access to external financing and are not designed to operate like financial institutions. What they are able to bring is only pre-financing that must be paid back through tariff revenues. Any equity contribution must be remunerated at the cost of capital, which must cover all risks associated with that investment, including construction risks, country risk (linked to the macro-economic and political conditions) or the regulatory risk. After seeking to attract private financing to the sector for several years with limited results, the international community realised that financing needed to be considered more holistically, looking at all sources of finance

in conjunction (including international aid and public sector finance).

The International Panel on Water Financing, convened by the Global Water Partnership and the World Water Council and led by Michel Camdessus, former President of the International Monetary Fund, was one of the first to examine financing requirements and means for the sector in a comprehensive manner.<sup>4</sup> The Camdessus report stated that financial flows to the sector will at least need to double if the MDGs are to be achieved. To continue this work, the Global Water Partnership, the Secretariat of the 4th World Water Forum and the World Water Council convened the “Gurria Task Force” on financing water for all. This is focusing on financing water for agriculture and on identifying new models and successful and innovative experiences for financing local authorities and local actions that could be scaled up or replicated via the dissemination of relevant information.<sup>5</sup> Other parties have also addressed problems in financing the water and sanitation sectors. For example, the European Union Water Initiative (EUWI), a pan-European initiative led by the European Commission to improve the efficiency of EU aid flows to the sector, formed a Finance Working Group with the purpose of analysing existing constraints to financing the sector and identifying ways of breaking these constraints.<sup>6</sup> Part I of this report draws on the findings of all these initiatives.

---

<sup>2</sup> UN Task Force on Water and Sanitation (2004).

<sup>3</sup> Cosgrove, W. and Rijsberman, F. (2000).

---

<sup>4</sup> Winpenny, J. (2003).

<sup>5</sup> See <http://www.financingwaterforall.org/index.php?id=109>

<sup>6</sup> See <http://www.euwi.net/index.php?main=1&sub=1&i=101>



**Part I**

**Understanding the role of financing in addressing water and sanitation vulnerabilities and reaching the required scale of improvements**

**1. The current state of play**

This reviews what needs to be financed in order to provide reliable and sustainable water and sanitation services for the most vulnerable people in urban areas. It sets out the main sources of finance and analyses which groups are receiving financing, and in what form.

**1.1 What is there to finance?**

There is considerable uncertainty about the exact cost of meeting the Millennium Development Goals (MDGs), both at the country and the global level. To better assess the total required, it is important to break down the costs of providing water and sanitation services. Each step along the way must be financed adequately, from the protection of the primary source to the disposal of treated wastewater in a manner that is safe for the environment and does not compromise the long-term ability to produce clean water. The World Bank refers to these linked steps that must be financed as the “value chain” (see Figure 1).<sup>7</sup>

---

<sup>7</sup> World Bank (2006).

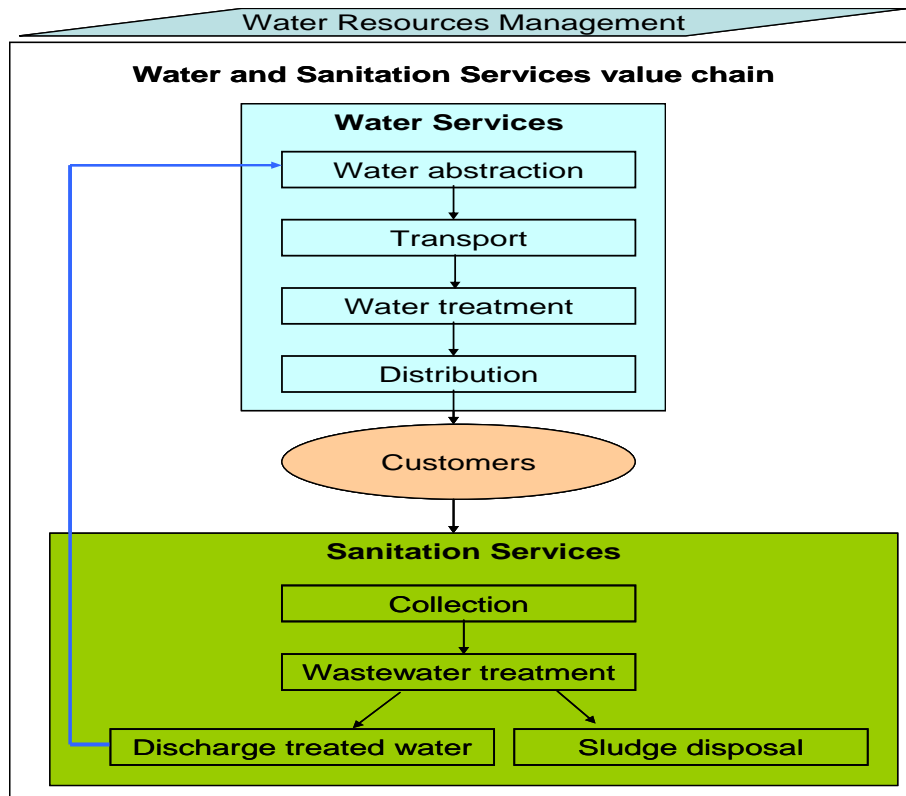


Figure 1: The water and sanitation services value chain  
Adapted from World Bank (2006)

The cost headings associated with each stage in this value chain are set out in Table 1.

Area	Areas of costs (C=capital costs; O=Operating costs; M=maintenance costs)
<b>Water resources management</b>	Water resources monitoring (quality and quantity) Source protection and water storage infrastructure (C, O, M)
Indirect support costs	Institutional capacity building and skills training at local government and national government levels Built-in incentives to prevent a local “brain drain” once technical and administrative staff are trained – to achieve a critical mass of trained people Development and maintenance of IWRM, including water and wastewater management and development plans Economic regulation, development and maintenance of monitoring and assessment information systems Ongoing development, refinement and implementation of policy
Costs of capital (debt and equity)	Returns to providers of equity and debt: dividends for equity (retained earnings where not distributed) and interest for loans, with appropriate provision for bank fees as well as recognition of exchange rate risks on external sourcing of finance
<b>Water services</b>	
Water abstraction	New source development, e.g. water intakes and wells (C)

## Financing Shelter, Water and Sanitation

CENTER FOR SUSTAINABLE URBAN DEVELOPMENT | JULY 1-6, 2007

	Abstraction licenses to support catchment management activities paid to water resources/environmental management agencies (O) License payments to economic regulatory agencies (O)
Transport	Water transport infrastructure (C, M) Power and staff costs (O)
Water treatment	Water treatment infrastructure (C, M) Treatment costs (chemicals, power) (O)
Distribution	Infrastructure (secondary and tertiary networks, connection costs) (C, M) Power costs (O) Billing and customer service costs (O) Working capital (O) Carrying costs (in the case of small water carriers) (O)
<b>Sanitation services</b>	
Wastewater collection	Sewerage networks or on-site sanitation infrastructure (C, M) Power costs for sewerage or pit latrine emptying machines (O) Billing and customer management costs (O)
Wastewater treatment	Wastewater treatment facilities (C, M, O)
Wastewater discharge and sludge disposal	Sewage outflows and operating costs (C, O)

Table 1: Areas to be financed along the value chain and examples of cost items  
Adapted from Franceys et al. 2006.

Activities related to water services are usually managed by a single operator in large city centres whereas sanitation services tend to be provided by a large number of service providers or not provided at all (wastewater treatment, for example, is seldom carried out even in the largest metropolitan areas of the Global South). Water services in slum areas, especially non-networked services, may also come from a variety of small scale providers.

Reliable water distribution that that can guarantee water supplies requires adequate investment in water abstraction, which may require digging additional wells or building water retention dams. Such investments themselves will not be sustainable if water resource management activities are not adequately financed, such as securing protected areas around springs, stemming deforestation and regulating groundwater abstraction to prevent excessive withdrawal.

Water distribution is in itself a complex activity, which requires that distribution

networks are built, adequately managed and maintained. Investment in reliable customer databases and in billing and tracking systems is paramount to ensure the financial viability of these services. There are also significant operating costs in distribution. In hilly areas, for example, pumping costs represent a significant portion of the financing requirements. Staff are needed to operate and maintain systems, respond to customer complaints, read meters, prepare and chase invoices, etc. The management costs of the entire activity also need to be taken into account, including financial and commercial management, legal affairs, etc. Overall operating costs are estimated to be from 5% to 20% of capital investment costs. In practice, water service providers are often in an unstable situation with operating deficits and lacking cash for reinvestment or expansion.

Even more seriously, many utilities even fail to meet capital maintenance costs by ignoring depreciation. Is it any wonder that the world is littered with water facilities that have fallen

into extreme states of disrepair? Donor agencies must share the blame because they foist uneconomic projects onto countries and at the same time insist upon pricing strategies that do not meet the demands for capital maintenance. Indirect support costs are also rarely taken into consideration in water and sanitation financing strategies, given the need for donors and philanthropists to show their constituencies “concrete results” and outputs for each dollar invested.

Network extensions and new connections are usually required to reach the unserved poor. This requires financing not only for individual connections but also for extending the primary network, since unserved communities are usually at the periphery of cities, at a physical distance from the bulk water supply network. Cost estimates for new connections vary widely depending on the technology chosen and the methodology used for estimating such costs (i.e. whether or not a portion of the primary network costs is taken into account when estimating the cost of the individual connection). A recent study conducted by IRC International Water and Sanitation Centre for the Bill and Melinda Gates Foundation<sup>8</sup> found that the cost of a household connection varies from US\$100 to US\$214 per capita per year but that the capital investment required to make a connection in a town not currently served can go up to US\$429 per connection (in PPP adjusted 2004 US\$). The cost of a standpipe is much lower, and varies from US\$33 to US\$69. According to the Global Water Partnership, the operating costs of a standpipe are also much lower, at US\$8 per capita per year as opposed to US\$32 for a standard domestic connection in 2004 PPP adjusted terms.<sup>9</sup> This means that extending access through rolling out standpipes (as was done in South Africa after the ending of apartheid) can be cost effective.

With respect to sanitation, the same study found that the cost of a sewerage connection varies from US\$ 24 to US\$260 per capita per year, but additional costs for sewage treatment and new sewerage networks can add substantially to the costs. On-site or non-networked sanitation solutions tend to be much more cost effective. Cost estimates vary widely according to the technical option: from US\$11 to US\$54 for a simple pit latrine and US\$10 to US\$172 for a VIP (ventilation improved pit) latrine. More sophisticated solutions, such as a septic tank, can cost as much as US\$799 per capita per year in capital investment.

In cases where the main utility is failing or already overstretched, providing new connections may require establishing new service providers, with their own networks and business management systems. However, there is no explicit data on what it takes to set up such providers, as the initiative for doing so would be taken by the service providers themselves, who would usually mobilise financing either from savings or small loans.

### **1.2 Where does financing currently come from?**

Financing for the water sector can be provided from a variety of sources. Table 2 sets out the main sources by type, ranging from user finance to private equity (from local or international investors), all the way to government financing, with or without the support of international aid. This table distinguishes between those that are most traditional and prevalent in the water and sanitation sector at this stage and those that are less widespread and still considered innovative. The differences between traditional and innovative mechanisms are discussed in Part II.

<sup>8</sup> Fonseca, Catarina (2007).

<sup>9</sup> Global Water Partnership (2000).

## Financing Shelter, Water and Sanitation

CENTER FOR SUSTAINABLE URBAN DEVELOPMENT | JULY 1-6, 2007

	Sources of finance	Traditional	Innovative
Public ↑	Government	Fiscal transfer Cross subsidy Latrine subsidy Connection subsidy	Debt/equity swap Means-tested subsidy Municipal credit pool
	ODA grants	Direct grant Technical assistance	Revolving fund Seed finance Output based aid Project development facility Partial risk/credit guarantee Credit enhancement Output based aid
	ODA loans	Concessionary loan	Municipal development fund Line of credit Output based aid
Private ↓	Non-ODA grants (NGOs, philanthropic organisations)	Technical assistance Solidarity mechanism Direct grants	Revolving funds Microfinance start up
	Non-ODA loans		Microfinance Municipal bond Working capital loan Solidarity mechanism Line of credit
	Private equity	Direct foreign investment Local private sector	Seed capital
	Individuals/users	Revolving funds Microfinance Tariffs Direct equity (self-financed)	Remittances

Table 2: Sources of finance for the water and sanitation sector

There are relatively few aggregate data showing how financing to the sector breaks down between those sources. A 2002 study by Water Aid stated that domestic public sector investment accounted for 70% of financing to the sector, whereas external aid flows accounted for 20%, international private flows 7% and domestic private sector investments (including SSIPs, households and community investments) a mere 3%.<sup>10</sup> These estimates are useful mainly as ballpark figures. However, the exact amounts coming from each source are

highly uncertain; data on expenditures by different stakeholders are very sparse, especially when estimated at worldwide aggregated level. In addition, this data would vary from country to country depending on the level of coverage and cost recovery achieved, as well as on government priorities. Some African countries (such as Mali or Burkina Faso) are heavily reliant on donor funds, whereas Asian countries, such as China or India, are much more self-reliant.

<sup>10</sup> Annamradju, S., Calaguas, B. and Gutierrez, E. (2002).

**1.2.1 Users contribute a substantial amount, and not only through user fees**

The need for external financing largely depends on the percentage of costs recovered via user fees. Indeed, user fees are (and should remain) the main financing source – but such user fees are often not sufficient to finance capital investments required to extend services to (poorer) unserved areas. Furthermore, contributions are not equitable, with better off users paying less for good quality piped water while poorer users pay higher tariffs for poor quality water sold from street vendors. Service users currently contribute a substantial amount, not only through initial connection charges and tariffs, but also through domestic investments, particularly for sanitation where household finance is the primary source of financing for domestic installations such as latrines.

The financing of water services via user charges is usually marred by a well-documented “vicious circle,” which can be observed in numerous countries throughout the Global South. User tariffs are typically kept low for “social” or political reasons, i.e., for fear of triggering social unrest or losing elections following a water rate increase. As a result, revenues from tariffs are usually insufficient to cover renewal and expansion costs and in some cases do not even cover operating costs. For example, a study of seven African countries found that operating cost recovery ratios ranged from 65% in public companies in Zambia to 160% in Senegal, where services are run by a public-private partnership<sup>11</sup>. When tariff revenues fail to cover operating costs, the existing service deteriorates and there are insufficient funds to extend services to groups that need them the most, typically those living on the fringes of urban centres or in slum areas in the centre.<sup>12</sup> This is even more acutely the case for sanitation

services, for which funds are not always clearly earmarked due to fragmented institutional arrangements and difficulties in charging for sanitation services.

There is now a broad consensus at international and national levels that relying exclusively on user finance is not realistic, due to constraints on affordability. Paying water tariffs is seldom an issue for customers, even for the most vulnerable groups, as they usually pay much more to access poor quality water and sanitation services from small-scale independent providers like water resellers. But the costs of initial investment in the facilities and connections to the network represent substantial expenses that tariff proceeds alone are unlikely to be high enough to cover. If passed on to customers in the form of connection charges, these charges are usually the most significant hurdle preventing poor customers from gaining access to the service. For example, in Morocco, a national rule requires that new customers must pay for a significant portion of the new primary network that is installed to reach them, which renders connection charges unaffordable for the majority of potential new customers.<sup>13</sup>

External sources of finance to pay for initial connection costs are therefore required in almost all cases. One way of deploying user finance to its maximum potential is to rely on cross-subsidies, either between customer classes (between industrial and domestic consumers for example) or between areas or types of consumers (existing consumers subsidising new customers). Cross-subsidies are attractive when there is a sizeable pool of existing customers that is able and willing to finance new connections. Cross-subsidies are easier to put in place and maintain when a utility serves a broad customer base: for example, when national utilities serve customers in both urban and rural areas and domestic as well as

<sup>11</sup> Ballance, T. and Trémolet, S. (2005).

<sup>12</sup> In Cardone, R. and Fonseca, C. (2003). Figure 2 shows the cycle of water poverty and pathways to change (Figure 2).

<sup>13</sup> Trémolet, S. (2006b).

industrial and commercial customers, as in West African countries such as Senegal, Côte d'Ivoire or Gabon.<sup>14</sup> This reduces the need for complex government transfer mechanisms to reallocate financing between decentralised water providers. Indeed, when services are decentralised, subsidising of one area by another (for example, small towns from the larger towns or the capital city) would require the creation of a specific financing mechanism, which is seldom done. There are some examples in the developed world of such mechanisms, such as the FNDAE, which allowed expansion of coverage in rural areas in France with cross-subsidies from urban areas. Given the trend towards decentralisation of water services, however, there are often constraints on cross-subsidies and direct subsidies from the public sector may be preferable.

**1.2.2 Domestic public sector expenditure in water and sanitation is very low**

Funds contributed by the public sector represent a substantial component of financing allocated to the sector, but the share of the national budget allocated to water and sanitation seldom reflects the development benefits that investment in those services could yield. According to data compiled from the WHO-UNICEF Joint Monitoring Programme,<sup>15</sup> national governments have invested approximately US\$4 billion per year in urban water between 1990 and 2000 and just over US\$2 billion per year in urban sanitation. Whereas such amount was roughly matched by external investments (i.e., ODA) for urban water, the amounts invested in urban sanitation from external sources were much

lower. This picture varies considerably from country to country, however.

Government investment in water and sanitation in many poor African countries lies between 1 and 2% of GDP (based on data for Kenya, Ethiopia, Zambia, Uganda and South Africa) according to a WELL Briefing Note.<sup>16</sup> This note also points out that water and sanitation appear at a relatively low ranking of priorities in Poverty Reduction Strategy Papers (PRSPs) developed over the years. The first cycle of PRSP exercises has not led to demonstrable increases in water and sanitation budgets, with the sole exception of Uganda. In PRSPs where water and sanitation are mentioned in priorities, this is not reflected in the budget allocation.<sup>17</sup> Factors leading to such low prioritisation of the water sector include a lack of political support for the sector, institutional fragmentation and the fact that water is seen as the poor relation of education and health, which in general receive much higher funding.

Domestic public sector financing would usually include matching funds for investments financed by overseas aid. When water services are managed by public sector entities (which is still true in 95% of cases in developing countries), public sector financing can be used to fund operating deficits (paid to the water utility) or subsidies for new connections (paid to the utility itself or in some cases, to customers directly).

**1.2.3 ODA: grants are on the rise for middle-income countries and large projects**

Official Development Assistance (ODA) is a significant source of finance for the sector and plays a role beyond the sheer amount of funding, as these funds tend to be used for leveraging other funds (mostly private ones) or in a catalytic manner (by supporting project

<sup>14</sup> See Trémolet, S. (2002).

<sup>15</sup> WHO-UNICEF (2000). Note that there is considerable uncertainty regarding the "domestic public investment", as these may in certain cases include loans from international financing institutions.

<sup>16</sup> Fonseca and Cardone (2006).

<sup>17</sup> Fugelsnes and Mehta (2003).

development and preparation). ODA is traditionally provided in the form of grants or loans. Whereas the majority of funds in the sector used to be made available via loans, the balance is now shifting towards grants and budgetary support. According to the World Water Council's assessment of ODA to the water sector, loans accounted for approximately 60% of ODA commitments for water in 1993 but only for about 50% since 2000.<sup>18</sup> This report also showed that even though ODA commitments for water increased from US\$2.6 billion to US\$3.4 billion between 1990 and 2002, ODA for the sector represents approximately 5% of total ODA and increased at a slower rate than overall ODA flows since 1998. It also showed that aid to the sector is very concentrated in both origin and destination countries: the top 10 donors provide more than 85% of ODA for water and sanitation (with Japan being by far the largest donor), while the top 10 recipient countries receive 41% of total assistance (India, China, Egypt, Vietnam, Indonesia, Turkey, Morocco, Palestine, the Philippines and Jordan).

Although ODA represents a very important share of total financing, flows may fluctuate considerably, which affects a country's ability to programme effectively. According to an OECD report, there is an average of eight years between the time a commitment is made and full disbursement.<sup>19</sup> This long lag time makes effective transition from planning to implementation more difficult, especially given that the transfer of funds from central government agencies to service providers may give rise to a high degree of leakage. In addition, an IMF study found that aid flows (in general) are more volatile now than they were prior to PRSP processes being put in place in the mid 1990s, and that this can increase macro-economic instability.<sup>20</sup>

At present, external financing tends to focus on large-scale capital investment, particularly in water production facilities (dams, reservoirs, wells or canals), water and wastewater treatment facilities, network renewal or upgrading. Traditionally, donors get involved when a major scheme is developed, as it guarantees visibility and scale for their programmes. Donors may even come together to share the costs of such large projects, as has been the case for building the Ziga dam to supply Ouagadougou, the capital of Burkina Faso, or the doubling of the Ngith conduit to guarantee Dakar's long-term water supply in Senegal. Governments also tend to prefer large scale capital investment, as it is more "visible", so better for building political capital, particularly in a sector where most of the assets are underground and therefore more difficult to account for from a political standpoint.

ODA financing is usually input-based, with funds provided up front for a particular investment project and with limited means available for verifying their actual impact on vulnerable groups. Financing is usually provided in the framework of well-defined and time-bound projects, which means that financing for operations and maintenance is less forthcoming and often not sought. That is acceptable in a context where standards of operations are satisfactory but not when current operations fail to be efficient for lack of finance or adequate know-how. In such cases, investment in new facilities risks destabilising further the operating systems, if the additional operating and maintenance costs cannot be met from other sources, such as by increasing tariff revenues, for example. Therefore, an investment project financed by external sources, even if it is heavily subsidised, runs the risk of destabilising the existing water services if it is not adequately financed.

<sup>18</sup> Clermont, F. (2006).

<sup>19</sup> OECD (2004).

<sup>20</sup> Bulir and Hamann (2006).



**1.2.4 Nonofficial assistance organisations make a substantial but unknown contribution**

At present, there are numerous NGOs and philanthropic organisations operating in the sector. The largest international NGOs include WaterAid, which is exclusively dedicated to the water and sanitation sector with annual expenditure of US\$50 million in 2005/06, of which almost US\$40 million went to WaterAid charitable objectives, including supporting partners to deliver water, sanitation and hygiene and influencing policy.<sup>21</sup> Other major players in the water and sanitation sector include NGOs that are not exclusively focused on the water sector, such as Care or Oxfam, but which include a water component as part of wider programmes, given its recognised impact on development. Finally, foundations (such as the Bill and Melinda Gates Foundation) and private (financing) companies, such as Ethos Water (now owned by Starbucks) and One Water (UK), have started showing interest in the sector.

The exact financial contribution made by these charitable organisations is impossible to evaluate, since the sector is fragmented and no reliable existing study has attempted to aggregate their contributions at global scale.

**1.2.5 The private sector plays a modest but critical role, especially in poorer urban areas**

According to research by the Public Services International Research Unit (PSIRU), the public sector accounts for 85% of finance and 90% of coverage in the water and sanitation sector globally.<sup>22</sup> Contributions by the private sector therefore remain relatively modest, except in countries where the public sector has failed to invest and the private sector has stepped in to fill the gap.

However, when looking at poorer urban areas in developing countries, the local private sector has made an important contribution by financing their own systems, either through commercial bank loans or by bringing in personal funds or other businesses (local private operators typically have interests in construction businesses). Remittances from workers abroad are also an important source of finance that is usually channelled through small scale providers. In small towns in Cambodia, for example, local private operators routinely bring in up to US\$10,000 as an initial investment to build a small water production facility and a network, confined to the core urban centre. If provided with a public subsidy to build a small water treatment plant and network, as was the case in the MIREP programme, private investment per town could go as high as US\$33,000 per small town of less than 3,000 inhabitants on average.<sup>23</sup> Other similar examples are well documented in Mauritania<sup>24</sup> or in Maputo, the capital of Mozambique.<sup>25</sup> A recent study of small scale providers conducted by the World Bank estimated that such providers serve about 25% of the urban population with water in Latin America and East Asia, and 50% in Africa. With respect to sanitation, they can serve as much as 80% of the population in African cities.<sup>26</sup> However, it is extremely difficult to obtain aggregated estimates of their investments as small scale providers usually operate in the informal sector and information about their activities is crucially lacking.

The international private sector also plays a role but its ability to bring in financing has been lower than expected and somewhat disappointing. Public-private partnerships in water very seldom entail the sale of assets but mostly take place through what is commonly

<sup>21</sup> See [www.wateraid.org/international/about\\_us/financial\\_review/default.asp](http://www.wateraid.org/international/about_us/financial_review/default.asp).

<sup>22</sup> Bill and Melinda Gates Foundation (2006).

<sup>23</sup> See more about MIREP at 4.8.1 and in AFD-FEPP (2005).

<sup>24</sup> See Cardone, R. and Fonseca, C. (2003).

<sup>25</sup> See Trémolet (2006a).

<sup>26</sup> Bill and Melinda Gates Foundation (2006).

referred to as “delegated management”, with various degrees of delegation up to full delegation for a concession contract, in which the private operator is responsible for investments. In the case of a concession, the private operator pre-finances investment, on the assumption that it will later recoup the sums invested, including the remuneration of the capital which has been invested in the service for the investment period, throughout the life of the contract. In other forms of contracts, the private operator can help finance working capital requirements and provide operational support, which can range from the installation of accounting systems to taking over the entire management.

According to a recent analysis by the World Bank,<sup>27</sup> annual investment commitments by private sector operators have fluctuated between US\$1 and 2 billion, a range well below the peak of 1997, the year when the Manila concession contracts were signed, when such commitments reached US\$10 billion. Private sector investment commitments are extremely concentrated in a small number of countries, with China and Malaysia accounting for over 60%. International private operators were active in 25 countries between 2002 and 2005, but there were only a handful of projects in the low-income countries. Those operators are increasingly reluctant to take over the entire management of a utility (particularly in countries that are seen as risky), but are more interested in investing in water or wastewater treatment facilities. In riskier countries, private operators are turning to management or lease contracts, with minimum financing requirements but high expectations in terms of their contribution to a management turn-around.

In addition, private funds may come directly through commercial lending from private banks, either to public or private utilities. Such

practice is not very common to date, but is on the increase. In Senegal, for example, as part of the private sector participation contractual arrangements, donors insisted that financing should be mobilised from local commercial banks to finance a cash-flow shortfall whilst tariffs were increased to a cost-recovery level.<sup>28</sup> Citibank took the lead in organising a pool of local banks to provide a line of credit of a maximum amount of US\$21.4 million (FCFA 11 billion) over six years, at an interest rate of 10%.

### **1.3 Who is receiving finance?**

The recipients of finance tend to vary according to the origin of the funds. Given that users are supposed to provide the bulk of financing, an obvious place to start for allocating external funds would be at the level of the users themselves, in order to help the most vulnerable groups access services. However, this raises difficult issues in terms of targeting and scalability, which is why financing by governments or donors often goes to the main utility. One alternative route, often preferred by charitable organisations and NGOs, is to identify local partners on the ground such as community-based organisations (CBOs), which can absorb financing and ensure better targeting.

#### **1.3.1 Financing seldom reaches the poor**

Water users should be the main source of financing for water and sanitation services, except when they are too poor or vulnerable to afford the services. Although this seems a straightforward policy principle, its practical implementation is marred by difficulties in identifying who the poor are and what they can afford. As mentioned in a recent study for the African Development Bank, “One of the reasons for failure in the sector has been the unwillingness by direct providers to segment customers to a sufficient degree ... and then to

<sup>27</sup> Saghir, J. (2007).

<sup>28</sup> Brocklehurst, C. and Janssens, J. (2004).

target services accordingly”.<sup>29</sup> This report pointed out that it is useful to segment poor customers in about five categories, ranging from the “destitute” (the street sleepers with no fixed living space) to lower middle-income households, who are typically employed with a low wage and subject to exceptional shocks, such as ill health. Subsidies for water and sanitation services need not be the same for each of these groups, as the appropriate levels of service and what they can afford vary from one group to another.

The most efficient way of assisting water users is with direct subsidies, provided directly by the government in the form of fiscal transfers on a means-tested basis.<sup>30</sup> Such a system has been adopted in Chile<sup>31</sup> but requires a well-developed administrative system in order to assess household revenues and perform the fund transfer in a non-discriminatory manner. Such a level of administrative sophistication simply does not exist in most developing countries. The next best solution consists of seeking to transfer subsidies to the poorest through tariff structures. However, in most existing cases, subsidies do not reach the poorest customers because of poor tariff design, with errors of inclusion (higher income households benefit from the subsidies) and of exclusion (lower-income households do not receive the subsidy because they are excluded from the service in the first place). This may be the case, for example, with increasing-block tariff structures if poor households end up in the highest consumption block because of the sheer size of the household or because they have shared connections. Tariff structure reform can bring marginal benefits in terms of reorienting subsidies and targeting the most vulnerable.

The most efficient way of transferring subsidies to poor households is unanimously considered to be via connection subsidies, i.e., when a grant subsidy is provided for any new connection.<sup>32</sup> High connection charges usually represent the single major hurdle obstructing the poor from obtaining access to services. A 2005 study found that the total costs of acquiring a private water connection could be equivalent to four to six months of per capita income in India, 12 months’ income in Ghana, and even up to 43 months’ income in Uganda.<sup>33</sup> Connection subsidies can either be transferred to the household itself (for example, in the case of on-site sanitation) or to the service provider, on an output-based basis, to give those providers an incentive to extend services to poor areas and leverage any private finance available.<sup>34</sup>

In some cases, individuals or households can receive financing from the service providers themselves when they are in arrears for tariff payments or to help them spread the cost of obtaining a new connection over several years. Finally, micro-credit is little developed in the water and sanitation sector, as micro lending has usually been reserved for loans to productive activities. It offers potential for development, however, especially to finance new connections as was done by the K-Rep bank in Kenya.<sup>35</sup>

### **1.3.2 Large service providers usually receive the bulk of available financing**

Central or local governments usually receive financing from international donors or from inter-governmental budgetary allocations. They usually need to transfer those funds onto service providers who can use them for providing the service, unless the central or local government is itself responsible for carrying out investments. In such a context,

<sup>29</sup> Franceys et al. (2006), Section 3.4. p.24.

<sup>30</sup> Table 5.1. in World Bank (2006) for a typology of subsidies.

<sup>31</sup> Gomez-Lobo, A. (2001).

<sup>32</sup> WSP (2002).

<sup>33</sup> Franceys et al. (2006), section 9.9.

<sup>34</sup> Cockburn, M. (2005).

<sup>35</sup> Cardone, R. and Fonseca, C. (2006).

the main utilities usually receive the bulk of financing made available to the sector, either from governments or from ODA projects, with guarantees from the national government. ODA flows tend to be centralised and go to the service provider in the capital city, when most financing needs in the sector are usually at the decentralised level, particularly in small and medium-sized towns.<sup>36</sup>

Financing to the sector is largely allocated on a supply-driven basis to projects that are selected at the central level. The further away from the centre, the more problems this can cause, such as the adoption of inadequate or over-designed technological solutions, long time lags between the investment decision and its implementation, or an inability to allocate funding in small instalments rather than through one-off bulky capital investment projects.

This funding pattern persists despite the fact that large utilities operating in capital cities may serve only a small proportion of the population. For example, the public asset-holding company and private operator in Maputo, Mozambique (FIPAG and AdeM), receives World Bank loans when it only serves 40% of the city's population (20% via domestic connections and 20% through standpipes).<sup>37</sup> Alternative service providers, who have privately financed small networks throughout impoverished areas of Maputo, have to source their own funds from other businesses or commercial loans. Indeed, throughout the Global South, small scale providers (usually referred to as SSIPs) often lack access to formal sources of finance, either because of a lack of credit history or reliable financial information or because local financial markets are not

<sup>36</sup> At present, only certain lending organisations, such as the European Bank for Reconstruction and Development EBRD active in Eastern and Central Europe, can provide financing at the municipal level.

<sup>37</sup> See Trémolet, S. (2006a).

geared up for financing them. Such difficulties in accessing finance, together with other commercial or political constraints, often result in higher charges for consumers.

## **2. What still needs to be done?**

Despite recent increases in financing to the sector, there are several gaps that need to be filled. Some groups are left out and they are often the most vulnerable, either because they live in slum areas and do not have land tenure, or because they live in small towns out of reach of most central government programmes, or because they are located in the poorest countries with the least ability to invest in the sector. In addition, some costs are not taken into account, which leads to an underestimation of what it will really take to serve the most vulnerable.

Improving financing mechanisms requires improving targeting to focus financing on the groups that need it most and using the financial mechanisms that have maximum impact. Innovative financing options discussed in Part II offer some answers, but a key issue remains—how innovations can be scaled up.

Below, we review the condition of some vulnerable groups and assess the extent to which their vulnerability is aggravated by the lack of financing.

### **2.1 Pick the low hanging fruit: subsidise or minimise connection fees**

The main issue for vulnerable groups is to gain access to a water connection and to have suitable sanitation. Having a water connection can drastically reduce the direct price for water, as tariffs for network water can be 10 to 20 times lower than for water from vendors. It also reduces the indirect costs, given that piped water is usually safe to drink, whereas vended water may be subject to various sources of contamination along the transport chain. As for other services such as mobile phones or televisions, the water connection cost can be

paid in small instalments jointly with the monthly bill. There is no reason why these costs should be required as a heavy lump sum up front, preventing the poorest to access the service. In Abidjan, Cote d'Ivoire, and Phnom Penh, Cambodia, utilities, NGOs and microfinance organisations have found innovative solutions to the connection problem. See the case studies document for more details.

## **2.2 No land tenure, no financing for water and sanitation**

One particularly vulnerable group is composed of people who do not have titles for their land, as they are usually excluded from social connection programmes financed by the government or the utility. There may be some valid reasons for this: water and sanitation policy may need to be aligned with broader urban planning and housing policies to prevent the consolidation of slums into more permanent housing areas. The land title may need to be used as collateral for securing the payment of the connection charge. A companion paper analysing the vulnerabilities for access to water and sanitation services<sup>38</sup> points out that in other cases, the legal barrier is more complex: they can come from legal requirements to build a toilet in the house before legal land tenure can be granted, something that may simply be unaffordable for the poorest families. Renters may be particularly vulnerable with regard to sanitation, which is typically seen as a matter for household investment. If landlords are not willing to invest in the provision of on-site sanitation infrastructure, they have no hope of getting access from public sources.

Programmes run by NGOs or philanthropic organisations have sought to go around this kind of limitation by providing subsidies for connections to users without land title, but this remains at a limited scale. The integration of

water and sanitation policy with other government objectives in terms of slum management remains an area for investigation, which could substantially improve access to water and sanitation services for this most vulnerable group. See the case study from Dhaka, Bangladesh.

## **2.3 Small and medium-sized towns are less well funded**

Water and sanitation services tend to be decentralised and usually managed at the municipal or regional level, since water resources tend to be spread out across a national territory and water (and wastewater) is heavy and costly to transport. Other, more political factors, argue in favour of decentralisation: communities usually tend to know better what they want in terms of water services and want to be able to decide on aspects that are so important for their daily lives. This is a significant issue for allocating financing, given that a high percentage of urban growth is expected to materialise in small and medium-sized towns. According to a recent World Bank report on town water supply,<sup>39</sup> about one third of the population of Africa and Asia live in towns of between 2,000 and 200,000 people. Both the number of towns and the number of people living in towns in Africa and Asia, as well as Latin America, are expected to double within fifteen years, and double again within thirty years.

As a result of such a decentralised structure, it is often more difficult for a central government to allocate funds on a massive scale than in other sectors, such as health or education. It is also more difficult to finance a decentralised structure than to provide financing to utilities operating in large urban centres. So only in the rare cases where a service operator provides services to several urban centres at once can financing be provided to these smaller urban centres on a major scale. For example, the "six

<sup>38</sup> Evans, B. (2007).

<sup>39</sup> See Pilgrim, N. and al (2004).

centre programme” in Senegal in the early 1990s was intended to extend services in six small and medium-sized towns in the centre of the country, but the urgency of the long-term water resource situation in Dakar contributed to a shift in focus and donors’ attentions.

Allocating funds to decentralised service providers calls for support structures at the central government level and a financing allocation mechanism, such as a challenge fund, to give incentives to small towns to compete for access to finance. Much remains to be done to understand how such support structures can be put in place. See the case study on Ghana Northern Regions.

#### **2.4 Some countries are left out**

A broader issue with respect to the allocation of financing is that the poorest countries are usually not the ones that receive financing for the water sector. Donor priorities tend to be based on political considerations as well as on an analysis of macro-economic factors. This seldom favours the poorest countries, which tend to be less stable and prone to macro-economic shocks. As ODA moves away from loans and more towards grants and budget support, however, the willingness of foreign donors to allocate funds to riskier countries, including post-conflict areas, may increase.

#### **2.5 Sanitation is proving to be a particularly difficult challenge**

It is now accepted that the MDG for sanitation (halving the number of people without access to sanitation by 2015) is likely to be missed at current levels of investment. The most vulnerable groups are usually those without access to sanitation. Public financing of sanitation has so far remained limited and has focused on subsidies for households and public toilets, as well as grants to build sewerage networks and treatment facilities. Many facilities financed in such a way have remained unused. There is therefore a need to leverage household and community financing for those

facilities, to ensure that they are well-accepted and properly used by the local population.

#### **2.6 Some costs for providing sustainable services are left unfunded**

A recent WELL briefing note highlighted that existing cost estimates for water and sanitation are grossly underestimated.<sup>40</sup> Variations between cost estimates are usually due to the consideration of different technologies for reaching the targets: for example, meeting the sanitation target through extending piped sewerage would be unrealistically expensive, which is why alternative cost estimates only take into account low-cost technology solutions.

Whatever technical solutions are selected, this briefing note points out that cost estimates tend to ignore capital maintenance expenditures (including asset renewal and replacement costs) as well as direct and indirect support costs, such as those relating to environmental or economic regulation, capacity building, policy development or planning. In addition, capital maintenance is often neglected, and there is a lack of funds put aside in advance for that purpose. Adequate provisions for asset depreciation are still not made and the public cost of capital is underestimated by considering interest payments simply at the (often very low) concessionary rate. Likewise, expenditure to maintain capacity at a certain level within a given community is often neglected. Without such provisions, service performance is likely to decline over time and improvements will not be sustained.

Finally, the costs of water resources management, macro-level planning and policymaking, and of developing and maintaining frameworks and institutional arrangements are never included in cost-recovery strategies, which means that they are

---

<sup>40</sup> Fonseca, C. and Cardone, R. (2006).

often left unfunded, even though these activities are essential to the long-term sustainability of water and sanitation services.<sup>41</sup>

According to this briefing note, clear proof that the cost estimates used for evaluating the financing gap to meet the MDGs are too low is that they lie well below what some of the world's poorest governments already spend on the sector.

### **2.7 Improving targeting with financial innovations**

Some financial innovations have been developed to try and address these deficiencies. Examples are set out in more detail in the following sections.

Innovation has sought to move away from an input-based to an output-based method of subsidy delivery, to ensure that what gets subsidised is closer to what poor customers really want or need. Output-based aid seeks to give donors more control over the outcomes, as they provide the subsidy only once a given output has been delivered to poor customers.<sup>42</sup> This approach is deemed to be more effective as it can leverage financing from private sources (at least in the form of pre-financing) and it ensures better targeting of the subsidy. It would typically be used for providing connection subsidies, with a subsidy paid to the service provider for each new connection to a poor household (based on pre-specified criteria). Finally, this approach would usually rely on grants rather than loans, although the latter are not excluded, particularly if some participation from users with the connection costs is requested in order to spread their contributions over time.

Other types of innovations have sought to diversify the recipients of financing, by providing financing to customers (via some

form of micro-finance), to small-scale service providers or to municipalities including small towns. Some philanthropic organisations have been lending to community groups or NGOs rather than to the main utility. For example, the Water Trusts in the periphery of Lusaka in Zambia received initial financing from a CARE/DFID project (mainly for tap stands) but were then able to generate their own funds for operation and maintenance and further investment.<sup>43</sup> As part of the initial capacity-building exercise in those projects, the consumers were educated about the merits of cost-recovery to ensure the long-term sustainability of the schemes. Consumers are therefore willing to pay cost-covering tariffs which are higher than those charged by the main utility, LWSC, which only serves 43% of the city's population, whereas the Water Trusts collectively serve 37% of the population. Providing financing to small scale providers, managed either privately or on a community basis, can therefore improve the targeting of financing, given that they usually serve the poorest customers. See the Lomé, Togo case study.

### **2.8 Scaling-up financial innovations remains a challenge**

This section reflects on why, despite the many examples of innovations, they remain islands of success. Scaling up can be met not by a single innovative financing mechanism, but by a coordinated effort using existing mechanisms. The most effective solutions are those that combine the skills and finance of different stakeholders.

#### **2.8.1 Pilot projects with no learning or integration components**

One common problem is that financial innovations have been put in place in the context of pilot case studies and that there are no appropriate (learning) mechanisms to scale them up. The challenge of bringing infrastructure-based services to scale is not a

---

<sup>41</sup> Cardone, R. and Fonseca, C. (2003).

<sup>42</sup> See Cockburn, M. (2005).

---

<sup>43</sup> Trémolet, S. (2006a).

lack of ideas on how these things are accomplished, so much as a lack of ideas on how to effectively and appropriately coordinate finance for innovations to reach a scale that both works and is sufficient to lead to measurable improvements. It is not sufficient to multiply the amount of funding available to a pilot project by the number of target towns at a higher scale. Support and coordination structures need to be put in place to ensure that the factors that ensured success at a small scale can be replicated at a larger scale. These factors might include health education, or capacity building of service providers and local government so that they can sign a mutually agreeable contract and be held to it.

A “good project” at a local scale may have relied heavily on technical assistance to achieve results and would therefore be either too expensive or impossible (for lack of qualified staff) to replicate at a broader scale. For example, the MIREP programme developed water services in 14 small towns in Cambodia with relatively successful results and at an impressive pace, especially when compared with projects developed by the World Bank with OBA (Output-Based Aid) or DBL (Design-Build Lease), which have taken much longer between planning and implementation.<sup>44</sup> However, at the end of the programme, there were concerns with the scalability and sustainability of the scheme. The programme owed part of its success to heavy input from external technical assistance, which effectively doubled the capital cost of making a new connection (from US\$151 to US\$328). Given that such level of technical assistance input could not be replicated on a broader scale (for lack of staff), one approach taken by the MIREP programme as it moved into a second (and larger) stage was to focus on capacity-building at the town level and the establishment of support structures such as a local service provider association. The

objective was to allow other towns to choose between alternative models of provision and implement those with lower technical input.

### **2.8.2 The challenge of decentralisation and capacity building**

To extend services to medium and small towns in a decentralised context (which is often the model of choice), a key condition is that local government already has the ability to carry out critical tasks for water and sanitation services, such as water resource management, planning of service coverage extensions, contracting and monitoring of a service provider’s performance. The need to finance these activities depends on the initial strength of local government and its ability to take on new tasks. If municipalities lack capacity or are laden with responsibilities without matching finance, a first step may be to reinforce them through separately funded local government reform, synchronised as far as possible with reforms in the water and sanitation sector. This reform process was implemented with substantial results in South Africa following the end of apartheid. Local government reform led to an enlargement of local government boundaries to allow cross-subsidisation and sharing of local capacities between poor and rich areas (typically, former black townships and white city centres). In addition, in four of the poorest provinces with the most significant backlog, the provincial governments awarded BoTT (Build Operate Train Transfer) contracts to consortia of construction companies, NGOs (in charge of community capacity-building) and service operators, in order to roll out services to unserved communities in small towns and rural areas at a rapid pace. In just over four years, between 1997 and 2001, more than 5 million people benefited from significantly improved water services through this programme (at a cost of US\$180 million).<sup>45</sup>

<sup>44</sup> See AFD-FEPP (2005).

<sup>45</sup> See Waughray, D. and Moran, D. (2002).



If towns are simply too small, or lack capacity because local government reform has been carried out with insufficient means or not at all, then pouring in additional finance into the water and sanitation sector for capital investment and technical assistance may only lead to a dilution of effort. This is a particular risk if there are not enough staff to retain this capacity at the local level or if trained staff leave to embrace more attractive employment opportunities. One solution may lie in the modification of market structures via various models of aggregation.<sup>46</sup> For example, in Hungary, small towns are encouraged to form an association in order to access financing provided by the European Union for upgrading water facilities. In Brazil, the PLANASA programme carried out in the 1970s with the objective of increasing access to water supply and sanitation led to the creation of state-level water companies in charge, not only of providing infrastructure, but also of operating the systems owned nominally by the municipal governments.

### **2.8.3 Supporting small scale providers**

Similar issues emerge in slum areas when seeking to scale up a successful pilot project. There may be more room for market forces to play a role, however, given the mostly private nature of service provision in those areas, as they are usually abandoned by public operators. Small providers can be encouraged to move into the formal sector and possibly to form associations in order to obtain financing. This type of process was tested with good results in Paraguay, for example, where the Aguateros (small network providers operating in previously unserved areas of the capital city, Asunción) were encouraged to bid for OBA contracts in small towns and rural areas. To do so, they associated themselves with formally

established construction companies and complied with a formal method of contracting.

Financing is therefore needed to increase the scale of provision on the condition that it accompanies a step-up in operating capacities, from informal providers to medium-sized enterprises able to take on new businesses and conquer new markets. This is the appeal of the franchising model, through which established companies could roll out operating models in smaller towns. However, although this has been much talked about, it has not really taken off on a major scale, possibly for lack of support structures to introduce and accompany the signing of franchise contracts.<sup>47</sup>

As these activities require the strengthening of local and central government and the establishment of adequate support structures, the costs of doing so must be taken into consideration when estimating future financial requirements for the sector.

### **3. Where is additional financing going to come from?**

Assuming that innovative financing mechanisms can be identified and scaled up, an open question remains about where additional financing may originate from in order to meet the challenge of the Millennium Development Goals. We have seen in the first section that all existing sources are already stretched to the limit and do not show any potential for substantial increases in funding, unless a major policy shift is adopted.

Meeting the MDGs will require a comprehensive strategy to tackle the financing issue, adjusting levels of service to what can be financed predominantly from local sources, improving the targeting of aid flows and leveraging private sector financing where possible, not only from international operators

---

<sup>46</sup> See ERM in association with Stephen Myers Associates and Hydroconseil (2005) for a discussion of alternative aggregation models.

---

<sup>47</sup> See Van Ginneken, M., Tyler, R. and Tagg, D. (2004).

but also from commercial banks (domestic and international), local financial markets and the domestic private sector.

With respect to sanitation, for example, meeting the financial challenge will require a clear readjustment of spending priorities. Extending sewerage networks is not going to be an affordable solution in many poor countries for a while. Indeed, it is always useful to remember that, historically, many European countries only reached improved levels of service for a large number of their population once GDP reached values well above US\$5,000 per capita, after two hundred years where average GDP grew by 1.3% annually. Over the short term, networked sanitation – including sewerage and at least some level of primary treatment – can only be made available in formal housing areas and should be charged at cost, without subsidies, as those subsidies would otherwise be ‘captured’ by higher-income groups.<sup>48</sup> In other areas, community-led schemes can be less costly to implement than programmes led by governments, local authorities or donors, since they lower the financial cost of coordination and raise private cash and non-cash co-financing from households.<sup>49</sup>

Overall, additional financing is likely to come from a combination of sources and, most importantly, existing funding can be made more effective if stakeholders coordinate their efforts. Examples of key sources of finance are presented below. Further detail on these key sources as well as other, more innovative sources of finance, are presented in the next section. With all of these solutions, targeting the most vulnerable remains a challenge.

**Increasing tariffs and connection subsidies –** Tariff reform is almost always going to be an important first step for increasing financial

flows to the sector, as tariffs are almost universally kept below what cost-recovery objectives would call for, especially if trying to recover all additional costs that are not presently taken into account. Tariff reform would initially have only a limited impact on vulnerable groups, as they are traditionally outside the scope of the mainstream utility. In order to get vulnerable groups connected to formal services, subsidies and other mechanisms should be provided in a targeted manner either directly to households or through the service providers. These are discussed in Part II.

**Shifting public sector revenues –** On the back of additional research demonstrating the link between water, sanitation and hygiene and development and advocacy, there may be some potential for shifting government priorities in the Global South, to give the sector the emphasis it deserves. This can only be achieved over the long term, however, especially given the multiple pressures on public funds from other sectors such as health and education, which should not decrease as a result.

**Public-private partnerships –** International private operators are unlikely to provide much extra finance in the short to medium term because their perception of risk remains high and there is a general disenchantment with concession contracts (which are most likely to bring in finance). Private lending institutions may be a better source of finance, assuming they can adjust their procedures to fit the needs of the water sector, i.e., to provide long-term financing at relatively cheap rates. Finally, the role played by SSIPs for water and sanitation services is slowly but increasingly being recognised by country governments and utilities, which may lead to a better rationalisation of prices and service quality by SSIPs in poor areas. Capital markets should be simultaneously reformed in order to enable the domestic private sector to mobilise funds locally. This could achieve substantial results, as it would allow tapping of local saving

---

<sup>48</sup> See Franceys et al. (2006).

<sup>49</sup> See UN Millennium Project (2004).

reserves (which are often starved of good investment opportunities with stable returns, something the water sector can definitely provide) and eliminate the foreign exchange risk that has so badly affected international operators in landmark concession contracts, such as those in Manila or Buenos Aires. The strength of the Chinese water sector, for example, with strong domestic operators and investors, shows that even in a dynamic environment with ample investment opportunities, the water and sanitation market can be highly attractive for local investors.

**International donor finance** – The much required surge in aid allocated to the water sector has not materialised so far, despite initiatives such as the EUWI or the various water facilities that have been put in place at European or African levels. The doubling of ODA flows to the sector, called for by the Camdessus report and the Gurria Task Force in its wake,<sup>50</sup> seems unlikely to materialise in the near future, although it remains necessary. Mobilisation and advocacy at the international level may still bring those much needed funds, in order to allow for the provision of well-targeted subsidies to the most vulnerable groups and for the establishment of much needed support structures to ensure successful scaling up of financial innovations.

Given that the amount of additional finance made available to the sector is not projected to be very substantial, it will be crucial to maximise the use of whatever comes in, circulating funds around the sector (through revolving funds for example) and reducing the perception of credit risk (so as to reduce the need to remunerate capital at high rates). It will also be important to focus on financial instruments that are well tested and tried, so as to maximise returns. This suggests selecting a small number of financial innovations and

scaling them up, rather than investing too much effort in the diversification of financing structures. Some of the most promising innovative financing solutions are discussed in the next section.

---

<sup>50</sup>See <http://www.financingwaterforall.org/index.php?id=1097>.

**Part II  
Identifying innovations in financing  
water and sanitation in the urban  
context**

**4. Features of innovation**

The concept of innovative finance considers alternatives, both in terms of who can provide finance, and how finance can be supplied and demanded. Under this framework, the range of development actors understood as working in the sector expands beyond development agencies and central government, to include domestic NGOs (whether focused on water and sanitation exclusively or not), local banks and financial intermediaries, sub-sovereign governments, and users themselves. Some of the key features of innovation include the use of different finance mechanisms at all levels of development finance. The space for innovation has been created by a variety of factors, including decentralisation of governance, raised awareness of development targets (such as the MDGs) that highlight the scale of the problem and the limitations – both in terms of adequacy and effectiveness – of international aid flows and subsidies to address the coverage gap. Further, as the water and sanitation sector (WSS) has shifted from a purely supply-side, engineering-driven sector (taps and toilets) to involve other areas of expertise, especially social sciences, there has been a shift in awareness that sustainability of WSS service delivery requires substantial efforts to understand the level and nature of demand.

Opportunities for a wider range of stakeholders to participate and affect positive change are emerging that were previously not possible, from slum dwellers forming federations to upgrade their communities to solidarity mechanisms for users in the North to provide grants and loans to people and business in the Global South. Likewise, development finance engaging in the sector is increasingly looking for ways to leverage market-based (commercial) mechanisms. For example, while development

finance is traditionally used for capital investment costs, development finance institutions (DFIs) are now working to apply grants and even concessionary loans to issues such as strengthening a utility's operational efficiency, building business development skills for non-utility service providers, financing connection fees for the poor, and triggering scalable models of service delivery. Most, if not all, forms of innovation in finance mechanisms are premised on the principles of cost recovery to varying degrees from users, whether residential, commercial, industrial, or government.

Some of the key features of innovation in approach include new ideas and methods, from mobilising and empowering communities to tackle the sanitation challenge to testing the market for leveraging domestic finance for utilities and small scale providers. Importantly, most of the innovations that have emerged thus far focus on understanding and stimulating demand for finance to access WSS services. A further critical component of innovation has also emerged in the form of building capacity for 'new' mechanisms and approaches to take root and, ideally, achieve scale.

Finance should be considered a means to an end, with that end being adequate, accessible, affordable, and sustainable water and sanitation for all. It is easy in discussions on innovative finance to get caught up in the machinations of how they work. As different approaches may be required in different areas, the starting point for discussion should focus on how better services and access can be achieved, with the mechanisms part of a menu of alternatives for 'how' to succeed. Further, innovation should be part of broader economic and governance issues.

**5. The use of innovative financing  
approaches for the urban water and  
sanitation sector**

Over recent years, a variety of experiences using innovative finance mechanisms and approaches to water supply and sanitation have been applied across all regions<sup>51</sup>, and within regions, in lower- and middle-income areas. These experiences are distinct from traditional grant and concessionary loan financing, but represent a range of alternatives. Notably, innovation is not about what a finance mechanism looks like on its own, but rather who is using it and how. For grant-based mechanisms, innovation has led to expanded thinking about how grants are applied, with an intention of greater targeting and leveraging of additional (user, government, or market) finance. For debt, innovation seeks to expand the scope of who provides finance beyond 'traditional' donors and governments. Broadly, innovation is accompanied by a shift in approach from supply-driven to demand-led.

Figure 2 presents a framework for understanding the dynamics of innovation for urban WSS, and serves as a foundation for exploring experiences with innovation. Definitions of these different mechanisms are provided in the glossary.

There is a wide range of finance mechanisms available to address the key questions surrounding sustainable urban service delivery for the poor in developing countries. Aside from technical assistance, many are variations on debt structuring, and most are grounded in the principles of cost recovery. In practice, different mechanisms are often used together to meet the needs of a particular situation.

This section identifies the different approaches taken to applying finance mechanisms in urban poor/peri-urban areas, using a case study approach, and building on the framework already presented. The intention is to provide the reader with examples of a range of

innovative arrangements and activities taking place in the urban water and sanitation sector. There is not sufficient experience at this stage to be able to determine which approaches work better than others; success is often contingent on local factors, including 'readiness' to scale up within a local context.

### **5.1 Mechanisms at the international level**

In the last few years, since the term 'innovative finance mechanism' entered water sector jargon, much attention has been focused on the types of debt mechanisms that could be used at a project level, including guarantees, bonds, commercial finance, and microfinance. At an international level, DFIs have sought to fund projects to apply these mechanisms, reflecting an evolution in thinking from private sector participation, which dominated the debate in the late 1990s, and towards mobilising domestic and international finance where possible. At a broader level, there has been a shift in processes at an international level towards greater collaboration, and focusing more on supporting country-led (i.e., recipient government) processes.

The finance mechanisms identified in the figures are presented below, and where not explained in detail, are defined in the glossary in Appendix

---

<sup>51</sup> This paper considers Africa, Asia, and Latin America/Caribbean (LAC).

## Financing Shelter, Water and Sanitation

CENTER FOR SUSTAINABLE URBAN DEVELOPMENT | JULY 1-6, 2007

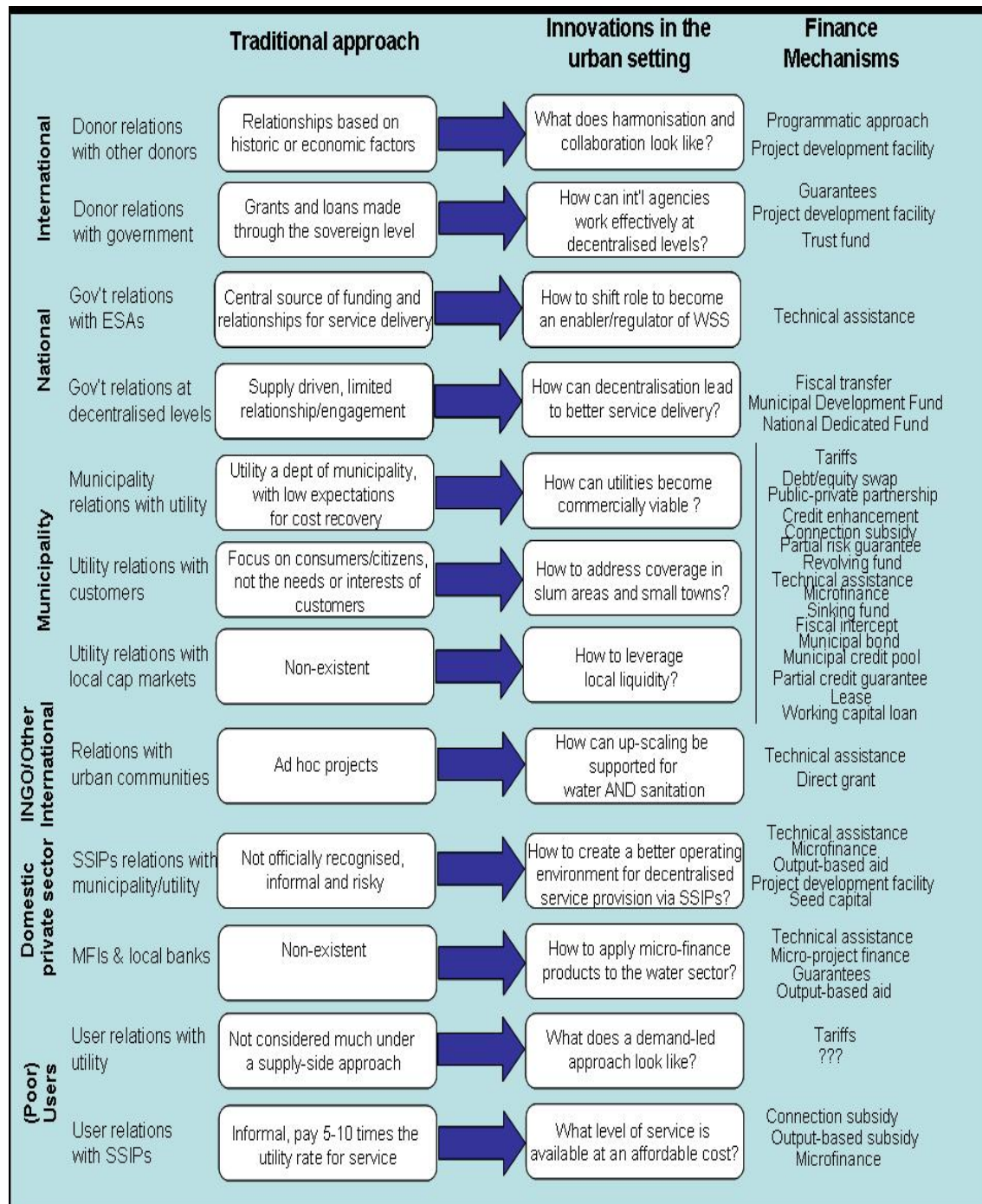


Figure 2: Breakdown of traditional and innovative finance mechanisms

**5.1.1 What do harmonisation and collaboration look like?**

Traditionally, international bilateral and multilateral agencies provided grants and low-cost loans to sovereign governments, which often used the funds to support their general budgets and invest in infrastructure (including water and sewerage). In the current era, where sector reform efforts from a decade ago have translated into devolution of responsibility for service delivery to municipal and even lower levels of government, a challenge for donors interested in infrastructure (broadly), and water and sanitation services more specifically, is to

figure out a way to operate effectively at decentralised levels. While decentralisation is broadly considered a positive trend for the WSS sector, some practical challenges come into play, including managing funds for multiple governments at different levels, and with different levels of capacity.

Meanwhile, donor agencies are being pressed to be more efficient, for example through the Paris Declaration, as outlined in Box 1.

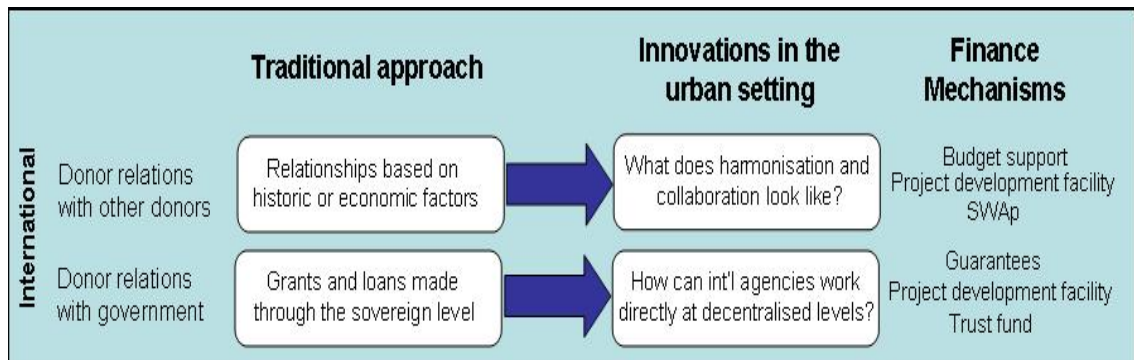


Figure 2: Breakdown of traditional and innovative finance mechanisms

**Box 1: The Paris Declaration and the water sector**

The results from limited harmonisation by donors in development has been clear for years, manifested in high transaction costs to recipient country governments, multiple reporting formats, paperwork and accounting guidelines, delays in disbursement, having to host multiple ‘missions’ by international agencies, etc., distracting from the actual role of government to provide services to the people.

At the international level, pressure to increase the effectiveness of ODA or other aid has become standard fare in recent years, from the Monterrey Consensus (2002) to the High-Level Forum on Harmonization in Rome (2003) and the Paris Declaration (2005). The latter two call for country-based ownership of the development agenda, and engagement of civil society and the private sector in the process. The Paris Declaration demonstrated a few teeth by including monitorable targets for harmonisation, with an expectation that signatories (60 countries) comply by 2010.

In reality, the incentives driving international development assistance are not always to the benefit of the recipient country, with issues like trade, foreign policy, and commerce (e.g., via tied aid), all factors behind a decision to provide grants and concessionary loans. Likewise, not all recipient country governments want harmonisation, given the benefits of playing donors off one another and the governance reforms mandated in the Paris Declaration as necessary to receive aid.

The EU Water Initiative is one effort to harmonise aid by EU donors, and eventually others, at a country level. Some of the elements of this harmonisation include working groups at a regional level (e.g., an Africa Working Group) as well as cross-cutting initiatives (e.g., the Finance Working Group), which seek to draw from and leverage experience from donors and recipient government as well as NGOs/CBOs and the private sector. In many cases of sector collaboration, one EU-based donor will take the lead on a country dialogue on a rotating basis, behaving as a point person for all other donors.

Source: Bos and Schwartz (2007); Discussion with Vanessa Celosse, EUWI Finance Working Group



At a country level, harmonisation approaches centre on the programmatic approach, which has been adopted in Asia, Africa, and LAC (and in low- and middle-income countries) since the 1990s, to varied success. The programmatic approach is a means for all donors working at country level to agree with a country on a sector framework and projects in the near mid and long term. The programmatic approach is intended as an alternative to the traditionally fragmented, ad hoc approaches taken by donors to implementing projects. In principle, working through an agreed sector framework with buy-in from government also

creates a space where successful ideas and approaches can be scaled up.

These programmatic approaches are aligned with the principles of the Paris Declaration and can be considered a process as well as a finance mechanism, as they provide a means for channelling ODA and sometimes government flows to the sector in a targeted and coherent way.

There are different types of programmatic approaches, representing different degrees of support, as outlined in Table 3.

<i>Common name</i>	<i>Key features</i>
Budget support	Donors provided funding directly to recipient country governments through the budget.
Basket funding	Government and donors determine the range of projects needing to be funded; donors fund these projects off-budget, but in a coordinated way.
Sector investment programme (SIP)	Government, with donor support, develops long-term and short-term investment programmes for the sector within the public sector expenditure framework; donors then provide funding against investment needs.
Sector policy support	Donors provide technical assistance and funding to strengthen the enabling environment for water sector investment, including monitoring frameworks.
Sector-wide approaches (SWAps)	Process by which donor and government funds support one sector policy and expenditure programme, driven by government with common approaches used by all. In the water sector, some SWAps encompass urban and rural areas, while others are sub-sector, focusing on either one or the other.
Development policy loan	Short-term loans to support policy and institutional reforms

Table 3: Types of programmatic approaches  
Adapted from Brikké, 2007

The choice of one programmatic approach over another depends very much on the state of governance capacity at a national and sub-national level, and the level and capacity of donors working at the country level to collaborate. Notably, while many donors advocate the need for improved harmonisation, budget support still amounts to just 5% of total ODA, most of which is targeted to Africa.

Further, a recent review of budget support found that it is often introduced without a reduction of other aid finance, which seems counter-intuitive.<sup>52</sup> Many governments that receive budget support are unable to implement necessary public financial management reforms

<sup>52</sup> de Renzio (2006).

to track resource flows and ensure that funds are spent in their intended way.

Finally, discussions of aid coordination and harmonisation tend to overlook whether there is demand from (domestic) citizens and organisations. Citizen voice has often been ignored, especially in those countries where ODA comprises the bulk of sector spending. Innovative budget support should not be imposed as a top-down solution, especially as the process itself is intended to strengthen accountability, transparency, and governance between the government and its citizens.

**5.1.2 How can international agencies work effectively at decentralised levels?**

The trend to decentralisation of responsibility for water services – including sanitation – is largely considered a good thing because it is assumed that a local government (town, municipal, or district) will have a better understanding of local needs than the central government, and it creates an accountability mechanism between officials and consumers.

From the perspective of international agencies, decentralisation has raised practical questions. Traditionally, a donor agency looking to implement urban WSS projects would obtain a memorandum of understanding (MoU) from the central government, then work with the utility or simply pass money through the government or relevant sector ministry. Interaction with local government was minimal, and for good reason: at decentralised levels of governance, administrative, financial, and technical constraints are abundant, with many district, municipal, and town officials lacking technical or other experience in WSS. These constraints are more pronounced in small urban and peri-urban, informal areas, which traditionally have been overlooked – even ignored – by central governments and donors.

In recent years, recognition of the need to mobilise WSS service provision has led to a greater appreciation of the constraints – political, commercial, technical, and other – as well as the opportunities for mobilising domestic finance (commercial, micro-, and user) to address them.<sup>53</sup> From this, a few, ‘innovative’ approaches, including trust funds, guarantee funds, and project development facilities, have emerged, hosted mainly by international organisations, but also some dedicated NGOs.<sup>54</sup> These facilities seek to develop projects and, once the upstream development work is complete, provide additional funding or attract private finance (international or domestic: in the WSS sector, domestic finance is more applicable). Due to the strong links between accessing domestic private finance and overall capacity building for public governance, most facilities rely on collaboration with local NGOs, local business, and government. An example of this type of collaboration is presented in Box 2.

---

<sup>53</sup> A detailed discussion of constraints is presented in Cardone, Shah & Waughray (2005).

<sup>54</sup> For more information see Cardone and Fonseca (2006).

**Box 2: Community Led Infrastructure Financing Facility (CLIFF)**

The CLIFF is a financing facility that provides venture capital to help community organisations in slum areas gain access to land, infrastructure, finance, and housing. With funding from DFID and SIDA, CLIFF is implemented by the Cities Alliance, and hosted by Homeless International. At [the] local level, the facility works in India and Kenya with local CBO-NGO alliances that are part of Slum Dwellers International (SDI). CLIFF was created to address the fact that poverty reduction strategies often leave out slum dwellers, and instead rely on private contractors that have close and longstanding relationships with municipalities. As a result, CLIFF aims not to plan or implement projects conceived by municipalities or the private sector, but to work directly with communities to develop ideas that can be replicated and scaled up in other areas. Ideally, communities will have some experience with savings and credit schemes, often through micro-finance.

Using a range of finance mechanisms, including grants, loans, and guarantees, CLIFF is able to support experimental approaches to slum upgrading, and, in the process, identify and work to change policies that constrain or limit poverty eradication efforts. Project concepts that show promise for scalability are identified by the local federation of slum dwellers and further developed to a stage where commercial banks could become involved. Projects are designed to challenge the development process, which can lead to new policies and gear policy implementation for slum upgrading towards community control. CLIFF provides finance to the urban poor rather than to local government, although projects are ideally launched in partnership with city authorities. This is intended to help the city look beyond the project to broader, citywide issues.

To leverage additional finance, CLIFF's loan finance can be used to provide start up finance for large-scale slum upgrading, resettlement and infrastructure projects. Projects are planned on the basis of a project revenue stream, allowing loan finance to be repaid. This ensures that communities can begin work on a project prior to securing project revenues from government or other sources. Projects can be used to initiate the release of subsidies or contracted payments from local, state, and central government. Without this finance, poor communities would find it difficult to access the level of loan finance required, and thus to leverage the various project revenues available. CLIFF can also be used by communities to leverage non-financial assets, such as land and infrastructure provision by the state or private sector.

In India, CLIFF works with two organisations, Mahila Milana (a network of women's collectives) and the National Slum Dweller's Federation (NSDF), who work with city authorities across India to develop potential project ideas. These organisations in turn work with the Society for the Promotion of Area Resources Centers (SPARC) and Nirman, a non-profit company set up by SPARC, NSDF, and Mahila Milan to support housing and infrastructure initiatives. They consider whether the project is viable and examine different cash flow options, as well as the viability of negotiating loan finance from commercial banks. For CLIFF finance, the project must undergo an analysis of project risks, allocation of risks, and how CLIFF can assist in the management and mitigation of these risks. It must include a management strategy, and long-term planning for sustainability and operations and maintenance costs.

CLIFF is used for a variety of purposes in India. For example, the Bombay Sewage Disposal Project (BSDP) is a large-scale sanitation programme in Mumbai, where a new model for sanitation provision in slums is being tested. In this process, the community has led in the design, construction, management, and maintenance of toilet blocks that are dedicated to a particular community. Under this arrangement,

the municipality provides the capital costs, while families pay a fixed monthly fee to cover maintenance, which is also organized by the community.

BSDP highlights some of the constraints to project development. In the planning stage, there were delays in receiving permits and licenses from city and state authorities. After the municipality agreed to pay the capital costs, the project experienced a lag of 18 to 24 months between the costs being expended and receiving the money. This is a result of bureaucratic processes, as well as the amount of time required of the project to organize the paperwork required to receive the payments. Where subsidies from government were identified for the project, these were also delayed due to bureaucracy and corrupt demands for payments.

To keep the project running, CLIFF provided bridge finance while project developers negotiated with government. Although the delays had a negative impact on the individual project, they helped to clear the way for second-generation projects through their impact on the institutional frameworks that caused the delays in the first place.

CLIFF's support for community-led sanitation provision in India has had a positive impact on slum policy at a national level. As well as being a catalyst for community toilet blocks across India, the Indian Alliance gained credibility and is now considered a legitimate organisation to discuss slum sanitation policy. They are part of a national task force on sanitation. They have developed a partnership model that is replicable in other areas, and have helped to shape discussions about how to include community organisations to participate in sanitation provision. The Indian Alliance has also helped to counter vested interests and corruption. In Pune, community contractors were able to outbid private contractors in a direct competition, by eliminating corruption. CLIFF's sanitation projects have helped to create relationships between communities and municipal employees, which act as a starting point for discussion about other slum upgrading issues. .

Source: Cardone and Fonseca (2006). Reprinted with permission from UN-Habitat. Brackets are the editor's

While most project development and financing facilities are intended for large-scale infrastructure, which is less likely to have a direct impact on the poor, the concepts can apply to a whole range of project sizes, as the key concerns of project development (viable projects, appropriate technology, principles of cost recovery, governance) and the need to match finance to well-planned projects hold true regardless of size. It is perhaps for this reason that new project development and financing facilities have been created in recent years at an international and national level to address multi-sector or single sector needs, and/or to target specific market segments. A recent study conducted by the Public-Private Infrastructure Advisory Facility (PPIAF) sought

to gain a better understanding of the different project development facilities created and targeted for pro-poor service delivery in Africa. The study found a variety of different facilities focused on different aspects of project development and highlighted a few gaps, as presented in Table 4.

Project development phases	Do existing facilities address?
Enabling environment Designing enabling legislation Designing regulatory approaches Project relevant institutional reforms Capacity building to support projects Consensus building regarding projects	Yes
Project definition Identification of desired outputs Prioritization vs. other projects Identification of project champions Action planning (TORs, etc.) Pre-feasibility studies	Yes
Project feasibility Organisational/administrative Financial/economic modelling Economic Social Technical/engineering Environmental studies	Yes Yes Yes Yes No No
Project structuring Public/private options assessment Project finance Legal structuring	No No No
Transaction support Project finance Legal structuring Procurement Negotiation Post-signing financial agreements	No No No No No
Post-implementation support Monitoring Evaluation Renegotiation/refinancing	No No No

Table 4: Gaps in services provided by project development facilities  
 Adapted from Leighland, 2006.<sup>55</sup>

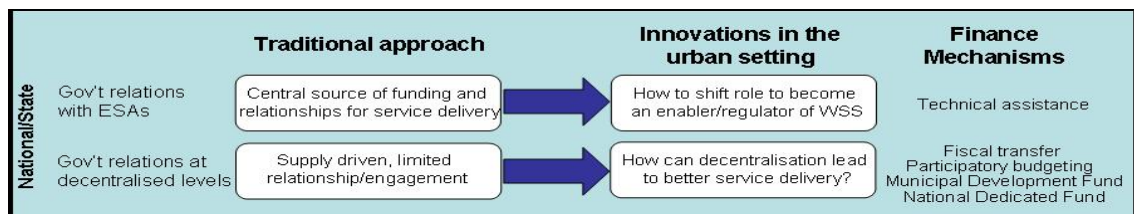


Figure 4: Features of innovation in financing mechanisms at the national/state level

<sup>55</sup> Guidelines for users of project preparation facilities can be found at:  
<http://www.ppiaf.org/ICA/InfrastructureProjectPreparationFacilitiesUserGuideEnglish.pdf>

While many facilities have emerged to support project development, there are no facilities for project structuring, transaction support, and post-implementation support – all critical to ensure that projects are operationally and financially sustainable. As most of the larger project development work has focused on developing a project to the stage where it can be ‘handed off’ to a private investor, this gap is glaring, especially given the *public investment* needs of the water and sanitation sector, particularly in urban areas. From the perspective of the urban WSS utility sector, which is undergoing a global transition towards a ring-fenced, public business approach, project development and transaction support is critical, not only to increase the efficiency of the utility itself, but also to be able to extend connections to poor areas or, failing that, to be able to contract and regulate small scale providers.

## **5.2 Mechanisms at the national level**

At a national level, the biggest innovation in recent years, across most middle-income or low-income countries and across all regions, has been the decentralisation of service delivery to local district, municipality, or town/village/community levels. What hasn’t followed in many cases is fiscal decentralisation to support these newly empowered local officials. As such, some of the core questions for the urban setting, outlined in Figure 4 above, are looking for answers through technical assistance (grants), support for fiscal transfers, participatory budgeting, municipal development funds, and dedicated national funds.

### **5.2.1 How to shift government’s role to become an enabler of the water and sanitation sector**

Traditionally, utilities have been an extension of government, with combined budgets and a governance structure dominated by political appointees. As part of broad water sector reform efforts, institutional arrangements for the sector are shifting towards a structure where government is responsible for sector policies

and an expenditure framework, providing monitoring and evaluation and regulation, while other actors –public utilities or private operators – implement and provide services. In the urban setting, the shift from a public water department to a ring-fenced, publicly owned water utility is a challenge; many governments are loathe to give up control of the utility’s revenues. Still, many utilities see the value in distancing government from day-to-day responsibilities, for example, through corporate governance structures, although as seen in Box 3, these do not always lead to independence from political control.

### **5.2.2 How can decentralisation lead to better WSS service delivery?**

Often, the response by national governments to calls to fiscally decentralise is that local governments lack the capacity to absorb – meaning spend – their budgets. While absorption capacity at decentralised levels is certainly a problem, even in middle-income countries,<sup>56</sup> often the challenges are as much the fault of the central government allocation process as lack of capacity at the local level.<sup>57</sup> This traditional, supply-side attitude towards localised service delivery has evolved into new thinking about the role of fiscal transfers and how they can be applied to trigger market approaches to public service delivery. For example, given a clear sector policy and accompanying expenditure framework, fiscal transfers can empower local government to make good on its responsibility for water and sanitation service delivery.

<sup>56</sup>See, for example [http://www.dplg.gov.za/speeches/21Sep2005PR\\_imbizo.doc](http://www.dplg.gov.za/speeches/21Sep2005PR_imbizo.doc) and <http://www.dwaf.gov.za/Communications/MinisterSpeeches/2005/MinMEC5Jul05.doc>.

<sup>57</sup>For a much fuller discussion of this topic, see Gutierrez E., Mwambwas S., Wake W. (2004).

**Box 3: Corporate governance of utilities**

In Zambia, water and sanitation service provision is devolved to local authorities, and in the urban sub-sector, all of the utilities were commercialised in an effort to improve the sector's effectiveness and efficiency. At Lusaka Water and Sewerage Corporation (LWSC), members of the local authority comprise an overwhelming majority of the Board of Directors, which limits the utility's commercial efforts. This is for a number of reasons, not least because the concept and practice of a commercialised, business-oriented utility is new to most public officials. As a result, BoD appointments tend to be based on political favour. According to NWASCO, the sector's economic regulator, this situation results in lower performance against sector benchmarks than Zambian utilities' boards, who represent different business interests, including the private and NGO sectors. LWSC has nine board members: four City Council members, two Ministry of Local Government and Housing (MLGH) staff, one Ministry of Finance (MOF) staff, one from academia, and one from the private sector. Of the city council members, the Mayor and Town Clerk hold permanent positions, while other council members rotate on an annual basis from 24 townships represented on the City Council.

Importantly, the LWSC's board does not have an advisory council or subcommittees to allow greater participation from experts, nor is there a requirement that board members have any experience with the water sector. NWASCO has advocated that Lusaka's Mayor and the MLGH not hold board seats. Other sector advocates suggest that the board be structured to allow for greater private involvement, whether from local economic associations, business, lawyers, or engineers, in order to raise the utility's business acumen, as its coverage rates – both for water supply and sanitation – are abysmally low, and cost recovery, while improving, remains insufficient to meet operating costs. However, the current structure will remain until public sector officials decide to cede their authority or demands from citizens and consumers force a change.

Source: Adapted from Cardone, 2006.

This can be accomplished by a direct transfer, or through the use of the transfer to repay – or even guarantee – debt, or to earmark it in a way that targets improved access and services for the poor. From a process perspective, absorptive capacity has shown to improve through decentralisation when elements of direct democracy are introduced, for example through participatory budgeting, as presented in Box 4. Participatory budgeting has expanded in many areas throughout Brazil as well as elsewhere in Latin America, including Bolivia and Mexico,

Peru, Ecuador, Colombia, Uruguay, and Argentina, and in Europe, Africa, and Eastern Europe, while support systems, including training modules, toolkits, and networking events are being developed to help further scale up the approach. Another mechanism for national government to support networked WSS infrastructure finance at the municipal level is through Municipal Development Funds (MDFs). Two different models are explored in Box 5.

**Box 4: Participatory budgeting in Brazil**

Belo Horizonte, one of Brazil's largest cities, has over 2 million people and 160 favelas (informal settlements). The city's governance structure is divided into nine regional authorities, who are appointed by a single municipal authority, run by the Mayor. In 1993, a new government that had run on a pro-poor platform was elected. To make good on their promises, the new government adopted a participatory budgeting approach to municipal finance as a means to increase transparency and accountability within city government, and to engage and encourage participation by citizens and

community groups. (The process of participatory budgeting started in Porto Alegre, another Brazilian city, several years before and with considerable success, and has been implemented elsewhere throughout Brazil.)

Through the system of participatory budgeting, the regional authorities were subdivided further by population and physical boundaries that might deter participation at a very local level. Administrators at the regional authority were tasked with encouraging citizen and community group participation, providing information about the city's finances and administrative functions, and guaranteeing citizens' rights to define government goals and strategies to achieve social needs. Participating citizens and community groups were tasked with defining local investment needs.

Although the first year of participatory budgeting faced some challenges, particularly in generating participation, the response in the second year was intensive action and engagement by the regional administrators; adaptation and acclimation by municipal authorities to the approach; and even greater responsibility delegated to citizen control. Participation in the second year increased by 80%. According to a 1994 Gallup opinion poll, city residents perceived new government's key accomplishment to be the participatory budgeting process, with a wide majority supporting the government's outreach efforts and clarity in explaining city's budget. In 1994, US\$15.6 million – or 40% of Belo Horizonte's total investment budget – was earmarked for participatory budgeting, allocated among the nine regions. What resulted was a shift in municipal funding primarily towards sanitation and basic infrastructure (including roads), followed by funding for site preparation for additional water, sanitation, drainage, roads, and other public assets. This was particularly so in the favelas, where investment also switched from large-scale capital works that had limited direct impact on the poor to ones that had a clear impact.

Over time, participation has increased as the government continues to demonstrate its ability to respond to citizen demand through investment, and through a clear framework for monitoring results. The process is highly transparent, and government officials have had to develop skill at predicting and responding to issues as they arise. State-level officials have had to shift their approach and become more open, providing timely information to the regional authorities on request, in order to inform local decision making. At the same time, not all citizen demands can be met, due to technical and financial constraints, and detailing these constraints requires patience and respect for citizens. By practicing transparency, citizens are more aware of their rights and, importantly, their obligations to the public sector, which has increased overall confidence in government.

Belo Horizonte's experience with participatory budgeting suggests a few factors that can lead to success, including political will and champions at all levels of the city's government to implement the approach; the existence of regional authorities within the municipal structure, which could extend outreach to very local levels; and a transparent process for allocating resources. Perhaps most importantly, the process is only as good as the follow through – in this case a demonstrable ability to allocate public resources according to the priorities defined by the process. Some challenges still remain, particularly in communicating in a digestible way so that all citizens can understand the city finances, including taxes and fiscal policy, revenue collection and management.

Source: Roberto and Paixão (1996).



**Box 5: Using Municipal Development Funds to stimulate innovation**

MDFs can either work as substitutes for grants and fiscal transfers to local authorities, or act as a bridge to private credit markets. Under the first model, which is widely used in developing countries, the MDF, funded by the government and donors, on-lends to the local authority at concessionary rates, often in conjunction with subsidised loans and grants (again, from donors and/or central government). The objective is to stimulate a market for domestic finance, while introducing local authorities to municipal borrowing. Because the market is relatively weak, the MDF can seek to incorporate investment priorities from the central or state government level, and work with the local authority to ensure strong project preparation.

For example, in the Philippines, the Local Water Utilities Administration (LWUA) is a specialised lending institution mandated by law to promote and oversee the development of provincial waterworks systems throughout the country. LWUA extends financial, institutional development, technical, and watershed management assistance to water districts and Rural Waterworks and Sanitation Associations (RWSAs). To do this, funding is secured by LWUA from national government equity subscriptions, and from local as well as IFIs and leading bilateral agencies. These funds come in the form of loans guaranteed by the national government, or as grants.

Under the second model, which is perhaps more appropriate only in further developed countries, an MDF can work to strengthen both the municipal and financial sectors to support transactions between the two. Here, the MDF tends to lend at commercial interest rates, and works with commercial banks and other private sector lenders to inform its funding decisions. Further, the MDF typically requires that private lenders assume the credit risk of the municipal loans, in order to help the municipality develop a credit history. As an example, in the Czech Republic, the MDF borrows funds from international markets with a state guarantee, and then on-lends to domestic commercial banks, who then on-lend to municipalities. For a transaction to happen, a municipality must conduct all of the project identification and preparation, while the commercial banks conduct the credit analysis, and accept repayment risk. The MDF, meanwhile, confirms the creditworthiness of the commercial banks it lends to, and makes capital available to a range of banks, to foster competition.

Adapted from Cardone and Fonseca (2006). Reprinted with permission from UN-Habitat.

Another mechanism that has emerged in recent years is the creation of dedicated, water sector funds, at a national or a district level. These funds are often created with a social purpose as part of broader water sector reform, and can be either sinking or revolving funds, depending on their objectives and structure. Often these funds allow for more flexible and rapid disbursement than the budgeting process, or fund those elements of infrastructure that communities are unable to afford on their own. Those which are structured to revolve are also typically intended to help catalyse and leverage WSS coverage and service delivery over time. National funds face similar challenges to those

faced by the proliferation of other funds, in the lack of 'good' projects and channels for disbursing money. However, coupled with other finance mechanisms and approaches, dedicated funds have been tapped to stimulate pro-poor water and sanitation investments, and catalyse scaling up. For example, in the case of Abidjan (see Case Study), the introduction of microfinance for households' connections to a water supply helped to unlock funds through the National Water Fund to be more pro-poor.

**5.3 Mechanisms at the municipal (and utility) level**

As the main service provider in urban areas, municipalities and utilities face considerable pressures from urbanisation and population growth to extend services. Aside from their own weaknesses in providing services, even well-managed utilities cannot maintain the pace of service extensions, partly because the bulk of new urban residents are poor, are often from rural areas where cost recovery expectations are limited to non-existent, and urban expansion is often in areas where residents lack secure land tenure. Hence, the issue is twofold: utilities must improve existing operations and finances, and extend WSS services to the poor.

Notably, the finance mechanisms outlined in Figure 5 are all premised on cost recovery, whether from user fees alone (unlikely in most LIC and MIC contexts) or a combination of user fees and fiscal transfers from government.

**5.3.1 How can utilities become commercially viable?**

In the late 1990s, there was an expectation amongst DFIs that the international private sector would and could fill the considerable investment gap in urban utilities throughout developing countries. Overall, the experience with large scale private sector investment has

not been particularly successful, especially in low-income countries, due to a variety of factors including mismatched expectations, lack of a transition strategy to implement tariff reforms, and a lack of tangible success on behalf of private operators to extend WSS services to the poor. In the meantime, what has emerged is a growing consensus that while water and sewer utilities should be publicly owned and controlled, they should also operate according to business principles, including strong revenue management, efficient customer service, competent operations, and corporate governance. The logic behind having an effective cost-recovering utility is that ultimately, a utility’s ability to finance itself – whether from its balance sheet, by borrowing at commercial rates or by launching a bond to benefit from lower interest rates – will free up government and ODA flows to focus on targeted, pro-poor activities,

A 2006 workshop<sup>58</sup> on mobilising market finance for water utilities stressed the importance of internal and external factors to utility transformation. From the workshop emerged a series of factors that seem to be present in better performing, bankable utilities. These are outlined in Figure 6.

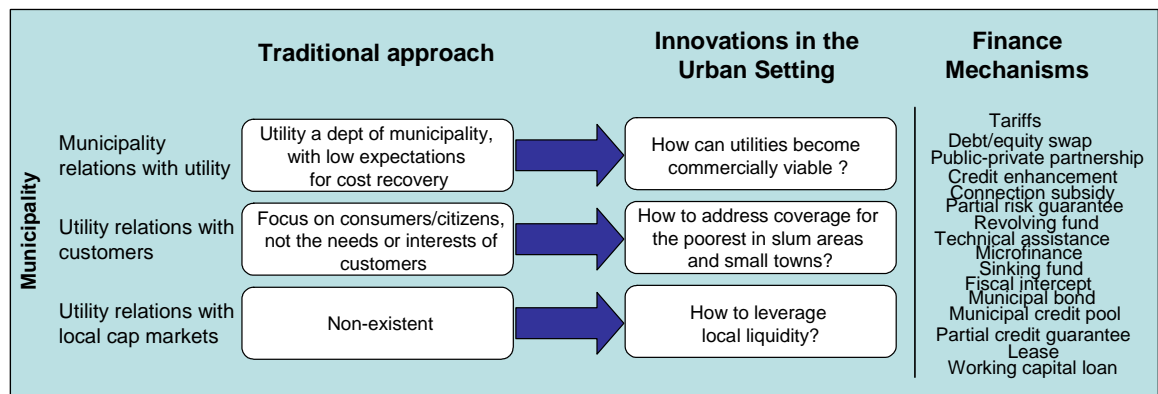


Figure 5: Features of innovation in financing mechanisms at the municipal level

<sup>58</sup> Mehta, Meera and Thomas Fugelsnes (2006).

External factors	Internal factors
<ul style="list-style-type: none"> <li>• Government support</li> <li>• Autonomy</li> <li>• Understanding of external risks</li> <li>• Understanding of economic base</li> </ul>	<ul style="list-style-type: none"> <li>• Financial and credit management</li> <li>• Management quality/capacity</li> <li>• Operational performance</li> <li>• Strategic planning and internal transformation</li> <li>• Human resources and utilisation of private sector</li> <li>• Customer relations</li> </ul>

Figure 6: Internal and external factors to support utility transformation  
 Source: WSP-Af, forthcoming report on market-based mechanisms for urban utilities.

Stronger utilities tend to be found in capital cities, although in many countries a single utility is responsible for all water services at the state or national level. Often the shift towards autonomous utilities follows a broader restructuring, driven by economic, political, or environmental factors. In some cases, the strategic use of external, private sector expertise can help to catalyse an initial transition into a transformation, as in the case of Johannesburg, explored in Box 6.

**5.3.2 How to extend coverage in slum areas and small towns**

Traditional approaches to improve WSS often

start with a utility’s existing operations, rather than addressing the specific issues in slum area and rapidly growing small towns, where the needs are greatest. This typically results in better or improved access for those who already have connections to the networked system, rather than addressing the unmet needs of the poor. By contrast, innovative approaches tend to start with discussions about how to finance services in poor urban, peri-urban, and small town areas, whether through the utility or through alternative means, such as small scale providers. Box 7 highlights an approach to upgrade sewers in slum areas that met with considerable success in Pakistan.

**Box 6: Transforming water services through a public-private partnership**

In anticipation of the shift to democracy in South Africa, the City of Johannesburg created a Contract Management Unit (CMU), which focused on rapid transformation of public services, including water supply and sanitation. Johannesburg Water was created as a ring-fenced, public company from the city’s seven dispersed water utilities and departments.

In an effort to re-create the utility as a professional and competent company, with a single operating culture, and to re-brand the utility to customers, the CMU sought to engage competent private sector specialists through a five-year, performance-based management contract. From 2001–2006, JOWAMU, a consortium of Suez Water and several local private companies, refocused the company through staff training, customer service, revenue management, and greater efficiency measures, from reducing the amount of chemicals used to expanding programmes to serve the poor.

By 2006, the public sector was satisfied with the results, and chose not to extend the contract. In many cities that have experimented with broad engagement with the private sector, government has found it hard to reclaim the utility should the contract fail and the private sector disengage. In Johannesburg, one of the key features of the management contract was the diminishing role of international experts over time: the contract started with a staff of 13 international staff, which was reduced to just 2, in non-executive roles.

Source: <http://www.johannesburgwater.co.za/>

**Box 7: Sanitation upgrading in the Orangi Pilot Project**

Orangi is a low-income, informal area of Karachi, Pakistan's largest city, with 1.2 million residents. In 1980, the Orangi Pilot Project (OPP) sought to develop new models for providing affordable infrastructure and public services. The pilot project focused on developing community-managed sewers and drains in informal areas, grounded in collaboration between local government and communities, and shared investment for networked sewage connections at a household level. Through the concept of 'component sharing', OPP envisaged that each street in Orangi would be responsible for planning, installing, financing, and managing sewer networks connecting to each house, while the local government would fund the costs to extend the sewer lines (if needed) unless a natural drain was available. The 'internal external' system hinges on local governments' ability to plan and manage infrastructure investments in poor areas that are affordable and sustainable.

The success of the initial pilot attracted WaterAid, an INGO which, in the mid-1990s, provided additional support to scale up the model by providing technical and managerial support, funding training sessions (on topics such as community mobilisation, surveying, planning, cost estimation and construction of sewers, and on documentation of the work, reporting, accounting and management). Since the first pilot, 13 efforts have been made by NGOs and CBOs to replicate the programme outside of Karachi. Of these, three have been very successful, four have failed, and the rest show some signs of success.

Several success factors can be gleaned from Orangi's experience to date. In 2001, the Devolution Plan empowered local governments to raise funds and gave autonomy to implement physical and social development projects, which strengthened the enabling environment for communities to work with local government. Successful efforts were supported by a skilled, locally based NGO/CBO with the ability to implement social mobilisation and technical aspects such as planning, costing, implementing, and managing the system. In 12 of the 13 efforts, either OPP or WaterAid funded the local NGO/CBO's overhead costs. Local government officials were empowered and provided with incentives to act. All the success stories involved early engagement by the local NGO/CBO with relevant local government agencies, to promote component sharing. Collaboration with local government results in tangible benefits, as voters get support for community-led and managed schemes, while local government no longer needs to find external funding for sanitation.

The low-cost sanitation system resulted in the installation of good quality sewers at a lower unit cost than solutions previously imposed by external agents, while household savings from reduced expenditure treating sicknesses are estimated to exceed the investment cost. The sewers were premised on full cost recovery from users, noting that the charges necessary to cover this are low and affordable by households. Importantly, the OPP's focus on strengthening management and 'soft' skills within communities was perhaps more important than the finance mechanism itself. Some of the key lessons include: a) use locally educated youth to implement community mobilisation; b) small towns seem better able to adopt the approach, as they are less beholden to vested interests and supply-side driven approaches; and c) planning tools should be adopted and transparent for communities, with visual representation (maps), and data for costing. .

Source: UN-HABITAT, 2006; Sattethwaite, 2006

**5.3.3 How to leverage local liquidity**

In many middle- and low-income countries, consistent economic growth over the last decade, coupled with relatively stable inflation and reduced domestic borrowing by governments, has resulted in increased interest by local institutional investors and commercial banks to diversify and expand their portfolios, and to develop new financial products for the domestic market. In many countries, commercial banks and microfinance institutions have expressed interest in water sector investments as a means of expanding their customer base. While some utilities are forbidden to access commercial finance (e.g., in Ethiopia), others regularly use local banks as bill payment centres, to hold their accounts, to provide short-term working capital loans, for leasing arrangements (e.g., for vehicle fleets), and even to access smaller project-based

finance. There are many benefits of using local monies to fund local infrastructure, including the elimination of foreign exchange risk for projects, and the strengthening of the local and domestic economy.

Over the last few years, discussion and interest in expanding the scope of municipal bonds for water and sanitation in urban areas have grown, at a global level, but also within regions. Where a bond is not a viable option, interest in deepening engagement with domestic commercial banks is also growing. This trend can be seen as a logical next step to decentralising authority, and ring-fencing utilities. Box 8 presents an example of a municipal bond in Mexico.

**Box 8: Launching a municipal bond in Mexico**

Mexico's investment climate has improved in recent years due to a number of factors including greater flexibility in local labour markets, trade liberalisation, greater exposure to foreign competition, better access to imports, growth in foreign direct investment, and a comprehensive deregulation programme. All 32 of the country's states have a currency rating, as do 70 municipalities and other sub-national entities. Since 2001 16 states and municipalities have raised funds in the local market for infrastructure.

It should be noted that Mexico's legal framework recognises creditors in bankruptcy cases, even though most financing is secured against personal guarantees or mortgage. Local banks are subject to strong regulation and supervision. A relatively new pension scheme has been developed for private workers that has rapidly grown its assets and is looking for strong, domestic, fixed income investments. Local banks face pressure to lend to creditworthy local governments, to minimise their mandatory capital reserves.

In Tlalnepantla, a municipality of about 800,000 people, the IFC and the World Bank Group provided a water sector guarantee to the municipality without collateral drawn from a federal government fiscal intercept (whereby the government agrees to provide part of its fiscal transfers to the municipality to repay creditors in case of default). The primary source of repayment for the transaction was through user fees, and the financing is in local currency. Notably, Tlalnepantla is a highly industrialised municipality within the metropolitan area of Mexico City, and has been a leader in Mexico on issues relating to tax collection, financial and fiscal management, and local water utility reform.

The structure of the deal is as follows: Banco Santander Mexicano, a local bank, issued bonds in the local capital market worth about US\$8.8 million, which were lent to the municipality secured against property taxes and water user fees. The bonds have an 11-year maturity. Dexia Credit Local, a private financial company, issued a letter of credit to cover any shortfall in the debt service, up to US\$8 million.

The IFC covers part of Dexia's obligation by means of a partial credit guarantee (PCG) worth US\$3 million to the Bank, to assure bondholders. Because of the additional guarantees, the local credit rating of the bond increased from AA to AAA.

Adapted from Cardone and Fonseca (2006). Reprinted with permission from UN-Habitat.

While the use of municipal bonds and utility bonds may seem possible only in middle-income countries, some low-income countries with exceptional utilities are looking to expand their scope of commercial borrowing (usually for working capital and short-term leasing products). For example, WSP-Africa is currently working with a number of utilities in low-income, sub-Saharan African countries to access commercial finance.

Another source of local liquidity is households

themselves. As experiences with slum-dweller federations has shown, households and communities have demonstrated an ability to mobilise finance through savings pools and self-investment for water and sanitation investments, often as part of broader upgrading initiatives. Another way to tap household funds is through cross subsidies and surcharges to utility bills, deposited into a fund for connections and pro-poor investments. One example of a surcharge on water bills to fund sanitation is presented in Box 9.

**Box 9: Sanitation surcharges in Burkina Faso**

Discussions of innovative finance mechanisms tend to focus on water sector interventions, as sanitation investments are typically considered too expensive, and with too little cost recovery, to access commercial finance. In Burkina Faso, the National Water and Sanitation Office (ONEA), a ring-fenced utility, is responsible for water and sanitation in urban and peri-urban areas throughout the country. Faced with limited demand for sanitation services, the utility decided to implement a surcharge on the water bills of its existing customers, based on consumption, to raise funds which would then be used to stimulate demand for urban sanitation.

This scheme has a 20-year history. In 1985, the Ministry of Water authorised fees for sanitation services through a surcharge to the water bill. Between 1985 and 1993, these charges were pooled with ONEA's general accounts and not spent on sanitation. In 1994, recognising the failure of the system, ONEA created a separate sanitation account for the surcharges. A parallel process was also instigated in Ouagadougou, the capital city, to develop a sanitation strategy for on-site sanitation, school latrines, and a sewerage network for the city centre. As part of the plan, households are expected to finance their own on-site sanitation. ONEA, through the sanitation surcharge, finances associated costs, such as training masons on how to build on-site sanitation and providing supplies of suitable construction material (to ensure quality standards), as well as sanitation promotion campaigns and social mobilisation, to generate demand. Where necessary, small capital subsidies are provided to poorer households, but the objective is to minimise government funding of capital costs and to leverage household finance. ONEA does not use the sanitation surcharge fund for networked sewerage, but does use it to fully fund hygiene education in schools, and to construct school latrines, while parents pay for maintenance. The subsidy is available to all households in these cities, whether or not they are connected to the network.

The surcharge is premised on a few core principles. First, the surcharge should not pose a burden to poor houses, nor prohibit access to water supply. In practice, a two-tier billing system is in place, differentiating between users who have sewer connections and those with alternatives, such as on-site sanitation. Other elements of sanitation, including drainage and solid waste management, are not factored into the surcharge. Secondly, the level of surcharge is linked to consumption of water, and

payment is assured given ONEA’s ability to suspend service for non-payment of bills. In 2004, the bulk (81.5%) of the surcharge fund was generated from consumers with direct connections to the water distribution network. Hotels and industry, and national government provided a combined 56% of the total fund.

Some factors in success appear to be that the surcharge is part of consumers’ water bills and ONEA has the capacity to manage the fund. According to a 2004 study, ONEA spent 83% of its budget, and the recovery rate on the surcharge averaged 87%. By separating the fund and ensuring autonomous management, ONEA was able to ensure freedom from political interference and avoid ‘mixing’ these funds with its general accounts.

Source: Savina and Kolsky (2004).

**5.4 Mechanisms used by the domestic private sector**

Traditional models for financing WSS have tended not to recognise the domestic private sector, which here includes small scale independent providers (SSIPs), MFIs, and commercial banks. This is because urban SSIPs tended to (and in most cases, continue to) operate informally and outside the scope and recognition of the formal utility and government. Likewise, microfinance and commercial banking in the sector were nonexistent, as (formal) water sector funding was provided by the public sector. Innovation calls for harnessing the entrepreneurship and scope of coverage of SSIPs, as well as, where possible, tapping into MFIs and commercial banks as a source of finance. Some of the key questions innovative finance seeks to address, along with some of the evolving finance

mechanisms, are presented in Figure 7.

**5.4.1 How to apply microfinance products to the water sector**

Microfinance products, which can include micro-credit, micro-guarantees, micro-project finance, and micro-insurance, are well suited to water and sanitation investments in a decentralised environment, and for households who are looking to upgrade the home and its facilities. Experience in recent years suggests that MFIs require some technical assistance to understand the WSS sector and the scope for developing new products, but do understand the potential benefits – and the potential market – of expanded access to water and sanitation from the perspective of livelihoods and economic development.

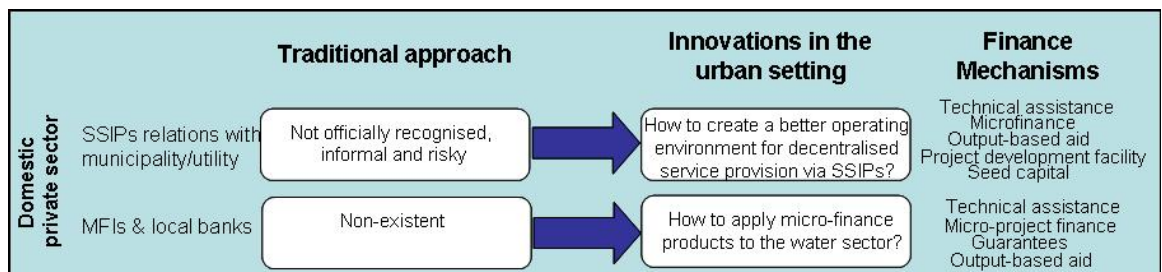


Figure 7: Features of innovation in financing mechanisms by the domestic private sector

**Box 10: Use of design-lease-build contracts in Vietnam**

In Vietnam, small towns are differentiated from “townlets”. Their small town population ranges from about 4,000 to 30,000, while townlets have a minimum population of 2,000 (1,000 in mountain areas). Only 30% of small towns and 15% of townlets have piped water systems, with connection rates ranging from 20 to 80%. With 7% of the country’s total population (5 million) living in small towns, and 15% (10 million) living in townlets, this represents a considerable portion of the country’s gap to meet the WSS MDGs.

To address this service gap, a design-build-lease project is underway in two towns, each with a population of about 10,000 people. Under the scheme, private contractors design, build, and operate the water system, borrowing funds drawn from the water utility, which the utility offers as an equity investment. After a grace period, which allows the contractor to generate cash reserves in case of cash shortfall during the design and construction period, the contractor repays the utility, including debt service fees, out of revenues.

In order to avoid costly delays, stakeholder engagement is used to determine the feasibility of design and cost estimates, as well as agree on tariffs. Importantly for the contractor, while the tariff does not reflect full cost recovery, the local authority (and users) must agree to a minimum consumption of 5 m<sup>3</sup> of water per billing period for the scheme to be viable. To cover connection costs, users preferred a higher monthly tariff to an up-front charge; likewise, they agreed to small, more frequent tariff increases over time rather than larger, infrequent increases. After addressing issues such as these, the local authority must vote on whether the plans are viable, and whether the utility is allowed to assume the loan to kick-start the investment.

The benefits of this approach are that the contractor must operate the system it builds, which counters any inclination for over-design. Because revenues are directly tied to tariffs, the operator has an incentive to connect customers and provide good customer service, which includes billing and collections. For the utility, the risk of fronting an equity investment under the scheme (15%) is managed because the assets – which will grow in value through the scheme – belong to the utility, providing an additional incentive to maintain oversight over the private contractor. Likewise, the contractor is bound by a performance bond in the event that the contractor does not meet its obligations. Importantly, there is a competitive market for operators in Vietnam, which increases the likelihood of success for the utility and local government. For small towns, there may be options for provincial or regional utilities – or even a local utility in a nearby large town or urban centre – to provide equity investments to support piped connections while supporting local economic development. Preliminary findings suggest that capacity building to understand the contractual implications may be needed; however they also suggest that a small town water supply can be profitable for smaller operators, provided that enough work is done upstream to get the incentives right, and to address risks.

Adapted from Cardone and Fonseca (2006). Reprinted with permission from UN-Habitat.

In general, two types of microfinance products have emerged: microfinance for household connections, and micro-project finance for

community-led, or larger, investments (e.g., by SSIPs). Some of these models are explored in Boxes 11 and 12.

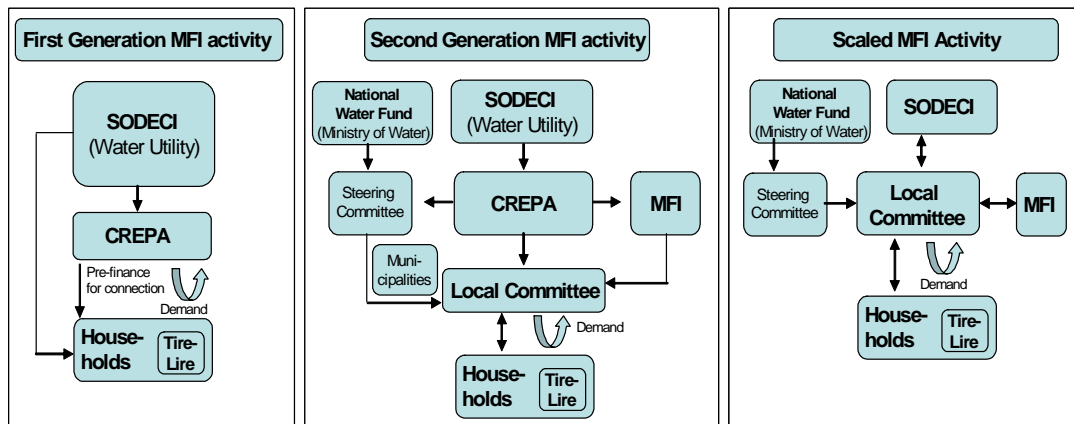


**Box 11: Microfinance as a means to scale up household connections in Côte d'Ivoire**

Three years ago, CREPA — Centre Régional pour l'Eau Potable et l'Assainissement à faible coût — set up a microfinance mechanism to extend water and sewer connections to the poor in Abidjan's peri-urban area of Abobo-Sagbé. Through the use of this mechanism, 250 households were able to receive services from the National Water Service Provider, SODECI. Building on that success, SODECI sought to extend the mechanism and approach to other settlements, including Koweit, a peri-urban community that was given formal status in 1990.

Access to water supply in Koweit is constrained by the lack of networked services, lack of access to finance to pay for household connections, and limited awareness by households of the options available for better quality water supply. On average, households in Koweit pay 5-10 times more than the standard tariff offered by the network. At the same time, Côte d'Ivoire has a National Water Fund (NWF), capitalized by subsidies on water bills, which is intended to extend connections to the poor.

CREPA recognised its role as a catalyst rather than a long-term partner, and so to facilitate scaling up during the second pilot in Koweit, it engaged with a local MFI. The financial arrangement was structured such that SODECI provided US\$10,000 to CREPA, which was housed within the MFI that also took over the financial administration. At the same time, rather than work directly with households, CREPA worked with the local community to create a local committee to be responsible for collecting payment from the households and to learn to liaise directly with the utility. To facilitate scaling up, members from municipalities were encouraged to examine the structure, while a Steering Committee comprising government and other officials was created to provide oversight to the process.



Households are responsible for repaying connection costs over time, as a surcharge to their water bills, with a 2% fee provided to the MFI for administrative costs. CREPA is also working with the MFI to develop a stand-alone product for poor households to connect to the utility. Repayment has been demonstrated through the use of a tire-lire, in essence a piggy bank where households (or typically the woman in the household) deposit the money they would have spent on buying water on a daily basis from a vendor. Experience has shown rapid repayment rates, with households using the tire-lire as a means of generating household savings for productive uses. Importantly, funds from the National Water Fund and from SODECI have been used to develop all of the secondary networks required to provide household connections, as these were non-existent in Koweit (and in other poor urban and peri-urban

areas). This reallocation of funding represents a shift in focus for the NWF towards its core mission to serve the poor.

The results of this effort are impressive in terms of scaling up: after the first five months of an 18-month project, 60% of households had a working water connection and were paying tariffs, while also generating savings for other uses.

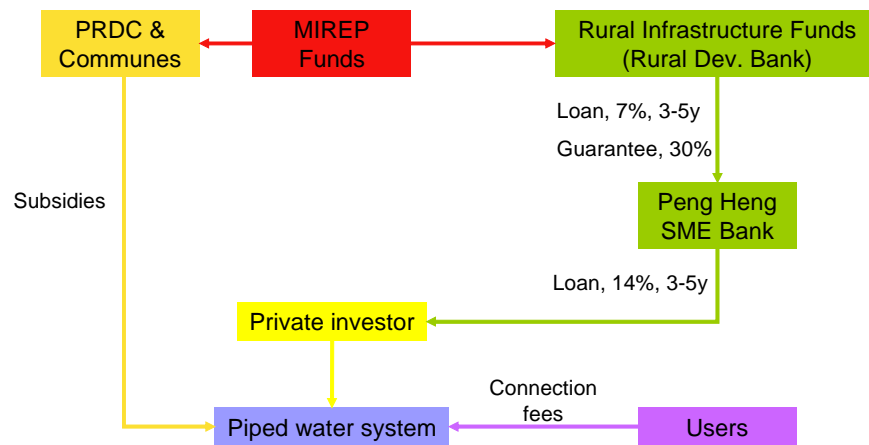
Source: Kouassi-Komlan, 2007. See Côte d'Ivoire case study in companion document.

**Box 12: Use of a guarantee for small towns in Cambodia**

In Cambodia, an international NGO (GRET) has put in place a Rural Infrastructure Fund (RIF) in a public development bank, illustrated by the figure below, with a two-fold objective:

- To provide medium-term (3-5 years) loans to local commercial banks who wish to finance investors involved in financing piped water systems (in Cambodia, credit is provided on a short-term basis only);
- To provide a guarantee (30%) on loans for those commercial banks in case of default of the investor. Because of this guarantee, the commercial bank can ask less collateral and offer a lower credit rate to the investors.

The programme run by GRET consists in support for the rural private sector to invest and build piped-water-systems with technical and financial assistance. The investor connects the people's water-meters and collects payments every month. Through this process, GRET has helped with installing 10 systems, reaching over 85% coverage in some areas. The financial structure is outlined below:



Source: Cited in Cardone and Fonseca (2006). Reprinted with permission from UN-Habitat.

Another means is micro-project finance. A case study in the accompanying document details the use of micro-project finance for boreholes in Togo. Box 13 explores activities in Kenya using microfinance and output-based aid. Given increasing competition and a need to build new markets and expand a client base,

some MFIs have sought strategic alliances with NGOs and other financial intermediaries. These offer complementary skills to reach new markets and their support can result in lower running costs for the MFIs. Institutions in the water sector such as NGOs and resource centres are not generally experts in credit

provision, but are able to provide important inputs in support of finance. They can become financial intermediaries between MFIs and households or CBOs and help to improve processes and results by mobilising start-up funds for water and sanitation credit schemes, bringing in technical support for feasibility studies, training staff in participatory tools, and

helping with monitoring. Larger or regional NGOs are able to promote different finance mechanisms at the rural level, increasing the potential outreach of MFIs through networks and associations of CBOs.

**Box 13: Use of micro-project finance in Kenya**

Kenya's water sector restructuring in 2002 has resulted in a decentralised framework with clear roles and responsibility for different sector actors, although availability of finance to support this framework remains limited, particularly outside major urban centres. Traditionally, NGOs (international and domestic) and faith based charities have bridged the financing gap for water sector projects, using grants, typically in an ad-hoc way that lacks predictability. Donors have tended to fund 'new' or 'improved' projects as a means to demonstrate impact (on an output-basis), which creates disincentives for communities to invest in maintenance or to finance capital expenditures themselves.

Against this backdrop, many CBOs operating in small towns and peri-urban areas have typically developed their own, largely self-financed water projects (supplemented by grants), and have expressed interest in the viability of commercial finance to extend the sustainability of projects, as well as to expedite financing, rather than waiting for grants which may or may not arrive. Kenya's enabling environment places greater autonomy for water service provision and regulation with communities, while Kenya's financial markets are relatively liquid and MFIs such as K-REP have expressed interest in the water and sanitation sector as a means to achieve their social missions, while gaining experience in infrastructure lending.

Over the last few years, the Water and Sanitation Program-Africa (WSP-Af) has worked with K-REP bank to develop a pilot project, staged to minimise grant financing for infrastructure development, with an eye to scalability in the Kenyan context. The pilot was designed to address some of the many constraints on the water service provider in reaching communities and on microfinance, constraints including limited MFI exposure to the water sector and/or project finance; interest rates and tenors beyond what is affordable; and a lack of up-front collateral for small piped water systems. To address these constraints, the pilot project has implemented an OBA capital subsidy to K-REP, paid on delivery of agreed outputs, which reduces the overall size of the loan to communities, and keeps debt service payments affordable. For K-REP, the availability of the OBA subsidy and technical support during the project development stage has helped it to understand the risks of the new market, as well as buying down associated 'first mover' costs.

In practice, the borrower is the project itself, owned by the community and registered as a business. 80% of the total investment is provided by a loan, while 20% (pre-financed) is provided by K-REP and the project's own resources, largely generated from community savings. Once the outputs determined under the agreement are met, and independently verified, the OBA subsidy (amounting to 40% of total investment costs) is released to K-REP, while the project continues to pay off the loan over time.

Source: Virjee (2006).

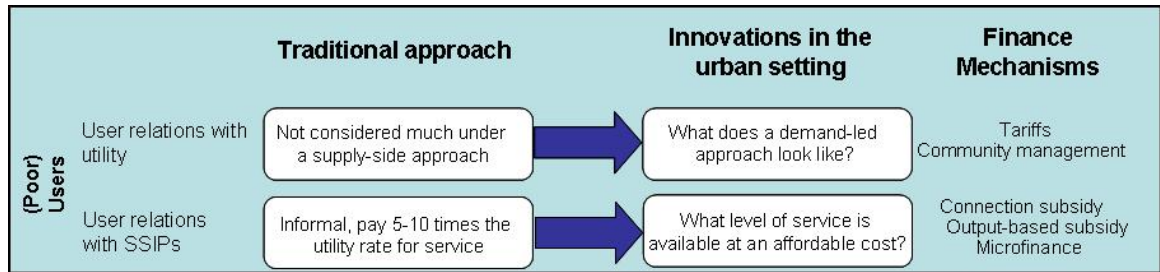


Figure 8: Features of innovation in financing mechanisms by (poor) users

### 5.5 Mechanisms adopted by poor users

Many sources of finance are listed in this paper, but it is poor users themselves who pay the most for water and sanitation services, both in terms of cash outlays (e.g., to purchase water on a daily basis), and in terms of health, education, social, and economic losses due to the lack of safe and clean services. In traditional systems of water sector finance, users are not typically considered, as discussions about financing are focused on DFI funding or on international NGOs and external support agencies (ESAs). Innovations in recent years, which appear to work well, switch the focus towards a demand-led approach, with government and international partners providing a supporting role, rather than being centre stage. Thus, questions presented in Figure 8, and associated mechanisms,

focus on the role of users in relation to service providers, whether the service is networked or more informal.

#### 5.5.1 What does a demand-led approach look like?

Demand-led approaches are often counter-intuitive to those familiar with the way in which the bulk of international development finance is earmarked and spent. The scope for endless feasibility studies conducted by international consultants, or success being measured by signing loan agreements, is not valid using a demand-led approach. Indeed, demand-led approaches in the water sector have largely resulted in lower unit costs, as communities often use locally-made products and local labour, compared with other, more 'supply-side' stakeholders. Box 14 presents an example of demand-led approaches to water and sanitation upgrading.

#### Box 14: Demand-led approaches in urban slums

In at least 11 countries, federations of urban poor and slum dwellers are working to address poverty issues, including water supply and sanitation. These federations are highly involved in community-led schemes, and at their core are community-based savings groups, formed and managed by the urban poor themselves. Women in particular are attracted to savings groups, as they provide credit on flexible terms, which is often used to deal with family crises, but also for longer-term housing improvements and income generating activities. When clusters of these savings groups federate, their scope for supporting broader changes also increases and they can advocate and implement slum upgrading activities at a citywide level, and sometimes national and international levels.

Importantly, the demand-led approach is not isolated from government or even from international agencies. Federations of urban poor and slum dwellers are typically acknowledged and supported in many cases by city governments as well as national governments and international agencies, due to their success in addressing urban poverty. Furthermore, federations typically seek partnerships with local

governments, in order to achieve secure land tenure, street numbers and addresses, which opens participation by slum dwellers to other citizen rights, such as voting.

All federations use their savings model as a means to provide credit for housing and other upgrading, while demonstrating to local and national governments the ability of the poor to mobilise and overcome extreme poverty, often at lower unit cost than government or international agencies can achieve. Further, the savings model is premised on a cost-recovery strategy that involves even the poorest and most marginalised people in urban areas. Importantly, the federations work to ensure that the poor people be dissuaded from assuming loans where possible, and to minimize the size of borrowing. This is in contrast to supply-side oriented approaches, which tend to maximise loan sizes to the extent possible (staff performance in donor and other agencies is often measured by the number and amounts of loans signed).

The scope of federations, particularly through Shack/Slum Dwellers International (SDI), the international branch of the federation movement, includes actively working to change the traditional approaches and financing strategies of external support agencies towards more demand-led practices, and working to achieve scaled success in housing, water supply, and sanitation. In practice, this requires government and ESAs, whether government, international donors, or NGOs, to consider the poor as agents of change, rather than beneficiaries of 'aid'.

From a financial perspective, 10 country federations have created funds for the urban poor, which help members to pool their money to upgrade housing and water supply and sanitation. Further, these funds are supported by NGOs and international agencies, offering the federations and slum dwellers greater flexibility in using the funds, without the conditionalities that often accompany traditional 'aid'.

The impacts from this model of water and sanitation service provision are clear. This demand-led approach has resulted in thousands of connections to improved water and sanitation, improved housing, and community-designed and managed toilet blocks that serve millions of people, mostly in Asia. The model has also spread to federations of slum dwellers in Africa and Latin America.

Sources: Adapted from d'Cruz and Satterthwaite, 2006, and UN-HABITAT, 2006.

Another model of a demand-led approach is in sanitation infrastructure, as presented in Box 15.

**Box 15: Use of revolving funds for water infrastructure in Ghana**

The Ghana Association of Water and Sanitation Development Boards (AWSDBs) was created in 1995, following a project implemented by the Canadian Development Agency (CIDA), which rehabilitated water systems in 14 priority communities. As a pre-requisite for transferring management of the systems to communities, CIDA required the communities to have saved up enough to meet six months O&M costs. As it happened, the project was implemented during a period of high inflation, so communities sought to place their savings in hard currency. As none of the individual communities had the minimum currency (US\$5,000) to open their own accounts, they formed an association, pooled their finance, and the AWSDB was formed as a credit association, registered as an NGO.

Another element of the CIDA project was that communities needed to provide 5% of capital costs towards rehabilitating water systems, which was impossible for them as a lump sum. As a result, the

participating communities provided periodic investments which, over time, grew to reach the required sum. The Association took advantage of the time lag by investing the funds in Treasury bills and other short-term, high-return investments with interest, and created the basis for a revolving fund. The interest earned on this fund provides a sizeable capital base for member boards in each district to access for water and sanitation investment.

The structure of the revolving fund is simple: participating communities (there are now 22) pay an annual subscription fee of ₵200,000 (US\$21.60), and member boards can invest in the fund by purchasing unit trusts for ₵100,000 (US\$10.80) with short liquidity that provide high returns. The minimum amount that can be purchased is 100 units. Member water boards borrow against the fund by submitting an application outlining the need for funds, while the District Assembly local government that is also the legal owner of the water system serves as a guarantor on the loan. After screening, the loan is approved by writing a check to the District Assembly. The maximum amount a member board can borrow depends on its level of investment in the fund.

Credit provision started in 2001, with funds disbursed to 20 member water boards for major replacement works, and loans ranging from ₵2 million (US\$220) to ₵50m (US\$6,000), with an average of ₵14m (US\$1,555). Despite a 0% interest rate, by 1994 loan recovery was a low 33%, which impacted on the ability of AWSDB to operate by depleting the reserves available for investment, and damaging its ability to pay for the fund's operating expenses. As a result, the AWSDB started charging commercial rates. This structure is expected to be revised at the next annual meeting, because the incentive of using the fund is now minimised compared to going to a local bank. However, the AWSDB loan application process is less onerous than that of a local bank.

Interestingly, a recent visit to the AWSDB revealed that cost recovery rates have dropped to just 5%, with member boards citing lack of income due to frequent breakdowns in water services, and the need for further repair and rehabilitation before recovering costs from users. This suggests that the organisational inefficiencies of the water service providers are not being addressed, perhaps in part due to the availability of cheap finance. Member boards are unable to generate sufficient revenues to contribute to the fund itself, which, combined with the policy of investing (mostly) in T-bills, has resulted in a declining capital base.

Sources: Acheampong (2007) (see Ghana case study in accompanying document); Agbenorheri and Fonseca (2005).

**5.5.2 What level of service is available at an affordable cost?**

A range of finance is provided by users, including user fees (tariffs), community-led schemes, subsidies for connections, output based aid and microfinance. The level of service provided by these means varies depending on a range of factors, including the initial quality of the water, the location of sanitation relative to water supply points, and the type of technology adopted by the community. Overall, experience suggests that

the unit cost of providing a service and the unit costs charged to consumers can both be reduced by demand-led approaches. Developing effective supply chains for sanitation products and promoting demand has proven more effective than household subsidies. Microfinance can be used to start up activities required to provide sanitation services, such as providing materials for construction, emptying the pits and treating the sludge. The small scale private sector has the ability to tap markets for sanitation or hygiene-related products such as

soap, toilet construction, toilet parts, toilet cleaning and faecal sludge management. Start-up activities require credit, but service providers are able to make a decent profit and so there is an incentive to create demand and ensure supply.

**5.6 Mechanisms used by INGOs and ESAs**

Many of the innovative finance mechanisms and approaches already described in this paper involve INGOs and external support agencies (ESAs). It is important to recognise the potential roles ESAs can play to scale up demand-led approaches, as well as to provide capacity building and ‘soft’ skills, to ensure that

In recent years, advocacy by international agencies on water supply and sanitation issues has led to an increase in funding commitments from donor agencies, and in an increase in funds from individuals and businesses in developed countries. Some of these ‘solidarity’ mechanisms are explored in Box 16.

In addition to these solidarity mechanisms, which focus on the role of individuals in developed countries, corporate efforts, such as Ethos Water (owned by Starbucks) and the Global Water Challenge (spearheaded by Coca-Cola), are increasingly adding to the

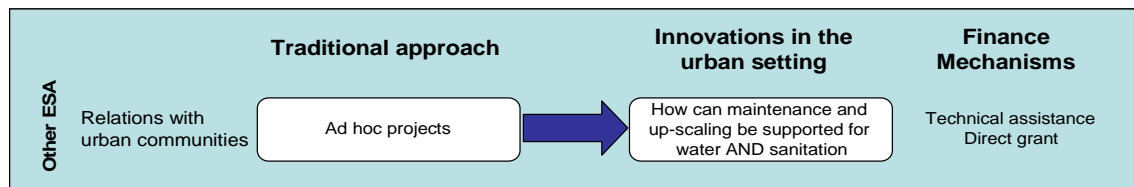


Figure 9: Features of innovation in financing mechanisms by ESAs

these innovative approaches result in sustainable, safe access to water supply and sanitation services. The main question for ESAs in this ‘new’ operating environment is how to steer technical assistance and grant funding in a way that results in positive outcomes.

range of ESAs working in the water sector. Based on the findings expressed in this paper, a challenge is to walk the line between needing to spend funds raised in western countries and spending the money in a way that triggers sustainable, long-term access to water supply and sanitation.

**Box 16: The Community Development Fund (CDF) in the Amhara Region, Ethiopia**

The CDF is an example of a triangular partnership between communities, microfinance institutions, and a (district level) support team. In Amhara, the CDF approach was introduced in two Woredas (the lowest level of government in Ethiopia) in 1996. The system works as follows:

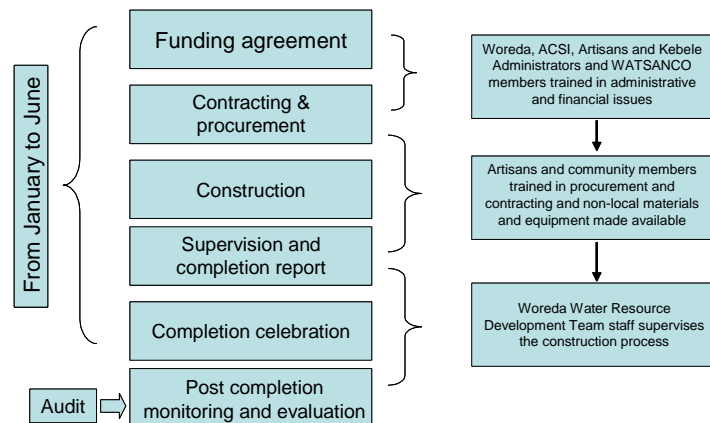
The CDF is housed by Amhara Credit and Savings Institution (ACSI), a microfinance institution that works throughout the region. To access CDF funds, a Woreda board must agree to open an account at an ACSI sub-branch. When the account is opened by a Board chairperson or representative, the regional CDF transfers grant-based funds into it, and these are then disbursed to specific community water management (WATSANCO) accounts. WATSANCO must open two separate accounts at the local ACSI office. The first is a savings account for community contributions, where the minimum start-up deposit must be at least 15% of the total investment costs, and for accumulating cash through

## Financing Shelter, Water and Sanitation

CENTER FOR SUSTAINABLE URBAN DEVELOPMENT | JULY 1-6, 2007

collected water fees. The second is a temporary account to receive the CDF transfer for constructing the water point. ACSI charges 3% commission for administering the funds.

WATSANCOs are responsible for the funds allocated through the CDF during the construction phase (including procurement), to encourage the decentralisation of financial management. Initial disbursement requests, monthly financial reports, and summaries of signed funding agreements are all registered with the CDF and their supervising consultant (Rambol-Finconsult). This diagram illustrates the project cycle.



In most Woredas, government and the private sector have been supportive and worked to promote the CDF approach, although the approach is entirely demand-led. However, demand has outpaced the capacity of Woredas to support it. For example, up front cash contributions to support the scheme have been higher than anticipated, often exceeding estimated O&M requirements fourfold. Where the mandatory community contribution to participate in the CDF is 15%, the average is over 20%, with some communities contributing 45% of total costs up front. There are still community members who cannot afford even the smallest contributions. In such cases communities have adopted a variety of coping mechanisms to ensure that all benefit from the CDF scheme.

Projects that have used the CDF have been shown to be more efficient than projects financed by direct funding. Procurement processes are less bureaucratic, as they do not need to follow strict government regulations. The WATSANCOs, who are responsible for the scheme, have improved their capacity to implement projects. Within communities themselves, problem solving capacity and empowerment to address problems directly have increased in other development areas such as education and health. The streamlined process has also improved the supply of material and equipment by the private sector. In practice, the number of water points constructed per year has increased through the CDF, with some communities reaching construction capacity. Projects are completed in a shorter period of time, from 60 days when the CDF approach was first introduced, to 28-35 days today.

The key lessons from the CDF are that, so long as the nature of the approach and the service level are acceptable, communities are able to use and manage their financial and other resources, as well as identify and mobilise sources of funds that are not directly apparent to outsiders. CDF projects are managed more efficiently and effectively than directly funded donor or government driven, supply-



oriented support projects, and projects have a greater degree of transparency in management as the WATSANCOs have a clear understanding of procurement and associated costs.

As more Woredas and communities use the CDF, replication time has also decreased. Within ACSI, WATSANCO savings accounts are growing in number and in terms of investment. Many individuals within communities are opening additional personal accounts, based on their positive experiences with the bank.

Source: Suomminen and Fonseca (2006)

In addition to these solidarity mechanisms, which focus on the role of individuals in developed countries, corporate efforts, such as Ethos Water (owned by Starbucks) and the Global Water Challenge (spearheaded by Coca-Cola), are increasingly adding to the range of ESAs working in the water sector. Based on the findings expressed in this paper, a challenge is to walk the line between needing to spend funds raised in western countries and spending the money in a way that triggers sustainable, long-term access to water supply and sanitation.

Lessons can be learned from experience in developed countries. In the United States, the Drinking Water State Revolving Fund has allowed even poor communities to finance the expensive capital costs required for infrastructure investment. The principles guiding these State Revolving Funds have been transferred with some success to India, South Africa, the Philippines and Mexico. The International Association of Local and Regional Development Funds in Emerging Markets (IADF) is a partner in the Global Development Alliance, and seeks to improve education, training, and coverage of municipal development funds and other specialised financial institutions that lend to local governments throughout the world.<sup>59</sup> Whether it is possible to create similar types of funds in developing countries that lack a strong governance framework is unclear; however, the same guiding principles are universally

applicable – using understandable and relatively simple finance mechanisms to support project preparation and financing for basic infrastructure.

### **Part III Mapping out questions and next steps**

#### **6. The challenges for financing mechanisms to meet the needs of the urban poor**

##### **6.1 Macro aspects**

##### **6.1.1 The need for longer timeframes and a combination of supply-side and demand-side approaches**

In understanding the use of ‘innovative’ finance mechanisms, understanding the approach and the context for their use at a local level is equally important. Most critically, their effectiveness is contingent on an appropriate balance between demand-led approaches for (cheaper) operational design and financial management, and supply-side approaches to provide strategic capacity building and facilitating support to enable scaling up.

Donors try to do too much at once, rather than commit to a long-term programme with a transition period that includes consideration and sensitivity to political and economic reality. Part of the challenge here is that donors lack the capacity to implement these innovative approaches, as well as the incentives – this is true at least for programmatic approaches, local currency finance, and demand-led approaches. Programmatic approaches, and it seems, all

<sup>59</sup> See <http://www.developmentfunds.org>

demand-led approaches, take time to develop, and need to be participatory. At the same time, these approaches need clear linkages with actual finance, whether a budget or a source of finance. Accountability and transparency are critical in all forms of innovative mechanisms.

Traditional finance mechanisms and their accompanying supply-side thinking are often deeply entrenched in the incentives and structures of development finance institutions, national governments, and other external support agencies, as well as in the mindset of the poor, who are traditionally viewed as beneficiaries of aid, rather than empowered agents of change. Consequently, the success of innovative mechanisms requires longer timeframes, with learning and coordination components, patience, and a consistent local presence within poor communities to take root. Experience suggests that once the mechanism does take root and is successful, uptake ensues in other communities and institutions and there is a multiplier effect.

Not all demand-led approaches work. Not all attempts at innovation succeed. But there is a need to keep working at it, and to take risks. Just because a demand-led innovation does not work does not imply a shift back to supply-side approaches.

**6.1.2 New risks require holistic interventions**

The shift from traditional to innovative finance involves different and new forms of risk, particularly for mechanisms that are reliant on cost recovery. In many cases, social mobilisation is required to encourage cost recovery, and for users and utilities to make the link between better service delivery and cost recovery, so reducing the risk of failure. Combinations of different innovative finance mechanisms and approaches are needed to address these different risks.

In urban areas, water and sanitation must be seen within a broader context of shelter and

livelihoods for poverty reduction.

Consequently, the costs associated with financing access to WSS must also consider the reduction in the costs of healthcare, improvements in housing and education, and the increase in economic activity, once safe and secure access to WSS is provided.

**6.1.3 Innovative financing mechanisms are still anecdotal and context specific**

Greater dissemination of experience and information about successes, failures and lessons learned is needed across all regions, particularly regarding the use of innovative approaches. However these, when considered as a fraction of the total amounts of finance targeted to the water sector, remain at the fringes of mainstream development.

All the regions considered for this report – Asia, Africa, and Latin America/Caribbean – have experience with innovative finance mechanisms; all regions have middle-income and lower-income countries. On the whole, regional differences do not seem to matter in terms of whether one type of approach or another will be successful;<sup>60</sup> however, success seems to be very context specific. For example, because one utility in South Africa is able to launch a bond does not necessarily mean that all utilities in South Africa will be able to do so, or that launching a bond is a desirable financing approach to reach the poorest in all regions.

The differentiation between low-income and middle-income countries may be less important when discussing the needs of the urban poor. What does seem to matter is how well the sector is able to work within, and influence, the country's enabling environment. For example, capital markets exist in as many low-income

---

<sup>60</sup> An exception could be the LAC region, where direct democracy and social movements may influence approaches to community mobilisation and development, seen most prominently in the use of participatory budgeting.

countries as middle-income countries; the difference between the two is that the latter have a better ability to serve those who are better off.

**6.1.4 Innovation is not the same as pro-poor**

Many innovative finance mechanisms that have been discussed are interesting for the ways in which they address the many risks posed by the water sector, but their direct impact on the poor is not always apparent. For example, the use of guarantees has been supported by many agencies in recent years; yet this mechanism itself poses considerable challenges, including currency issues, since most donor agencies are unable to provide funding in local currency. Capacity is required within donor agencies to structure and provide guarantees. Similarly, it is not yet clear whether the proliferation of project development and financing facilities, which often take several years just to set up, will have any tangible benefits for the poor.

**6.2 Meso level**

**6.2.1 The long route from approval to disbursement, to impact**

The success of programmatic support varies and depends on the implementation capacity of the country government. Municipalities need to be well organised. Funding needs to be channelled to the local level as directly as possible. Public funding needs to be available to other key actors as well to support the process (e.g. NGOs). There is a danger of too much focus on investment rather than on the sustainability of investments to lead to lasting access for the poor. Further, the poor remain an unattractive market for tendering. Delays in implementation can be enormous, and the whole public disbursement mechanism might need to be revised. Monitoring systems are notoriously weak in most countries. Setting indicators is insufficient to ensure follow up.

**6.2.2 Integration of facilitation skills and support needed throughout pilot programmes to avoid creating islands of success**

In nearly all of the successful cases outlined in this report, ESAs provided transaction support, and worked in a facilitating way to build the technical and financial skills of project implementers, whether individuals, communities, or private operators. In some cases, such as WSP's work in Kenya, this transaction support is institutionalised through the pilot project, which aims to build a new, local market sector for business development specialists who can provide technical and financial audits, as well as support projects through implementation and post implementation. This provides a route to scaling up and prevents the (pilot) project becoming an island of success.

**6.2.3 Making finance more accessible**

There are many facilities and funds to be accessed in the water and sanitation sector. However, only a few, mainly international organisations are able to capture those funds. Project preparation costs and process should be simplified as much as possible, and, where indicated, standard operating procedures for assessing the viability of projects should be developed. Wherever possible, these should be developed with community members to ensure that they are understood, so that facilities and funds can be accessed by a much wider range of stakeholders, particularly locally based institutions and groups.

**6.3 Micro level**

**6.3.1 Sometimes additional finance is not the solution**

The ability of a utility to provide efficient and effective water services in urban areas depends strongly on its internal operating environment and culture, but is also influenced considerably by the external enabling environment, which includes the water sector environment and the financial services sector.

Scaling up finance is often understood to mean mobilising additional resources to finance water services. An alternative and more correct understanding is the scaling up of service delivery of safe water and sanitation, with finance (most likely innovative finance) serving as a catalyst for this change. Importantly, while demand-led approaches have been seen to work more effectively than one-off, supply-driven approaches, the most successful retain the key elements that grounded their success in the first place: proximity to customers, elements of cost recovery, and community-led decision making and effective management.

**6.3.2 The role of the intermediate level in scaling up community innovations**

Often, the champions of innovation in finance mechanisms are communities themselves, bolstered by a strong leader who is willing and able to take risks. However, it is often difficult to scale up the success of a local, demand-led approach without buy-in from the regional government and support from ESAs. In particular, ESAs with a strong presence on the ground and a focus towards implementation have proven particularly beneficial at building capacity and providing the ‘soft’ skills needed to scale up context-specific initiatives.

**6.3.3 Limited product diversification in microfinance**

Most loans in microfinance are designed for income-generating activities. When loans are extended to other areas such as housing or education, the initial conditions of the loans usually remain unchanged – i.e., loan cycles are not adapted. Microfinance provides an opportunity for greater coordination of development services, given its potential in combining health, nutrition, housing improvements and educational services. Water and sanitation is sometimes included in ‘improved housing’, but microfinance organisations have low levels of awareness and information about how to develop specific products for the water sector. The exception is

for infrastructure, where loans are limited to capital investments such as water storage facilities which have a more certain short-term return. MFIs have capacities and experience in managing credit, but many have limited capacity in understanding the nature of demand for water sector-related finance, or in helping poor communities prepare projects that do not have a straightforward income generation component. Closely monitoring loan use and impact is not typically part of an MFI’s core competencies.

**6.3.4 Financial sustainability of microfinance institutions**

The costs of providing microfinance are not low, as the small size of loans and the increased need for follow-up during the loan cycles result in higher overheads. These costs are sometimes included in the loan, making interest rates too high. While many microfinance institutions claim they are sustainable and that loan losses are lower than the rate of defaults amongst customers of big banks, many of these are nongovernmental or not-for-profit organisations lacking transparent monitoring systems and with overheads that are highly subsidised by donors. From a survey of 1,000 providers of microfinance and other initiatives in sub-Saharan Africa, only 20 were estimated to be financially sustainable. Some of these organisations took five years to reach break-even point and up to that point they survived with donor support, including soft loans or grants. But donors are calling for greater effectiveness, which means they will only fund loans and not all the upstream work required to ensure the quality of the loans.

**7. Identifying knowledge gaps**

This section focuses on the knowledge and data gaps in our understanding of finance to facilitate improvement at the scale of water and sanitation for the urban poor.

**7.1 Scale of urban poverty**

First and foremost, it is important to recognise that the scale of urban poverty is often

underestimated, which directly affects any discussion on access to water supply and sanitation services, and how different interventions and approaches might be financed to achieve scale. Some of the questions that emerge in this area of thinking include:

- What is the scale of urban poverty and what sub-groups are living in these conditions?
- What is the capacity of different vulnerable groups to pay for water and sanitation services?
- What is our understanding of scale, in terms of what is the acceptable timeframe for achieving scale? In many of the cases and examples, experiences are 10 and even 20 years in the making.

Sustainable financing and scaling up must recognise the linkages between water, sanitation, housing and other factors in the urban environment. There is a risk that experiences with innovative finance mechanisms are not understood or documented in sufficient detail to understand how they work (or don't work), and why. There is a need for more data and evaluation of how things actually worked and why, taking into consideration the broader context and operating environment, whether for a technology, an approach or a finance mechanism.

### **7.2 Data on expenditures**

Data on expenditures by different stakeholders is very sparse. Data on what and how NGOs spend their funds is particularly lacking. The exact financial contribution made by these charitable organisations is impossible to evaluate since the sector is fragmented and no reliable existing study has attempted to aggregate those contributions, at least at the global scale.

- How can all organisations and governments working in the water sector increase their transparency and flows of

financing information to the sector, in a way that everyone understands, in order to raise opportunities for cooperation in urban poor and peri-urban areas?

- ODA financing is usually input-based, with funds provided upfront for a particular investment project and with limited means available for verifying their actual impact on vulnerable groups. How can this be made more output based, and how can the impact on target groups be better monitored?
- How can information and financing be democratised?

### **7.3 Per capita cost data**

Per capita cost estimates should reflect capital maintenance expenditures, ongoing support costs and indirect support costs of WASH. Updated costs should be discussed and adopted at a country level by donors and other sector actors, to feed into budget projections and investment planning for both large and small projects. It seems a very simplistic issue, but in fact cost underestimation has been one of the single most direct causes of failure in programmes, projects and utilities and contributes to an inability to move from "pilot projects" to scale.

- How can unit costs be assessed and provided, broken down by hardware and software, and recorded in a way that allows for a transparent cross-comparison with other countries, regions, and years?

### **7.4 Increasing the learning curve in the sector**

Traditional aid arrangements, and the relationships between donors and governments, result in a tendency to 'spin' results and findings in their best light, rather than admitting freely that something has not worked, and seeking to learn useful lessons.

- How is it possible to share information about failures as well as successes relating to financing mechanisms that seek to take services to scale and reach the poorest?

- How can organisations in the sector try new approaches, take risks and learn from experiences?

#### **7.5 The sanitation problem**

Data on innovations in financing sanitation is lacking and many successful approaches do not factor in the support costs and the amount of household investments. It is not clear how things work or if they are scaleable.

- How can better assessments be made of the true costs and results of financing sanitation services, and how can promising approaches be better evaluated?

**Appendix 1:**

**Acronyms and glossary of financial terms used in this document**

**Acronyms**

BoTT	Build Operate Train Transfer
CBO	Community Based Organisation
CDF	Community Development Fund
CIDA	Canadian International Development Agency
CLIFF	Community Led Infrastructure Financing Facility
DBL	Design-Build Lease
DFI	Development Finance Institution
DFID	UK Department for International Development
EBRD	European Bank for Reconstruction and Development
ESA	External Support Agency
EUWI	European Union Water Initiative
FNDAE	Fonds National des Adductions d'Eau
GBS	General Budget Support
GDP	Gross Domestic Product
INGO	International Non-Governmental Organisation
LAC	Latin America/Caribbean
LIC	Low-Income Country
MDF	Municipal Development Fund
MDG	Millennium Development Goal
MFI	Micro-Finance Institution
MIC	Middle-Income Country
MoU	Memorandum of Understanding
NGO	Non-Governmental Organisation
OBA	Output-Based Aid
ODA	Official Development Assistance
O&M	Operation and Maintenance
PFM	Public Financial Management
PLANASA	Plano Nacional de Saneamento (Brazil)
PPIAF	Public-Private Infrastructure Advisory Facility
PPP	Purchase Power Parity
PRSP	Poverty Reduction Strategy Paper
SIDA	Swedish International Development Cooperation Agency
SSIP	Small Scale Independent Provider
SWAp	Sector Wide Approaches
WASH	Water Sanitation Hygiene
WSS	Water Supply and Sanitation
WSP	Water and Sanitation Program

**Glossary of financial terms**

<b>Term</b>	<b>Definition</b>
Absorption capacity	Absorption capacity refers to the ability to manage new funds effectively. There is often a perceived (and often real) limit to implementation and funds are left unspent.
Bond	A bond is a method of borrowing used by private companies, governments or municipalities consisting of the issue of fixed-interest securities, repayable on a specified date. Certain government bonds have no fixed redemption date, and can be sold at their prevailing market price.
Concessional loan	Loan, usually to poor countries or needy borrowers, on more favourable terms than market rates (e.g., lower interest, longer maturity, grace periods before payment of interest or payment of principal). Also known as soft loan.
Connection subsidy	A one-time subsidy provided by government or another party that covers – either partially or in full – the cost of connection to a networked service.
Contingent liability	Liability that is difficult to quantify, or which may or may not come to pass.
Credit enhancement	A credit enhancement is a means for a company or municipality to improve its debt or creditworthiness. Credit enhancement in the water sector could involve a “letter of comfort”, a letter of credit, or a guarantee from governments or DFIs to buy down the real or perceived risks of providing debt.
Debt/equity swap	Swaps provide an opportunity for borrowers and lenders to change key terms of a financing transaction, in predefined circumstances, e.g., interest rates, currency used for repayment, maturity of the loan, etc. A debt/equity swap converts outstanding debt (e.g., in a utility) into an equity stake (partial ownership).
Demand-led	This refers to a development process where beneficiaries are involved in, and ideally lead, decision making about technology, governance, and finance.
Direct grant	A direct grant is provided by a donor agency directly to a project, without going through higher levels of government.
Equity	Equity is shares in a company, owned by equity investors, entitling them to dividend payments out of profits. Ordinary shares entitle their owners to vote at the company's annual general meetings, but have a residual claim on profits available for distribution. Preference shares have a prior claim on profits, but their dividend level is capped.
Financing facility (aka national dedicated fund, sinking fund)	A financing facility is a source of finance dedicated to particular types of projects or sectors. It can fund specific projects, or sector investment programmes as identified through national planning processes. It is generally created through grant or loan funding from donors, as with a trust fund, but is meant to have more flexibility in its operating procedures and guidelines, and be managed autonomously. It also tends to be interested in supporting the development of commercially based funding for infrastructure as a whole, understanding that many countries are unable to support more traditional forms of commercial finance (e.g., project finance).
Finance mechanism	This refers to any means through which finance is provided. This can include grants, loans, equity, guarantees, and insurance, structured in a variety of ways to suit the risk profile of the recipients.
Fiscal intercept	A fiscal intercept is a form of guarantee given to borrowings made by sub-



## Financing Shelter, Water and Sanitation

CENTER FOR SUSTAINABLE URBAN DEVELOPMENT | JULY 1-6, 2007

Term	Definition
	national bodies: any default on their debt servicing is recovered from their fiscal transfer from a central government.
Fiscal transfer	Financial transfer refers to a fiscal transfer from the national budget to sub-sovereign bodies such as local governments, parastatal bodies, regional development authorities, etc. Such transfers may be an instrument of subsidy to specific types of public services, a means of redistributing tax revenues from richer to poorer regions, etc
Guarantee	A guarantee is a contract by a third party C to underwrite a financial commitment entered into by A to B. Used by national governments to reduce the risks of borrowing and bond issues by their sub-sovereign bodies, and by international agencies to increase the creditworthiness of developing country institutions and to support specific projects within them. Common types of guarantees are Political Risk Insurance, Partial Credit Guarantees, Partial Risk Guarantees and Participations.
Lease	A lease is a long-term contract for the use of an asset in exchange for a set of regular payments over a defined period of time. For example, in the water sector, utility vehicle fleets are often leased.
Leveraging	Leveraging is using an injection of finance to induce other contributions, thereby generating a multiple of the original amount. It also refers to the ratio of loan finance to equity in a company's capital structure.
Local capital market	Some larger countries have well established local capital markets (India, China, Brazil, South Africa...), able to satisfy a good part of local borrowing needs. Funds raised on the local capital market are immune from devaluation risk. These markets typically offer short-term loans, and need to evolve to satisfy the needs of water sector.
Microfinance	Microfinance refers to schemes for extending loans to small businesses, farmers and other borrowers who cannot access commercial bank loans. In the water sector, microfinance is used to finance network connections, boreholes, and even community-sized projects.
Municipal development fund (MDF)	MDFs can work as substitutes for grants and fiscal transfers to local authorities, or act as a bridge to private credit markets. The objective is to stimulate a market for domestic finance, while introducing local authorities to municipal borrowing.
Output-based aid (OBA)	OBA is a strategy for using explicit performance-based subsidies to support the delivery of basic services where policy concerns would justify public funding to complement or replace user fees. The core of the OBA approach is the contracting out of service delivery to a third party, usually a private firm, where payment of public funds is tied to the actual delivery of these services.
Partial credit guarantee	A partial credit guarantee represents a promise of full and timely debt service payment up to a predetermined amount to a creditor, in case a borrower defaults. The guarantee may be flexible over the course of the loan. In the water sector, partial credit guarantees are interesting because they can help a borrower to match assets and liabilities better by obtaining local currency financing, which addresses the foreign exchange risk.
Partial risk guarantee	Partial risk guarantees cover private lenders against the risk of a government-owned entity failing to perform its obligations with respect to a private project.

## Financing Shelter, Water and Sanitation

CENTER FOR SUSTAINABLE URBAN DEVELOPMENT | JULY 1-6, 2007

Term	Definition
	The risks covered include changes in law, expropriation and nationalisation, or failure to issue licenses, approvals, and consents in a timely manner.
Private sector participation	This describes a situation where a private company or investor bears a share of the project's operating risk. Private sector participation can involve international or local private firms.
Programmatic approach	Such an approach is an attempt at coordination between governments and donor agencies. Programmatic approaches are intended as multi-year, coordinated funding mechanisms (including monitoring and evaluation activities) to support and strengthen policies, as well as contribute to increased donor harmonisation.
Project development facility	Project development refers to all administrative, financial, and technical considerations necessary to develop a comprehensive and feasible project idea. In essence, project development is about turning planning exercises – such as demand-led activities undertaken during the Poverty Reduction Strategy Paper (PRSP) and Sector Investment Plan (SIP) processes – into tangible projects that can attract finance, whether from public government budgets, or private sources. A project development facility is a programme or initiative whose core purpose is to support the creation of a project stream.
Tariffs	Tariffs are fees charged for water/sanitation service provision. Tariffs can be charged at the full cost of providing service, or higher or lower, depending on the subsidy scheme.
Technical assistance	Technical assistance is the provision of a range of support to improve the impact and strength of development interventions. Technical assistance can range from trainings and workshops through to providing advice and input to project design, development, and implementation, to evaluation and policymaking.
Working capital loan	A working capital loan is a short-term loan tied to expected cash flow. For water utilities, working capital loans can help to cover operating expenses and purchase small assets in the lag time between accounts being payable and being paid.

Sources: [http://www.irc.nl/content/download/25323/280296/file/TOP13\\_FinFacilities\\_06.pdf](http://www.irc.nl/content/download/25323/280296/file/TOP13_FinFacilities_06.pdf);  
<http://www.financingwaterforall.org/index.php?id=1103>; [www.investopedia.com](http://www.investopedia.com); [www.gpoba.org](http://www.gpoba.org)

**Appendix 2: Summaries of case studies:  
Innovations in financing water and  
sanitation**

The full versions of case studies are in a companion document to the Rockefeller Foundation Urban Summit, Case Studies: Innovations in Financing Urban Water & Sanitation. These summaries show that innovations in financing can happen at many different levels. The first four summaries from Togo, Cambodia, Côte d'Ivoire and Bangladesh show innovations that are mainly local, through NGOs and MFIs, and in the case of Phnom Penh by the city's water authority. The South Africa case study demonstrates an initiative delivered through municipalities. The Ghana case study looks at innovative financing in three regions, while the Bolivian experience of decentralising financing to a private cooperative utility is national in scope.

**Microfinance institutions facilitate water  
access to poor households: Lomé, Togo**

This paper focuses on a private partnership to deliver water to poor households in Lomé (Togo). The mechanism developed is based on a credit scheme to finance household water points. The innovation in this mechanism is the involvement of private entrepreneurs and MFIs, as well as the lack of involvement by the state, to deliver water to households. Togo's National Water Company estimates that it needs over US\$180 million to improve water services in Lomé. Togo's political situation is not favourable for overseas investments although micro-investment is popular and supports a range of revenue generating activities. Lomé's water supply system is facing many problems due to a lack of productive capacity and widespread inefficiencies throughout the existing network. The average water consumption in Lomé is 23 litres per capita per day, which is comparable to rural areas and means that the population cannot get water when it needs it. Only households close to the water station regularly have access to

water during the day. Some areas have to wait overnight.

This case is based on a study undertaken by CREPA – Centre Régional pour l'Eau Potable et l'Assainissement à faible coût – to improve financial and physical accessibility of water in poor and peri-urban areas in Lomé. It focuses on financing aspects that can help improve water access through appropriate water technologies in the framework of the failure of the TDE to deliver services.

**Evariste Kouassi-Komlan**  
CREPA Headquarters, Burkina Faso

**Incorporating a pilot fund for financing  
domestic water connections for the urban  
poor: Phnom Penh, Cambodia**

This paper focuses on a fund that supports the provision of water connections to urban 'poor' households in Phnom Penh and looks to achieve the leverage of additional poor household connections through the provision of this fund. The fund was provided by the Phnom Penh Water Supply Authority (PPWSA) to households identified as poor. Ongoing efforts were made both to communicate the availability of the fund and to seek feedback from poor households on continuing barriers to connecting. Financial support from the connection fund has directly provided subsidies for 4,021 connections and enabled and leveraged an additional 10,429 poor household connections across 88 identified communities.

**D. O'Leary**

**Microfinance for water and sanitation in a  
poor urban settlement in Abidjan: Case of  
Koweit, Côte d'Ivoire**

Three years ago, CREPA – Centre Régional pour l'Eau Potable et l'Assainissement à faible coût – set up a microfinance mechanism to extend water and sewer connections to the poor in Abobo-Sagbé, a peri-urban area of Abidjan. Through the use of this mechanism, 250 households were able to receive services from the National Water Service Provider,

SODECI. Building on this success, SODECI sought to extend the mechanism and approach to other settlements, including Koweit, another peri-urban area of Abidjan. The case addresses the institutional, financial and social arrangements that make this mechanism successful and sustainable.

Different financial mechanisms have been attempted in the past to address financial accessibility of water and sanitation services in Abidjan, but most failed. The mechanism and approach outlined here demonstrate the importance of improving financial accessibility to the poor, in order for them to pay for basic services. This can be accomplished by creating an enabling environment that includes basic elements such as availability of water resources, administrative services for connecting households, situating resources close to the users, and availability of credit at low interest rates, which will involve credible microfinance institutions in the process. This study also illustrates the importance of developing capacity at a local level, to enable a local water committee to perform administrative, connection, operation and maintenance works on behalf of the utility.

**Evariste Kouassi-Komlan**

CREPA Headquarters, Burkina Faso

**NGOs mediating between utility and slum dwellers to secure water for the urban poor: Dhaka, Bangladesh**

This case study documents the process by which the NGO Dushtha Shasthya Kendra (DSK) helped residents of some of Dhaka's squatter settlements to gain access to public water services. The mechanism developed is based on NGOs acting as guarantors for slum communities to finance community water points. The innovations in this mechanism are that the utility agrees to provide water points to communities without legal tenure, and DSK's strategy of acting as an intermediary between poor urban communities and the water utility agency to facilitate water and sanitation provision at regulated prices. Another key element in this approach is DSK's efforts to

encourage community ownership and build community capacity through various saving and credit groups and water management committees. DSK supported each community until it had earned back its initial investment; thereafter each community was equipped to manage and maintain the new facilities itself.

**Rokeya Ahmed**

Poverty & Equity Adviser, WaterAid  
Bangladesh

**Municipal Infrastructure Grant Programme, South Africa**

This paper focuses on a municipal infrastructure grant programme to provide all South Africans with at least a basic level of water and sanitation services by the year 2013. The MIG programme is a key part of government's overall drive to meet the Millennium Development Goals and alleviate poverty in the country, and thus infrastructure is provided in a manner where employment is maximised and opportunities for small enterprises to grow are created. The programme is innovative in that it provides grant finance aimed at fully subsidising the capital costs of bringing basic services to poor households. The mechanism itself is innovative in that service delivery is decentralised to municipalities that receive their share of the grant directly into their bank accounts. Funds are spent against water services development plans and registered projects. The framework for the programme is well developed with a clear policy guiding the use of the grant, funding allocations legislated each year, and a set of structures, programme systems and procedures from national to local level.

**Jean de la Harpe**

Municipal Infrastructure Technical Task Team

**Association of Water and Sanitation Development Boards (AWSDBs), Ghana**

The AWSDB reserve fund is a credit union type of financing scheme in the three northern regions of Ghana. It was established as a revolving fund to meet the financial requirements for investments in water and sanitation for member water boards. The fund was established through pooling part of communities' contributions to capital costs and investing those funds for financial returns. Member water boards are able to mobilise resources to pay their contribution to the Community Water and Sanitation Agency and access loans for major repairs, rehabilitation and expansion of their water systems. The AWSDBs also provides non-financial services to member boards. Starting with a membership

of 14 water boards, the association has currently 36 boards from towns from the regions.

**Kingsley Acheampong,**

TREND, Ghana

**Decentralised and Direct Finance from Multilateral Agencies to SAGUAPAC: Santa Cruz De La Sierra, Bolivia**

This case study analyses the characteristics and usefulness of a new form of decentralised and direct financing to a private utility. This utility is a cooperative and works in partnership with the World Bank, the Andean Promotion Corporation and the national government. The mechanism is part of the Bolivian Urban Infrastructure Project financed by the World Bank.

**Alfonso García Salaues**

**References and further reading**

AFD-FEPP (2005). *Water Supply and Sanitation Project in Small Towns of Cambodia*. A report for the AFD, December 2005. Paris.

Agbenorheri, Maxwell and Fonseca, Catarina (2005). *Local financing mechanisms for water supply*. WELL Briefing Note 16. WEDC, Loughborough, UK.

<http://www.lboro.ac.uk/well/resources/Publications/Briefing%20Notes/WELL%20BN%2016%20A3%20No%20crops.pdf>

Annamradju, S., Calaguas, B. and Gutierrez, E. (2002). *Financing Water and Sanitation*. Water Aid, United Kingdom.

Baindur, Vinay (2005). *For the people, by diktat*. India Together Op-Ed, 5 September 2005. <http://www.indiatogether.org/2005/sep/gov-nurm.htm>

Ballance, T. and Trémolet, S. (2005). *Private Sector Participation in Urban Water Supply in Sub-Saharan Africa*. A study financed through German Development Cooperation commissioned by KfW and GTZ. [http://www.kfw-entwicklungsbank.de/DE\\_Home/Fachthemen/Kooperatio17/Privatsekt98/WaterPSPinSub-SaharanAfrica.pdf](http://www.kfw-entwicklungsbank.de/DE_Home/Fachthemen/Kooperatio17/Privatsekt98/WaterPSPinSub-SaharanAfrica.pdf)

Bill and Melinda Gates Foundation (2006). *Landscaping and Review of Approaches and Technologies for Water, Sanitation and Hygiene. Opportunities for Action. Main Report*. <http://www.irc.nl/page/35950>

Bos, Annette and Schwartz, Klaas (2007). *Donor harmonization and alignment in the water sector*. WELL Briefing Note 35. Loughborough, UK. <http://www.lboro.ac.uk/well/resources/Publications/Briefing%20Notes/WELL%20BN%2035.pdf>

Brikké, François (2007). *SWAPs: to be or not to be? Main points of the debate*. Presentation at

World Bank Water Week 2007.

[http://siteresources.worldbank.org/INTWRD/Resources/Francois\\_Brikke\\_WorldBank\\_SWAPS\\_to\\_be\\_or\\_not\\_to\\_be.pdf](http://siteresources.worldbank.org/INTWRD/Resources/Francois_Brikke_WorldBank_SWAPS_to_be_or_not_to_be.pdf)

Brocklehurst, C. and Janssens, J. (2004). *Innovative Contracts, Sound Relationships: Urban Water Sector Reform in Senegal*. Water Supply and Sanitation Sector Board Discussion Paper Series, Paper No.1, World Bank, January 2004. [http://www.worldbank.org/watsan/pdf/WSS\\_Senegal.pdf](http://www.worldbank.org/watsan/pdf/WSS_Senegal.pdf)

Bulir, A. and Hamann, J. (2006). *Volatility of development aid: from the frying pan into the fire?* IMF Working Paper WP/06/65, March 2006. <http://www.imf.org/external/pubs/ft/wp/2006/wp0665.pdf>

Cardone, Rachel (2006). *Studies on financial instruments to facilitate investment for water infrastructure*. African Development Bank, unpublished.

Cardone, Rachel and Fonseca, Catarina (2003). *Financing and Cost Recovery*. IRC Thematic Overview Paper (TOP). <http://www.irc.nl/page/7582>

Cardone, Rachel and Fonseca, Catarina (2006). *Experiences with Innovative Financing: Small Town Water Supply and Sanitation Service Delivery*. Background paper prepared for the UN-HABITAT publication, Meeting Development Goals in Small Urban Centres: Water and Sanitation in the World's Cities. [http://www.fr.irc.nl/content/download/26959/289739/file/UN\\_Habitat\\_Innovative\\_Finan.pdf](http://www.fr.irc.nl/content/download/26959/289739/file/UN_Habitat_Innovative_Finan.pdf)

Cardone, Rachel and Catarina Fonseca (2006(b)). *Financing Facilities for the Water Sector*. IRC Thematic Overview Paper 13. <http://www.irc.nl/page/29415>

Cardone, Shah and Waughray (2005). *EU Water Initiative Finance Working Group Final Report*. DFID, UK.

[http://www.euwi.net/download\\_monitoring.php?id=508](http://www.euwi.net/download_monitoring.php?id=508).

Cernuschi, Tania and Platz, Daniel (2006). *Financing basic utilities for all – a survey of issues*. Draft background paper, Friedrich Ebert Foundation and UN Financing for Development Office. New York.

[http://www.fes-globalization.org/publicationsNY/Financing\\_basic\\_utilities\\_background\\_paper.pdf](http://www.fes-globalization.org/publicationsNY/Financing_basic_utilities_background_paper.pdf)

Clermont, F. (2006). *Official Development Assistance for Water from 1990 to 2004*. World Water Council, World Water Forum.

[http://www.worldwatercouncil.org/fileadmin/wc/Library/Publications\\_and\\_reports/FullTextCover\\_ODA.pdf](http://www.worldwatercouncil.org/fileadmin/wc/Library/Publications_and_reports/FullTextCover_ODA.pdf)

Cockburn, M. (2005). *Output-based Aid. Supporting Infrastructure Delivery Through Explicit and Performance-based Subsidies*. OBA Working Paper Series, Paper No 4. The World Bank, Washington, D.C.

[http://www.gpoba.org/docs/WorkingPaperNo4\\_WhatisOBA1.pdf](http://www.gpoba.org/docs/WorkingPaperNo4_WhatisOBA1.pdf)

Cosgrove, W. and Rijsberman, F. (2000) *World Water Vision: Making Water Everybody's Business*. Earthscan Publications Ltd, London.

<http://www.worldwatercouncil.org/fileadmin/wc/Library/WWVision/TableOfContents.pdf>

d'Cruz, Celine and Satterthwaite, David (2006). *The role of urban grassroots organizations and their national federations in reducing poverty and achieving the Millennium Development Goals*. Global Urban Development, Volume 2, Issue 1.

d'Cruz, Celine and Satterthwaite, David (2004). *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*. Background report for the Millennium Task Force on Improving the Lives of Slum Dwellers. IIED, London.

de Renzio, Paolo (2006). *Aid, Budgets and Accountability: A Survey Article*, Development Policy Review, Vol.24, No.6: 627-645.

ERM in association with Stephen Myers Associates and Hydroconseil (2005). *Models of Aggregation for Water and Sanitation Provision*. Water Supply and Sanitation Sector Board Working Note, Paper No. 1, January 2005. [http://iris37.worldbank.org/domdoc/PRD/Other/PRDDContainer.nsf/All+Documents/85256D2400766CC7852570060066E48A/\\$File/WSSWN1Aggregation.pdf](http://iris37.worldbank.org/domdoc/PRD/Other/PRDDContainer.nsf/All+Documents/85256D2400766CC7852570060066E48A/$File/WSSWN1Aggregation.pdf)

Evans, Barbara (2007). *Understanding the Urban Poor's Vulnerabilities in Sanitation and Water Supply*. Paper prepared for the Rockefeller Foundation Urban Summit in Bellagio, July 2007.

Fisher, Mike (2005). *Allocating National Resources in the Water and Sanitation Sector*. WELL Briefing Note 11. WEDC, Loughborough. <http://www.lboro.ac.uk/well/resources/Publications/Briefing%20Notes/BN11%20Allocating%20Resources.htm>

Fonseca, Catarina (2007). *Quantifying the Cost of Delivering Safe Water, Sanitation and Hygiene Services: An overview of cost ranges and trends*. IRC report prepared for the Bill and Melinda Gates Foundation. Unpublished.

Fonseca, Catarina and Cardone, Rachel (2006). *Cost estimates, Budgets, Aid and the Water Sector: What's going on? An analysis illustrated with data from 12 Sub-Saharan African countries*. WELL Briefing Note, September 2006. <http://www.irc.nl/page/32526>

Franceys, R., Perry C. and Fonseca, C. (2006). *Guidelines for User Fees and Cost Recovery for Water, Sanitation and Irrigation Projects*. IRC/Cranfield report for the African Development Bank. Unpublished

Fugelsnes, T and Mehta, M. (2003). *Water Supply and Sanitation in Poverty Reduction Strategy Papers in Sub-Saharan Africa: Developing a Benchmarking Review and Exploring the Way Forward*.

Global Water Partnership (2000). *Towards water security: Framework for Action*. Stockholm, Sweden.  
<http://www.cmo.nl/pe/pe7/pe-773.pdf>

Gomez-Lobo, A. (2001). *Incentive-Based Subsidies: Designing Output-Based Subsidies for Water Consumption*. Viewpoint 232. World Bank, Washington, D.C., June 2001.  
<http://rru.worldbank.org/Documents/PublicPolicyJournal/232Gomez-531.pdf>

Leighland, James. *Infrastructure PPPs: Project Preparation Facilities*. Presentation by Regional Programme Leader, PPIAF Africa (unpublished).

Gutierrez, E., Mwambwas, S. and Wake, W. (2004). *Getting to the True Nature of the Problem: The Case of Financing Rural Water Supply and Sanitation in Zambia's Poverty Reduction Strategy*. WaterAid Zambia, Lusaka.

Imparato, Ivo and Ruster, Jeff (2003). *Slum Upgrading and Participation: Lessons from Latin America*. World Bank, Washington, D.C.

Mackenzie, Sarah and Grondin, Pierre-Marie (2006). *Financing Access to Water and Sanitation for all: the place of solidarity financing mechanisms*. Ps-Eau, Paris.  
[http://www.financingwaterforall.org/fileadmin/Financing\\_water\\_for\\_all/Other\\_documents/SF\\_Final\\_Report\\_UK\\_Dec06.pdf](http://www.financingwaterforall.org/fileadmin/Financing_water_for_all/Other_documents/SF_Final_Report_UK_Dec06.pdf)

Mehta, Meera and Fugelsnes, Thomas (2006). *Mobilizing market finance for water utilities in Africa*. Summary Report of practitioner's workshop, Pretoria, South Africa, August 7-9, 2006.

<http://www.wsp.org/filez/pubs/2122007120644-MobilizingMarketFinanceforWaterUtilitiesinAfrica.pdf>

OECD (2004). *Aid for water supply and sanitation*. Report prepared at the request of the International Water Academy. Oslo, Norway: International Water Academy.  
<http://www.thewateracademy.org/docs/OECD-report.doc>

Pilgrim, N. et. al. (2004). *Town Water Supply and Sanitation*. Bank-Netherlands Water Partnership, Project # 43. Town Water Supply and Sanitation Initiative. The World Bank. Washington, D.C., September 2004 (mimeo).

Roberto, Paulo and Paixão, Bretas (1996). *Participatory budgeting in Belo-Horizonte: democratization and citizenship*. Environment and Urbanization, Vol. 8, No. 1: 213-222.

Saghir, J. (2007). *New Trends in Public-Private Partnerships for Water Supply and Sanitation Services in Developing Countries*. Presentation at the World Bank Water Week 2007, Washington, D.C.

Satterthwaite, David (2004). *The under-estimation of urban poverty in low- and middle-income nations*. Working Paper on Poverty Reduction in Urban Areas 14. IIED, UK.

Savina, Anna and Kolsky, Pete (2004). *Mobilizing Resources for Sanitation*. WSP-Africa Field Note. WSP, Nairobi.

Suominen, Arto and Fonseca, Catarina (2006). *Rural water supply and environmental programmes in Amhara Region*. Community Development Fund: Summary of achievements and disbursement process. IRC, 2006.

Trémolet, Sophie (2002). *Rural Water Service: Is a Private National Operator a Viable Business Model? Public Policy for the Private Sector*, Viewpoint 249, the World Bank, June 2002.



## Financing Shelter, Water and Sanitation

CENTER FOR SUSTAINABLE URBAN DEVELOPMENT | JULY 1-6, 2007

<http://rru.worldbank.org/Viewpoint/HTMLNotes/249/249summary.html>

Trémolet, Sophie (2006a). *Adapting regulation to the needs of the poor: Experience in Four East African countries*. BPD Research Series, May 2006.

[http://www.bpdwaterandsanitation.org/web/d/DOC\\_109.pdf](http://www.bpdwaterandsanitation.org/web/d/DOC_109.pdf)

Trémolet, Sophie (2006b). *Appliquer les principes de l'OBA aux services d'eau et d'assainissement. Guide méthodologique*. Agence Française de Développement / Suez Environnement.

<http://www.ffem.net/jahia/webdav/site/myjahiasite/users/administrateur/public/pdf/guideOBA-VF2.pdf>

UN-HABITAT (2006). *Experiences with Innovative Financing: Small Town Water Supply and Sanitation Service Delivery*. Background paper for UN-HABITAT's Meeting Development Goals in Small Urban Centres: Water and Sanitation in the World's Cities. UN-HABITAT, Nairobi.

UN Millennium Project (2004). *Millennium Development Goals Needs Assessments for Ghana, Tanzania, and Uganda*. Background paper to Sachs, Jeffrey D., John W. McArthur, Guido Schmidt-Traub, Margaret Kruk, Chandrika Bahadur, Michael Faye, and Gordon McCord. 2004. *Ending Africa's Poverty Trap*. Brookings Papers on Economic Activity. No. 2: 117-216.

United Nations Task Force on Water and Sanitation (2004). *Achieving the Millennium Development Goals for water and sanitation: what will it take? Interim Full Report*.

<http://www.unmillenniumproject.org/document/stf7interim.pdf>

Van Ginneken, M., Tyler, R. and Tagg, D. (2004). *Can the Principles of Franchising Be Used to Improve Water Supply and Sanitation Services?* Water Supply and Sanitation Sector Board

Discussion Paper Series, Paper No. 2. January 2004.

[http://iris37.worldbank.org/domdoc/PRD/Other/PRDDContainer.nsf/All+Documents/85256D2400766CC78525700600665492/\\$File/WSS\\_Franchise.pdf](http://iris37.worldbank.org/domdoc/PRD/Other/PRDDContainer.nsf/All+Documents/85256D2400766CC78525700600665492/$File/WSS_Franchise.pdf)

Virjee, Kameel (2006). *Microfinance for Rural Piped Water Services in Kenya: Using an output-based approach for leveraging and increasing sustainability*. WSP-Af, Nairobi.

Water and Sanitation Program (2002). *Water Tariffs and Subsidies in South Asia: Understanding the Basics*.

<http://web.mit.edu/urbanupgrading/waterandsanitation/resources/pdf-files/WaterTariff-1.pdf>

WHO-UNICEF (2000). *Global Water Supply and Sanitation Assessment 2000 Report*.

[http://www.wssinfo.org/pdf/GWSSA\\_2000\\_report.pdf](http://www.wssinfo.org/pdf/GWSSA_2000_report.pdf)

Waghray, D. and Moran, D. (2002). *Cost Recovery in Water and Sanitation Projects*. DFID-KAR, London.

Winpenny, J. (2003), *Financing Water For All: Report of the World Panel on Financing Water Infrastructure* Global Water Partnership, World Water Council, 3rd World Water Forum [http://www.financingwaterforall.org/fileadmin/www/Library/Publications\\_and\\_reports/CamdessusReport.pdf](http://www.financingwaterforall.org/fileadmin/www/Library/Publications_and_reports/CamdessusReport.pdf)

World Bank (2006). *Approaches to Private Participation in Water Services. A toolkit*.

[http://rru.worldbank.org/Documents/Toolkits/Water/Water\\_Full.pdf](http://rru.worldbank.org/Documents/Toolkits/Water/Water_Full.pdf)

**Additional Resources (websites)**

- Homeless International  
[http://www.homeless-international.org/standard\\_1.aspx?id=0:27820&id=0:27813](http://www.homeless-international.org/standard_1.aspx?id=0:27820&id=0:27813)
- Municipal Finance Task Force  
<http://www.mftf.org/>
- Rapid Response Unit page on Small and Medium Enterprise  
<http://rru.worldbank.org/Themes/SmallMediumEnterprises/>