

# OVERVIEW REPORT

Donor approaches to  
improving access to  
finance for independent  
WASH Providers

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## List of Abbreviations & Acronyms

AFD	French Development Agency
BOP	Bottom of the Pyramid
CBO	Community Based Organisation
CDS	Chlorine Dispenser System
CLIFF	Community-Led Infrastructure Financing Facility
DCA	Development Credit Authority
DBL	Design Build Lease
DBO	Design Build Operate
DFID	UK Department for International Development
DGIS	Netherlands' Directorate-General for International Cooperation
EIB	European Investment Bank
FHIS	Honduran Fund for Social Investment
FINISH	Financial Inclusion Improves Sanitation and Health
GDM	Gravity Driven Membrane
GPOBA	Global Partnership for Output Based Aid
GURDIAN	Gramalaya Urban and Rural Development Initiatives And Network
IFC	International Finance Corporation
IPA	Innovations for Poverty Action
JICA	Japan International Cooperation Agency
MDG	Millennium Development Goal
MFI	Micro Finance Institution
MIGA	Multilateral Investment Guarantee Agency
NGO	Non-Governmental Organisation
NHB	National Housing Bank
NWSDB	National Water Supply and Drainage Board
OAF	One Acre Fund
OBA	Output Based Aid
ODA	Overseas Development Assistance
PCG	Partial Credit Guarantees
PIDG	Private Infrastructure Development Group
PPP	Public Private Partnership
PWRF	Philippines Water Revolving Fund
RBF	Results Based Finance
SAWiSTRA	Sanitation and Water in Small Towns and Rural Areas
SIDA	Swedish International Development Agency
SME	Small and Medium Enterprise
SRF	Sanitation Revolving Fund
SSIP	Small Scale Independent Providers
SWRESP	Safe Water and Rural Environmental Sanitation Program
TAFSUS	Tanzania Financial Services for Underserved Settlements
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WSDF	Water and Sanitation Development Facility
WASH	Water, Sanitation and Hygiene
WATSAN	Water and Sanitation
WHI	WaterHealth International
WSP	Water and Sanitation Program
WSSCC	Water Supply and Sanitation Collaborative Council
WSWG	Water Sector Working Group

## Report summary

DFID has commissioned a small study to evaluate how donor support for access to finance by small and medium scale independent providers of water and sanitation services can be used to leverage private sector finance.

The study focuses on small-scale service providers, also referred to as “small-scale actors”. In developing countries with limited service coverage, these are frequently key service providers particularly for the poor. This is especially the case in urban and peri-urban settlements where the main water and sanitation operators do not have the capacity or finance to extend formal water and service provision to poorer neighbourhoods. As a result, small-scale independent service providers (SSIPs) have stepped in to fill the void left by main operators and provide these basic services to the poor. Supporting SSIPs to enhance the quality of their services at an affordable price is therefore an important part of the approach used by donors to reach the poor.


The objectives of the present report are (i) to provide an overview of donor engagement in this area to date classified by mode of engagement; (ii) to evaluate the extent to which these programmes have been successful and the reasons for success or failure; (iii) to identify specific gaps where donor engagement could have a catalytic effect in this area; (iv) to draw the lessons learnt from donor engagement.

In line with objective (i) the report examines a series of financial instruments to support small-scale entrepreneurs, as presented in the table below.

**Table E1. Overview of financing instruments to support small-scale actors**

Financial instruments	Examples of donors interventions	Summary Evaluation
<b>Output-based aid</b>	<ul style="list-style-type: none"> <li>GPOBA-funded projects: in Paraguay, Kenya (Maji Ni Maisha), Cambodia, Uganda, Sri Lanka</li> </ul>	<ul style="list-style-type: none"> <li>A mix of effective and less effective projects</li> <li>High transaction costs, particularly to reach small scale actors</li> <li>OBA facilities can be set up to scale up pilot projects</li> </ul>
<b>Grants or loans to support private sector leasing contracts</b>	<ul style="list-style-type: none"> <li>DBO/DBL in Cambodia or Uganda</li> <li>Water tanker leasing in Nairobi, Kenya</li> </ul>	<ul style="list-style-type: none"> <li>Leasing of equipment holds an important potential to support small actors, but it needs to be further evidenced.</li> <li>There are uncertainties about whether leasing of water or sanitation infrastructure as part of a PPP contract can effectively support small scale actors</li> </ul>
<b>Seed funding for revolving funds to support credits/loans</b>	<ul style="list-style-type: none"> <li>USAID/JICA-funded Philippines Revolving Fund</li> <li>World Bank support to sanitation microfinance in Vietnam</li> <li>CLIFF platform supporting MFIs and sanitation providers in India and Kenya (funded by DFID and SIDA)</li> <li>Water.org support to microfinance in India</li> </ul>	<ul style="list-style-type: none"> <li>Is a very efficient way to channel funds to small scale actors and enable leverage of private investment efficiently. However funds can be difficult to set up.</li> <li>Funding platforms such as CLIFF can be scaled up to increase their impact.</li> </ul>





Financial instruments	Examples of donors interventions	Summary Evaluation
<b>Grants for Challenge funds</b>	<ul style="list-style-type: none"> <li>• Stone Family Foundation Prize for innovation and entrepreneurship in water</li> <li>• Cartier Women's Initiative Award</li> <li>• JICA BOP Program</li> </ul>	<ul style="list-style-type: none"> <li>• Even though their impact is small, challenge funds can be effective to support small entrepreneurs developing innovative business models and technology.</li> </ul>
<b>Equity participation in small and medium businesses</b>	<ul style="list-style-type: none"> <li>• IFC</li> <li>• Impact investors such as Acumen Fund</li> </ul>	<ul style="list-style-type: none"> <li>• Can effectively support social enterprises and “BOP” businesses growth in the sector</li> </ul>
<b>Guarantees</b>	<ul style="list-style-type: none"> <li>• CLIFF platform</li> <li>• TAFSUS in Tanzania</li> <li>• USAID DCA: Guarantees to water entrepreneurs</li> </ul>	<ul style="list-style-type: none"> <li>• Can efficiently support small scale actors access to finance and thus leverage private investment</li> </ul>
<b>Example of types of blended finance:</b>		
<b>Blending of instruments</b>	<ul style="list-style-type: none"> <li>• Guarantees and up-front subsidies: CLIFF platform funded by DFID and SIDA in India and Kenya</li> <li>• OBA and Microfinance: Microfinance for Community Water Schemes (Maji Ni Maisha) in Kenya funded by GPOBA</li> </ul>	<ul style="list-style-type: none"> <li>• Mixing concessionary and commercial finance is an efficient way to leverage private finance for small scale actors.</li> </ul>


The projects reviewed in this report show that donors' experience of working with small-scale actors in the water and sanitation sector has so far been limited, but is growing.

Overall, there are only a limited number of projects where donors have intervened to improve access to finance for Water and Sanitation (WATSAN) small-scale actors, most of which have been pilots. Only a few of those have successfully scaled-up. Well-designed Output Based Aid (OBA) projects have been effective at incentivising small-scale actors to deliver services to the poor (as in Paraguay), although other projects have suffered from design or implementation faults (as in Cambodia).

Piloting and transaction costs have been high when compared to the number of people reached. For instance the Maji Ni Maisha project in Kenya, which has been extensively documented and cited as a model throughout the world, has achieved some impressive results in the pilot and is in the process of being scaled up in Kenya. However, it was expensive to set up in the first place and has not scaled-up so far in other countries. As a result they have sometimes been perceived as being “donor-driven”, with the consequence that the government is not involved enough to enable the project to scale up. This appears to be the main reason why the Design Build Operate (DBO)-OBA Framework in Uganda, which aimed to scale-up the model, has not yet been established.

Other models have been tested and appear to hold potential, such as the Design Build Lease (DBL) model tested by the World Bank in Asia in the early 2000s (in Cambodia, Philippines, Indonesia), although lack of replication of this model is a concern. Equipment leasing is very commonly used in other sectors (such as in agriculture, or for taxis and ambulances) and could be used for water tankers or de-sludging trucks. This is a model that should be further explored as it could be very well-suited to the financial and operational needs of many small-scale actors involved in those sub-segments.

Other donors have focused on facilitating access to commercial sources of finance, through supporting the establishment of revolving funds (as in a World Bank funded project in Vietnam), the provision of guarantees (to enable small-scale actors to borrow at more



attractive terms) or support to existing microfinance institutions. Some of these experiences have been very successful and deployed at scale: for example, the revolving fund approach in Vietnam was later adopted at national level. Community-Led Infrastructure Financing Facility (CLIFF), a programme funded by the UK Department for International Development (DFID) and the Swedish International Development Agency (SIDA) to support small-scale actors in housing but also sanitation through a mix of grants and guarantees is also being scaled-up.

Finally, donors could take inspiration from other approaches mostly developed by philanthropic organisations (such as challenge or innovation funds) or by so-called “impact investors”, which take equity participation in small-scale WATSAN service providers with limited return on equity expectations. The International Finance Corporation (IFC) has sought to enter the water and sanitation sector for some time but has so far taken equity stakes in larger entities as working with small scale providers would be challenging under their current business model.

All of these approaches could be applicable in a broad range of countries where rule of law and contracts are enforced. They do not require a particularly high level of financial market development, except for revolving funds and pooled funding mechanisms across several municipalities (or municipal water agents), especially if such mechanisms are looking to issue bonds in order to mobilise funding from capital markets. However, pooled funding mechanisms are more applicable to municipal WASH service providers than to small-scale independent providers and have therefore not been covered in detail in this report.

A general observation, however, is that lessons from existing pilot projects are not always available or well-documented (i.e. on the basis of impartial evaluations that are not tainted by the donor’s or the government’s own interests). Therefore, it is hard to disentangle what worked and what did not work and to fairly assign the reasons for failure to the design of the project, inadequate performance by the operator or to the political economy context (as for instance the DBO-OBA project in Uganda). It would be necessary to review existing experiences more systematically and potentially to design randomised controlled experiments in order to compare the effectiveness of alternative financing approaches.

Finally, in order to overcome the challenges associated with the resource-intensity of engaging with multiple small-scale actors, it would be worthwhile for donor organisations to invest in the setting-up of “funding facilities” at national level that can then channel funding to these activities. Examples of such facilities include: the Philippines Revolving Fund or the Honduras OBA Facility, though the funding from such facilities has so far been mostly focused on municipal projects. Such funding facilities, if aimed at small scale actors could use a mix of instruments (i.e. “blend”) as set out in this report, including challenge funds, seed funding for revolving funds, guarantees or incentive-based subsidies (e.g. OBA).

Over the long-term, it appears more effective to establish institutions that can act as financing channels and blend instruments rather than doing it on a project by project basis. It could be argued, therefore, that support for institution-building and development at the national level should be donors’ priority. This can be done by creating institutions from scratch (such as the Philippines Water Revolving Fund), by broadening the scope of activities of other existing institutions (for example, some national financial institutions may already be involved in housing finance or “development finance”, but may not have considered financing small-scale actors delivering WASH services as yet) or setting-up specific “funding windows” using their own funding modalities within existing financial facilities (in the same way that an OBA facility was set up as part of FHIS, Honduras Social Investment Fund, in Honduras).





# SECTION 1

## Introduction

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### 1. Study objectives

The objective of the study is to prepare a report on donor support to facilitate access to finance by small and medium scale Water, Sanitation and Hygiene (WASH) service providers, based on prior experiences, a review of the literature and targeted interviews.

The study focuses on small-scale service providers, also referred to as “small-scale actors”. In developing countries with limited service coverage, these are frequently key service providers particularly for the poor. This is especially the case in urban and peri-urban settlements where the main water and sanitation operators do not have the capacity or finance to extend formal water and service provision to poorer neighbourhoods. As a result, small-scale independent service providers (SSIPs) have stepped in to fill the void left by main operators and provide these basic services to the poor. Supporting SSIPs to enhance the quality of their services at an affordable price is therefore an important part of the approach used by donors to reach the poor.


The findings of the report will provide a basis for DFID as they are writing a Business Case for a programme to improve access to finance for small and medium scale independent providers in the water and sanitation sector. Through initial analysis, DFID found that this is an area in which donors have had limited engagement in the past, with varying levels of success, and DFID wish to learn lessons from past experience.

The objectives of the present report are:

- To provide an overview of donor engagement in this area to date classified by mode of engagement;
- To evaluate the extent to which these programmes have been successful and the reasons for success or failure (related to the donor’s approach, the context, etc.);
- To identify whether there is any evidence of specific gaps where donor engagement could have a catalytic effect in this area;
- To draw the lessons learnt from donor engagement to date.

For the purpose of this report, the author has sought to extract learning from a range of “donors” defined in a relatively broad way, to include not only grant-making bilateral donors (such as DFID) but also domestic governments (as those may be running subsidy programmes on a scale comparable to donor-funded programmes, such as in India), development banks (both bilateral and multilateral), international organisations (such as the Water and Sanitation Programme (WSP), through its Domestic Private Sector Programme, UNICEF or the Water Supply and Sanitation Collaborative Council (WSSCC)), private foundations (such as the Gates Foundation), social investors (such as Acumen Fund) and international Non-Government Organisations (NGOs) (such as WaterAid, water.org or PLAN International, which act as funding channels).

Given the short time frame available for this assignment, the review has been limited to a review of secondary information, from published sources and websites. As the review topic is close to other more extensive research pieces that have been recently conducted by TCL, it was possible to rely on reasonably up-to-date information on a substantial number of these projects, complemented by web searches. It has not been possible to organise interviews



with selected donors, except through a limited number of email exchanges to obtain more recent data on certain projects. The author has also identified areas where published evidence is insufficient to draw definitive conclusions on the success or failure of donor initiatives. If DFID wishes to go deeper into the analysis of lessons learned, further specific research would need to be commissioned.

## 2. Focus of the assignment

Although a substantial share of investments and operations in water and sanitation services is made by “small-scale actors”, donors have traditionally been dealing with large scale actors in the sector, such as governments, utilities or large NGOs. As mentioned in Trémolet, (2012), “small-scale actors” can include households, small scale independent providers (SSIPs), small and medium sized enterprises, equipment providers, community-based organisations (CBOs), NGOs, user committees and local governments. They play a key role in filling the void left by larger public and private utilities to answer the needs of the population. For this reason, some donors have stepped in to support them to operate more efficiently, especially through facilitating access to finance.

The focus of this report is on examining donor support to a more narrow range of actors, with a particular focus on “small and medium scale independent providers” as defined in Box 1 below based on the Terms of Reference for this assignment.<sup>1</sup>

### Box 1. Definitions

“Small and medium scale independent providers” refers to any provider of water and sanitation (whose standard of provision meets Millennium Development Goal (MDG) standards of clean water and improved sanitation) operating either completely independently of the national utility, or through a Public Private Partnerships (PPP) or other contracting arrangement with the utility, government or local authority. This excludes large, multinational firms such as Suez, Vitens-Evides, etc. The main focus of this assignment is on operators whose principal target market is poor people, and which aim to be commercially sustainable in operational terms, i.e. the initial capital expenditure may (or may not) be subsidised by public money but their business model is designed to ensure that long-term operational costs are recouped through tariffs or other revenues.

Examples of the type of operators that are included in this review are:


Water:

- Mini-utilities: stand-alone supply, piped networks supplying water via stand-pipes or household connections. These can be run by communities or private firms.
- Kiosks and any other small/medium water treatment system where clients collect water rather than having it delivered through a network.
- Agents delivering treated water to households.

Sanitation:

- Communal toilet blocks that charge a user fee.
- Manufacturers of low-cost latrine components.
- Latrine emptiers.

<sup>1</sup> To the extent possible, the author has included references to support provided to “households” as service providers, given that those are frequently involved in providing the services either for themselves (when they dig a well or a latrine) or for their neighbours (for example, when they provide access to their latrine or engage in water resale from their tap) and frequently represent a very significant share of total investments. However, these do not represent the main focus of the present assignment.



As experience with financing WATSAN SSIPs is fairly limited, the authors have also included some projects involving medium sized enterprises in the review from which lessons can also be drawn, as long as the difference between the two is clearly understood.

Dealing with large scale actors is easier from a donor perspective, particularly in the context of loans, for which it is essential to obtain guarantees on repayment. By contrast, supporting small-scale actors can be complicated and generate high transaction costs. One key difficulty, as stated in (Trémolet, Small-scale finance for water and sanitation, 2012), is to get funds from A to B, i.e. from donors to small-scale actors and to ensure that this is done in a way that maximises leverage, effectiveness and pro-poor targeting.

A recent survey of European donors in the water and sanitation sector (Trémolet, Small-scale finance for water and sanitation, 2012) indicated that European donors have limited experience in this area. Nevertheless, the survey also helped identify a number of isolated initiatives that had been successful and could be scaled up, replicated or learned from. Therefore, it demonstrated that channelling funding to small-scale actors is possible and that it is indeed essential to identify ways and means to channel such support to increase service delivery and access to water and sanitation services by the poorest segments of the population. The present report reflects those experiences amongst others from other international donors as well, such as the World Bank/ Global Partnership for Output Based Aid (GPOBA), Japan International Coordination Agency (JICA) or United States Agency for International Development (USAID).

### 3. Structure of the report

This report is structured as follows:

- **Section 2** presents the types of support that donors can provide to support small-scale actors, and sets out in more detail how donors have supported small and medium scale independent providers, and the potential for replicating and scaling up these types of support;
- **Section 3** provides an overall assessment of donors' engagement with small scale actors and proposes recommendations to improve donor support to these actors.



# SECTION 2

## Type of donor support to small-scale actors

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This section presents the types of support that donors provide to support small-scale finance actors in the water and sanitation sector, with a particular focus on the different ways in which grants and equity stakes have been used to support those operators.<sup>2</sup>

In some cases, the author has also included cases of public funding (as opposed to donor funding) where domestic governments have designed and are funding internal programmes to help the poor access water and sanitation services and which could provide interesting examples for donors.

**Table 1** below lists the types of financial instruments that can be used and provides relevant examples of donor-funded programmes that have used these instruments. Each instrument is then presented in a sub-section. Many such instruments rely on grants, but differentiate between the various types of grants that can be provided.

For each type of financing instrument reviewed, the author follows a common structure, by examining in turn:

- The nature of the financial instrument under review and how it can help support small-scale actors;
- The results of specific cases, based on an assessment of strengths and weaknesses;
- The potential for replication/scale-up of those approaches.

In the analysis of strengths and weaknesses of different cases, the author makes frequent references to the “leverage ratio” or to the potential that alternative public financing instruments have to “leverage” private financing (i.e. either in the form of equity capital or commercial loans). If a public investment leverages more private financing (i.e. if the leverage ratio is higher), this is seen in a positive light as this would help generate higher investments with the same amount of public funding. Of course, the leveraging effect should not be seen as the only criterion for evaluating the effectiveness of public funding. Equally important is the number of people reached for each pound spend and the equity impact, i.e. to ensure that poor households benefit more (or at least equally) from the programme than more well-off households.

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<sup>2</sup> The study deliberately does not cover donor programmes that work through technical assistance only to support firms in accessing finance or to support governments, utilities and local authorities in creating an improved enabling environment for independent operators. Many of the interventions set out below have been combined with technical assistance, however, which has had an impact on results. The extent to which technical assistance has impacted results is also discussed below.

**Table 1. Overview of financing instruments to support small and medium scale actors**

Financial instruments	Examples of donors interventions	Summary Evaluation
<b>Output-based aid</b>	<ul style="list-style-type: none"> <li>GPOBA-funded projects: in Paraguay, Kenya (Maji Ni Maisha), Cambodia, Uganda, Sri Lanka</li> </ul>	<ul style="list-style-type: none"> <li>A mix of effective and less effective projects</li> <li>High transaction costs, particularly to reach small scale actors</li> <li>OBA facilities can be set up to scale up pilot projects</li> </ul>
<b>Grants or loans to support private sector leasing contracts</b>	<ul style="list-style-type: none"> <li>DBO/DBL in Cambodia or Uganda</li> <li>Water tanker leasing in Nairobi, Kenya</li> </ul>	<ul style="list-style-type: none"> <li>Leasing of equipment holds an important potential to support small actors, but it needs to be further experimented</li> <li>There are uncertainties whether leasing of a water or sanitation infrastructure as part of a PPP contract can effectively support small scale actors</li> </ul>
<b>Seed funding for revolving funds to support credits/loans</b>	<ul style="list-style-type: none"> <li>USAID/JICA-funded Philippines Revolving Fund</li> <li>World Bank support to sanitation microfinance in Vietnam</li> <li>CLIFF platform supporting MFIs and sanitation providers in India and Kenya (funded by DFID and SIDA)</li> <li>Water.org support to microfinance in India</li> </ul>	<ul style="list-style-type: none"> <li>Is a very efficient way to channel funds to small scale actors and enable to leverage efficiently private investment. However they can be difficult to set up.</li> <li>Funding platforms such as CLIFF can be scaled up to increase their impact.</li> </ul>
<b>Grants for Challenge funds</b>	<ul style="list-style-type: none"> <li>Stone Family Foundation Prize for innovation and entrepreneurship in water</li> <li>Cartier Women's Initiative Award</li> <li>JICA BOP Program</li> </ul>	<ul style="list-style-type: none"> <li>Even though their impact is small, challenges funds can be effective to support small entrepreneurs developing innovative business models and technology.</li> </ul>
<b>Equity participations in small and medium businesses</b>	<ul style="list-style-type: none"> <li>IFC</li> <li>Impact investors such as Acumen Fund</li> </ul>	<ul style="list-style-type: none"> <li>Can effectively support social enterprises and "BOP" businesses growth in the sector</li> </ul>
<b>Guarantees</b>	<ul style="list-style-type: none"> <li>CLIFF platform</li> <li>TAFSUS in Tanzania</li> <li>USAID DCA: Guarantees to water entrepreneurs</li> </ul>	<ul style="list-style-type: none"> <li>Can efficiently support small scale actors access to finance and thus leverage private investment</li> </ul>
<b>Blending of instruments</b>	<p><b>Example of types of blended finance:</b></p> <ul style="list-style-type: none"> <li>Guarantees and up-front subsidies: CLIFF platform funded by DFID and SIDA in India and Kenya</li> <li>OBA and Microfinance: Microfinance for Community Water Schemes (Maji Ni Maisha) in Kenya funded by GPOBA</li> </ul>	<ul style="list-style-type: none"> <li>Mixing concessionary and commercial finance is an efficient way to leverage private finance to finance small scale actors.</li> </ul>





## 1. Grant funding for Output-based Aid

This section focuses on Output-based Aid (OBA) grants, as it aims to incentivise service providers to deliver services to the poor and increases aid effectiveness.

### *1.1. How can OBA be used to support small-scale actors?*

Donors use OBA to tie the disbursement of public funding to the achievement of clearly specified results that directly support the delivery of basic services to the poor. The full amount of subsidies is paid to the beneficiary (private or community operators) only once these results have been met. An OBA subsidy is commonly used to cover the capital costs of service extension projects that are designed to be financially sustainable in operational terms. OBA financing helps direct subsidies to the targeted populations more accurately and make operators accountable for funds through the monitoring of their actual performance. The objective is that OBA payments should only complement and never substitute user tariffs as the main source of service providers' revenue.

OBA is part of the results based financing family of instruments. A specificity of OBA is that subsidies are channelled via the supply side of the market. By contrast, other types of results based financing instruments, such as Conditional Cash Transfers, target other important small actors in the water and sanitation sector, such as households to incentivise them to invest in water and sanitation and change their behaviour for instance (See Annex A1.1). OBA is a key tool to incentivise service providers to deliver service to poor customers when they would not necessarily do so under normal circumstances. Payment only occurs following independent verification of results.

So far, the most popular way of using OBA in the water sector with small scale providers has been to incentivise small scale providers to expand water coverage via connection subsidies to support poor households who cannot afford the full cost of a water connection. A fixed subsidy amount is paid to a private operator for each new water connection installed in a poor neighbourhood and demonstrated through a paid water bill.

In comparison, there is much less experience using OBA for sanitation projects, although (Tremolet & Evans, 2010) showed that OBA can be applied in many different ways to support private small scale sanitation providers. For example, OBA subsidies can be granted to masons for the construction and management of improved latrines, for recycling liquid and solid waste or to pit latrine emptiers for disposing of faecal sludge at designated sites.

A risk with such an approach, however, is that the newly connected users might not receive an adequate service from the operator after the connection has been installed. To enhance the sustainability of the schemes, a portion of the output-based payment can be withheld until several months of service delivery have been provided.

Subsidy recipients usually need to pre-finance a significant portion of the investment costs. However, pre-financing can be a real challenge when working with small-scale actors and specific measures need to be included in the OBA scheme to support their access to finance.

## 1.2. What have been the experiences of using OBA and the results?

OBA has proven to be an important mechanism for donors to efficiently channel grant money to “medium-scale actors”. OBA has been applied in a range of projects, either financed by the World Bank or by bilateral donors, such as by the French Development Agency (AFD) in Mozambique. A recent review conducted by the GPOBA in 2010 concluded that OBA-funded projects were starting to show results and were making a positive contribution to increasing access to water and sanitation services for poor households. Below, the author focuses specifically on OBA experiences that targeted small and medium scale actors, as they present specific challenges to overcome. Most of these projects are still at a pilot stage and would need to be tested at scale.

According to the GPOBA 2010 review, there were 25 OBA projects in water and sanitation with World Bank Group participation, of which 15 were water supply schemes, three were sanitation schemes, and four were both water and sanitation projects. Among the projects in which GPOBA has been involved as a financier or advisor, at least 15 involved financing medium and small scale providers, as shown on Table 2 below.


**Table 2. GPOBA Water and Sanitation projects**

Water	Sanitation
<ul style="list-style-type: none"><li>• Kenya: Micro-finance for Small Water Schemes (Maji Ni Maisha);</li><li>• Cambodia: Water Access with Small-Scale Providers</li><li>• Uganda: Water Supply in Small Towns and Rural Growth Centres</li><li>• Honduras: OBA Facility</li><li>• Vietnam: Rural Water Supply; Small Scale Irrigation</li><li>• Tanzania: Water supply in secondary towns</li><li>• Nigeria: Small Towns and peri-urban Water Supply Schemes</li><li>• India (Andra Pradesh): Rural Community Water</li><li>• Ethiopia: Irrigation and Drainage</li><li>• Yemen: Water for Urban Centres</li></ul>	<ul style="list-style-type: none"><li>• Sri Lanka: Colombo waste water</li><li>• Vietnam : Rural Sanitation</li></ul>

In the water sector, mixed conclusions can be drawn from the first generation of OBA contracts with medium and small scale actors. These early experiences have enabled donors to learn from past failures and refine the design of more recent OBA schemes to cope with these specific challenges.

In Paraguay in the early 2000s, a World Bank funded pilot OBA programme sought to attract local Paraguayans operators (Aguateros) and construction firms active in the water sector to extend services in un-served rural areas and small towns by providing an output-based aid subsidy, awarded through competitive bidding. This programme was initially deemed successful, but it was not possible to find recent literature on this experience. Given that this programme was one of the first ones to be implemented and showed great potential at the time, it would be particularly interesting to systematically draw lessons from this experience. This programme highlighted one of the strengths of OBA to reduce the amount of subsidy through the competitive bidding processes. As OBA contracts are awarded in a competitive process, operators bidding are incentivised to keep their costs down for the same service quality. In particular, the programme experimented with different bidding methods to try and assess what would elicit the most competitive and reliable bids (See Annex A1.2 for details).

By contrast, the WB OBA project in Cambodia from 2003 to 2006 turned out to be a failure, even though early GPOBA publications on the programme had highlighted initial strengths. The programme was a standard ex-post subsidy for connections programme, targeted at




households identified as poor. Initially considered as a success, the project was cancelled by the Bank in 2006 due to suspicions of fraud and corruption; this led to a temporary interruption of all World Bank operations in Cambodia in the water sector. One issue was that all contracts were won (seemingly, on a competitive basis) by a single operator, which appeared trustworthy but then turned out to be corrupt (See Annex A1.3 for detail).

From these initial experiences, a second generation of OBA projects was designed to cope with the specific challenges that had been identified, such as pre-financing requirements or the need to foster and stimulate competition to improve bidding (see Section 1.3. for detail).

In Kenya, GPOBA launched the “K-Rep” Microfinance for Community Water Scheme in 2007. This project combines OBA subsidies with micro loans to facilitate pre-financing by local service providers whilst maintaining the incentives on serving poor customers. In this project, the community water associations are bearing high performance risk as they do not get paid until evidence of outputs has been received in the form of working connections, several months of service delivery and in some cases, demonstration of increased sales. Therefore the scheme design sought to overcome the difficulty for these small scale actors to pre-finance the connections by linking them up with a microfinance organisation (K-Rep). The original pilot project targeted 21 subprojects, representing a total investment of about US\$2 million, in five districts around Nairobi. The project has since expanded to a national scale under the tag name “Maji ni maisha” (Water is Life), targeting over 165,000 beneficiaries in 55 communities, using additional funds from the European Union’s Water Facility (See Annex A1.3). The initial project was innovative in the way it combined OBA with microfinance. It was considered a success in Kenya, although it has so far not been replicated in other countries. The reasons for this failure to scale-up and to replicate this project are somewhat unclear at this stage.

In Uganda, GPOBA financed an OBA scheme for water supply in small towns and rural growth centres between 2006 and 2009. Several OBA approaches have been experimented with to deal with small private actors in Uganda, including tendering out Design-Build-Operate (DBO) PPP contracts to the operators and phasing the outputs and the subsidy disbursements over time to reduce the amount of pre-finance capital needed. The rationale to set up PPP contracts was that it allows private builders and operators to raise capital more easily from commercial banks as they can demonstrate the support from OBA donors. In the beginning, the private operators relied more on their own cash and working capital than on bank loans. But as the operators started delivering results, some local banks showed renewed interest in participating in the scheme. However, there are divergent opinions on the overall results of this OBA scheme. Some reports assert that only one pilot project worked, and it was only because it received massive donor support. Others indicate that other projects took up after a while. One certainty is that the scale up project launched in 2010 to build a national OBA-DBO Framework failed, probably because of poor donor engagement. Some donors believe that the pilot scheme was a failure because it was not feasible, and that SSIPs were not able to leverage private finance to pre-finance the project (although this view is contradicted by some reports). Overall it is difficult to disentangle whether the project was not more successful due to political economy reasons or because the design of the pilot scheme was deficient (See Annex A1.4).

In the sanitation sector, there have been less OBA projects involving small scale actors. In addition, as they are more recent, it is not possible to evaluate their results as yet. GPOBA recently approved an output-based subsidy for sanitation services in Greater Colombo in Sri Lanka, working with the main water and sewerage utility, the National Water Supply and Drainage Board (NWSDB). This project is highly innovative as it recognises that acceptable sanitation with equivalent levels of service can be offered through both networked sewer connections and improved management of on-site sanitation systems and services.



The on-site component combines the building of new facilities and rehabilitation of existing on-site sanitation systems with regular de-sludging services by licensed private small scale service providers known locally as “gully bowser” under a performance-based contract. OBA subsidies are to be offered to NWSD in return for certified delivery of regular emptying of on-site latrines for eligible households. Those households will pay a monthly fee for the service through their water bill. The utility intends to deliver this service by offering area-based contracts to the “gully bowzers” for rehabilitation and operation of on-site sanitation in targeted areas. Contractors bid on a monthly fee for customers receiving a satisfactory service. This project was only recently approved so it is still too early to evaluate the impact of this intervention and the validity of the OBA design.

Overall experience of financing SSIPs with OBA has shown that a well-designed OBA scheme enables leveraging private sector capacity and market-based repayable financing and can help reach low-income households in a more effective way (and potentially more cost-efficient manner, although this still needs to be established through deeper analysis).

However, the OBA approach, as practiced by GPOBA, has been criticised by some as being overly complex, which sometimes generates relatively high transaction costs, especially when working with many small scale operators, and makes it more difficult to scale-up beyond the pilot stage. Moreover, pro-poor targeting can be time consuming, as evidenced by the OBA project in Cambodia.<sup>3</sup> There appears to be trade-offs between the quality of the targeting and incentive mechanisms and the costs of designing and operating such schemes. However, it is ultimately the quality of the design of the scheme that enables the poor to truly benefit from the scheme: this requires that the right incentives to be established for service providers, via granting the contracts on a competitive basis, designing the contracts in an effective way and establishing regulatory oversight.

### ***1.3. What is the potential for replication/scale-up of OBA?***

Experience has shown that the OBA concept can be successfully replicated if the design is specifically adapted to each context. When using OBA with SSIPs, two main challenges need to be addressed, as described below.

**Pre-financing requirements.** Small service providers frequently have difficulties in mobilising funds to pre-finance outputs. Recognising the constraints on pre-financing at programme-design stage can help with making OBA subsidies more attractive to small scale water and sanitation service providers which are otherwise struggling to maintain their financial equilibrium, let alone to invest in expanding their services.


Solutions that have been tested to minimise this risk are as follows:

- Providing some input based grant or a loan upfront to aid recipients (as in Honduras; see Annex A1.5 and in Uganda; see Annex A1.6)
- Setting up a dedicated funding mechanism such as a microfinance scheme to provide micro loans to aid recipients (Microfinance for Community Water Schemes in Kenya; see Annex A1.3)
- Supporting access to finance to aid recipients by combining OBA with PPP contracts, in order to allow private builders and operators to raise capital more easily from commercial banks as they can demonstrate the support for donors (as in Uganda; see Annex A1.4).

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<sup>3</sup> (Navarro & Tavares, April 2008)





**Fragmentation of small scale actors for donors.** Channelling OBA funds to many small scale actors has high transaction costs and requires setting up an intermediary between the donor and the aid recipient.

One way to achieve quicker scale-up of these schemes so as to reach a large number of many small-scale actors could be to establish funds which could provide OBA subsidies to targeted communities on an on-going basis rather than as one-off projects. This approach is being tested with GPOBA support, in the form of an OBA facility in Honduras. The Facility is housed within the Honduran Fund for Social Investment (FHIS) and was expected to provide USD 4 million in subsidies for the financing of eligible water and sanitation infrastructure projects, selected based on rigorous identification criteria. The OBA Facility effectively works as a challenge fund, in which sub-projects compete with each other for funding: these are fairly small municipal projects but not necessarily managed by small-scale actors. When the OBA facility was being set up, FHIS was considering applying an OBA approach to all of its funding to the sector if the pilot facility was deemed successful (See Annex A1.5 for more detail). Although the approach seemed promising, GPOBA identified a number of challenges when using an OBA Facility. It would be very useful to obtain additional information on the impact of such a facility on the sector as a whole, in Honduras but also in other countries where such approach has been tested, as in the Philippines.<sup>4</sup>

The establishment of OBA facilities at a national scale should therefore be further considered. These could be established as a specific funding window of existing financing facilities (as proposed in Kenya with the establishment of an OBA window within the Water Service Trust Fund, with WSP support) or through the setting up of dedicated financing facilities. Once set up, such facilities could be used to channel funding to municipal service providers (as done mostly in Honduras) as well as to small actors. In countries where the private sector is not very developed as yet, or is very informal, it might be preferable to “test the market” at first by organising a few pilot projects before formally establishing such a facility.

## 2. Grants or loans to support leasing

### *2.1. How can leasing be used to support small-scale actors?*

Donors can finance, through loans or grants, leasing of assets to small scale actors. Leasing is a form of contract to finance assets in which the lessor that owns the equipment provides the right to use equipment to the lessee in exchange for a fee, the lease payment. The lessee pays small regular instalments for its use over a pre-defined lease period. Leasing contracts can come with an option for the lessee to buy the equipment from the lessor at the end of the contract when it has been fully paid through instalments. This type of contractual arrangement benefits both parties as the lessee generates cash flow from the use of the equipment whilst the lessor receives income from leasing the equipment without losing the right to own it. Leasing is also a form of financing which has no or very few collateral requirements, as the leased asset serves as collateral. Therefore leasing is well suited to enable small-scale actors to acquire assets, as they have limited financial capacity and access to market finance.

Leasing can be used in many ways to support small-scale entrepreneurs. The author presents here two main ways in which it has been used in the water and sanitation sector:

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<sup>4</sup> GPOBA has been in the process of preparing a review of such OBA facilities for some time now, but it has not been possible to obtain an early draft of this publication.





equipment leasing contracts and PPP Design-Build-Lease (DBL) contracts in which a contractor operates the infrastructure built under a leasing contract with a public actor.

**Equipment leasing** is a financing instrument that can smooth out initial investment costs in infrastructure and equipment. These costs can be an important barrier to entry on the market for small water and sanitation enterprises that do not have access to repayable finance. Equipment leasing can provide a solution to financing machinery, land and equipment such as water tankers or gulpers for these SMEs. Under this model, lessors have two options. On the one hand, they can provide a financial lease to the enterprise, which buys the asset itself and then pays a lease fee to the lessor. Another option is to finance an operating lease, where they buy the asset which is then leased to the enterprise. In both options, the ownership of the asset remains with the lessor, at least until the end of the lease contract. Donors can directly play the role of the lessor or finance through grants or loans an intermediary leasing company that deals with the small enterprises.

**Leasing PPP contracts.** Leasing can also be included in PPP contracts as an alternative way of financing small scale water and sanitation operators. The DBL (Design Build Lease) model is a form of project finance in which most of the financing is provided up-front to the operator. The operator builds the infrastructure and repays the loan via payment of a lease fee intended to cover the initial capital outlay. This enables substantial leverage of private financing.

## ***2.2. What have been the results of specific cases (assessment of strengths/weaknesses)?***

**Equipment leasing.** There is little experience with leasing equipment to small scale actors in the WATSAN sector. The only example the author has been able to find is located in Kenya, where water tankers are leased by public authorities to small entrepreneurs (based on interviews with peers - no published source material). In Nairobi, the water ministry has revived eight water schemes to ease the pressure on water resources in the city, but many peripheral areas remain underserved. In this context, the government is leasing water tankers to small-scale water providers in order to provide water services in these areas. This is a win-win arrangement for both public authorities and WATSAN providers. The government ensures the provision of water in these remote areas and, by providing filling points, encourage water tankers to use only authorised water sources. It also provides the means for WATSAN providers to acquire tankers. They are then able to deliver water at a lower price. This experience of equipment leasing in Kenya seems to be positive, but the author has obtained limited information on it. More research needs to be done to assess the impact of leasing on water and sanitation for small-scale actors.

**Leasing PPP contracts.** The World Bank experimented with DBL models in several countries in the early 2000s. In Cambodia, the design-build lease approach started in 2004 and provided long-term financing and technical assistance to water entrepreneurs willing to build and operate systems in small towns. The private entrepreneurs only had to finance 10% of the initial capital costs up-front and then re-paid the rest of the capital costs put up by the Government of Cambodia (from the proceeds of a World Bank loan) through lease payments. In that way, entrepreneurs benefited from the very advantageous borrowing rates of the Government, which passes on long-term financing at terms comparable to what it received from the World Bank. In addition, entrepreneurs were provided up-front with fairly detailed designs, which helped them in the bidding and implementation stage of the project. The incentive to provide services over the long-term is strong, since entrepreneurs need to generate sufficient revenues in order to pay the lease payment every year.



In 2006, a positive evaluation of this project was made under an AFD FEED study (Trémolet, 2006, See Annex A2.1), but the author has not identified other more recent studies that could draw lessons from these experiences over time. The AFD-funded study sought to compare a number of approaches to financing small scale operators in Cambodia (including the OBA and DBL experiences, as well as a subsidy approach funded by French decentralised cooperation) and showed that DBL contracts were both attractive for entrepreneurs and an effective use of public finance. This form of subsidy had the highest leverage impact on private repayable finance (1 USD of public funds invested in the DBL scheme was able to generate almost 5 USD in average of private funds) of all the schemes that were evaluated in Cambodia at the time of this review.

Several other PPP leasing projects were undertaken with World Bank support in the Philippines, Vietnam and Indonesia around 2003-2006. The lessons extracted at an early stage were quite positive.<sup>5</sup> But the author could not find updated information on their outcomes after 2006 nor have they been able to find more recent experiences, which may indicate that such model was not as successful as originally hoped. Given the high potential of these approaches, further investigation would be necessary to understand the extent to which these could be models for donor support.

### ***2.3. What is the potential for replication/scale-up of leasing?***

Both types of leasing seem to have a potential to help small-scale actors overcome the barrier of access to finance. However, given the limited information available on these experiences, the author recommends prudence on these conclusions.

**Equipment Leasing.** The use of equipment leasing would warrant further experimentation in the WATSAN sector. Experiences in other sectors, including agriculture but also ambulances or taxis, encourage the author to think that there is a strong potential to develop equipment leasing in the water and sanitation sector for equipment such as water tankers, de-sludging trucks or even smaller equipment such as pumps, buckets and shovels.<sup>6</sup> This potential has been acknowledged by the IFC who launched the IFC Africa Leasing Facility in 2008. This is a five-year, multi-country advisory services programme aiming to introduce leasing as an innovative financial instrument across Sub-Saharan Africa. The facility's goal is to increase access to finance for micro, small and medium enterprises in a number of important sectors, including agriculture, transportation, construction, and manufacturing. Donors could play a role in supporting the expansion of such initiatives to the water and sanitation sector.

**DBL PPP Contracts.** DBL contracts could potentially be scaled-up where they have already been applied or be replicated in other countries. However, as lessons on past projects are scarce and there are few recent projects that have used such an approach, the author recommends prudence on this conclusion. It would be necessary to conduct a more thorough research and interview people at the World Bank, which was at one stage strongly advocating this model. It was not possible to conduct such interviews during the limited amount of time allocated to this study. More investigation would need to be done to understand the reasons for this apparent lack of take-up beyond 2006.

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<sup>5</sup> (Triche, Requena, & Mukami, 2006)

<sup>6</sup> Trémolet Consulting is currently evaluating the feasibility of establishing a leasing business for de-sludging trucks in Cape Coast and Elmina, Ghana, in the context of the preparation of a Dutch-funded water and sanitation urban programme.



### 3. Seed funding for revolving funds

Donors can provide seed funding to revolving funds that are lending to small and medium scale service providers in order to increase the leverage impact of a grant.

#### *3.1. How can seed funding for revolving funds or grouped financed vehicles be used to support small-scale actors?*

Revolving funds can increase access to repayable finance (including market-based repayable finance) for small water and sanitation providers. The basic principle behind a revolving fund is that the funds initially brought in as seed capital can be revolved several times to enable more customers to borrow and use the funds to invest. If the revolving fund is providing loans, for example, loan repayments made into the fund can be used to make new loans, without any time limitation. Revolving funds can be used to provide meso-finance to medium enterprises, but also microfinance to SSIPs or to households to build their facilities themselves or through SSIPs.

Donors can help with the establishment of revolving funds, by setting up the fund (including by conducting an initial market assessment, defining lending procedures, financial management rules, training of personnel, etc.) and providing initial seed capital for the fund (which can be replenished periodically, either to grow the fund or to compensate for “leakage” in the event of below 100% repayment rates). They can also provide guarantees that would enable the revolving fund to borrow capital from commercial finance institutions.

Given the relatively high transaction costs of organising finance for small scale actors, setting up a revolving fund can help finance a large number of small projects and facilitate access to a number of credit enhancement mechanisms. From the lenders’ point of view, this helps spread risks over a number of borrowers, through adopting a portfolio approach.

Donors can also fund grouped financing vehicles, where borrowers join to pool finance as a group based on the State revolving fund model initially developed in the US to fund municipal investments in infrastructure. However, such schemes tend to be used for municipalities rather than SMEs and may therefore be less relevant (see Annex A3.1).

#### *3.2. What have been the results of specific cases (assessment of strengths/ weaknesses)?*

**Revolving funds for meso-loans.** Over recent years, the United States Agency for International Development (USAID) has actively promoted the use of grouped financing mechanisms for the infrastructure sector (based on the country’s own experiences with such mechanisms) as a way to leverage financing for the water sector in developing countries. They were followed more recently by the Japan Bank for International Cooperation (JBIC) and the UK’s Department for International Development (DFID).

For example, USAID and JBIC helped set up the Philippines Water Revolving Fund (PWRF) in 2008. This fund is used to finance medium-sized water utilities, blending grants from donors with commercial private resources to offer affordable financing to utilities without distorting market terms. Since PWRF was launched, it has lent USD 102 million to 22 projects. It is constantly growing and is now expanding to finance wastewater and septage management projects (See Annex A3.2).

**Revolving funds to finance micro-loans.** Revolving funds have also been successfully used to finance micro-loans to households and micro-enterprises.



In 2001, the World Bank and the Governments of Finland and Denmark granted seed money for a Sanitation Revolving Fund (SRF) in Vietnam that provided microfinance to households to invest in water and sanitation infrastructure, connections for household sanitation etc. The fund, which was managed by the Women's Union, a pervasive organisation throughout the country with a long experience in micro-finance schemes, proved very successful. It was scaled up through further World Bank projects and the Vietnam Bank for Social Policies, a national financing institution, adopted this approach as their main financing instrument to support sanitation investments through the Safe Water and Rural Environmental Sanitation Program (SWRESP). In 2007, the amount of loans for SWRESP was USD 20 million (See Annex A3.3).

Other donors have also successfully set up revolving funds targeting small scale service providers, such as FINISH (as described below) and CLIFF (see Annex A6.1).

FINISH is a specially established partnership platform that blends grants and market finance and channels funding to small scale actors. The FINISH programme aims to support Micro Finance Institutions (MFIs) providing microfinance for sanitation in India. It provides them with small grants as incentive payments and technological support for awareness-raising to improve sanitation coverage. FINISH is financed only partly from donor grants (Netherlands' Directorate-General for International Cooperation (DGIS)) whilst the vast majority of funds (90%) are leveraged from commercial banks. This approach has enabled much targeted support to be provided to MFIs and extend small scale finance services to sanitation service providers (See Annex A3.4).


In conclusion, revolving funds can be very useful to attract repayable finance (including market-based repayable finance) to finance small and medium sized WATSAN providers. However they can be fairly time and resource intensive to setup, which is partly a reason why they have not been more widely adopted for financing water and sanitation investments. In part, this is due to a lack of familiarity with this type of financing instruments (at all levels, including donors, commercial banks or potential borrowers) but also to legal obstacles to their establishment (in certain countries).

### ***3.3. What is the potential for replication/scale-up of revolving funds?***

Revolving funds could be scaled up and replicated in other countries if they are correctly designed. When revolving funds are capitalised with external seed financing and are managed by an established MFI (such as for the Vietnam Sanitation Revolving Fund) or commercial lending institution, they appear to be an effective way of leveraging private finance (household investment in on-site sanitation in that case) which could be scaled up.

However, revolving funds for microfinance loans have had a somewhat patchy history; badly-run revolving funds have frequently been depleted and have earned them a poor reputation. According to (Trémolet, 2012), this was mostly an issue to do with the management of those funds by small CBOs or NGOs, which have had difficulties in combining their role as an NGO (more likely to provide things for free than to ask for a repayment) with that of a microfinance institution. This has sometimes led to confusion in the mind of stakeholders and contributed to poor repayment records. By contrast, the Sanitation Revolving Fund in Vietnam was run by a well-organised MFI represented throughout the country (Vietnam's Women's Union). The success of such schemes can therefore be dependent on the existence of such financial institutions, which combine strong financial management with a strong social development ethos. Where such institutions do not exist or are not currently active in water and sanitation, it would be possible for donors to support them in extending their activities in such areas.





With respect to larger scale revolving funds (such as the one established in the Philippines), replication is likely to require a higher degree of sophistication in the overall financial system, particularly if such funds are looking to mobilise finance through bond issuance (as in the original US model). Most likely for these reasons, to date such funds have mostly been established in medium income countries, such as India, Mexico or the Philippines.

## 4. Grant funding for challenge funds

### *4.1. How can challenge funds be used to support small-scale actors?*

Donors can provide grants to stimulate innovation and support small enterprises at an incubation stage. Donors in the sector have been using “challenge funds” or “awards” mechanisms, whereby they award pre-defined grant amounts to promising innovative business models, technologies or projects. This type of ‘prize’ can be very useful to stimulate innovation and competition amongst small-scale water and sanitation actors. It can provide them with the necessary finance to incubate their projects before being ready to be presented to investors.

### *4.2. What have been the results of specific cases (assessment of strengths/weaknesses)?*

This type of challenge fund has mainly been financed by philanthropic foundations as well as donors. A few such examples are presented below.


In 2012, the UK-based [Stone Family Foundation](#) awarded its first “Stone Prize for Innovation and Entrepreneurship in Water”. Through this prize, they were looking to support new initiatives in the water sector that are innovative, entrepreneurial and potentially scalable. Following an extensive selection process (which involved reviewing hundreds of applications), the £100,000 Prize was awarded to Innovations for Poverty Action (IPA) for the Dispenser for Safe Water in Western Kenya (See Annex A4.1).

Cartier, the Women's Forum, McKinsey & Company and INSEAD Business School organise an international business plan competition, the Cartier Women's Initiative Award, every year to identify, support and encourage projects by women entrepreneurs. In 2009, they offered a USD 20,000 grant and a year of coaching support to MN Environmental Services to support their plan to construct and manage 57 public toilets in Lagos State over the next 5 years. This grant has helped the social enterprise raise private finance (See Annex A2.2).

On another scale, the Bill and Melinda Gates Foundation finances the “Reinventing the Toilet” Grand challenge Competition to develop the “next-generation” of toilets that will deliver safe and sustainable sanitation worldwide. A total of USD 240,000 was awarded to the 4 best toilets prototypes. Although it was targeted to research institutes rather than small scale actors, the same kind of prizes can be established to support grassroots innovation developed by small start-ups.

More recently, the Water and Sanitation Programme has run a water hackathon (in 2011), followed by a sanitation hackathon (in 2012). Hackathon (a combination of the words “hack” and “marathon”) events started in the mid-2000s and gather computer programmers and others in the software development field around a specific subject for which they propose innovative software solutions such as mobile phone applications. They used this as a way to trigger innovation for the development of mobile phone applications to help improve water and sanitation service delivery and monitoring. The prize was in the form of in-kind benefits rather than monetary and was successful in stimulating innovation as it generated





substantial media publicity (via a New York Times article to announce the winners) and social media “buzz” (with an estimated 11.6 million twitter users having heard of the competition via twitter).<sup>7</sup>

Challenge fund mechanisms have also been used by more traditional donors. For example, the Japan International Cooperation Agency (JICA) has set up a Bottom of the Pyramid (BOP) Business Program that selects BOP projects on a competitive basis to support.<sup>8</sup> It provides them with grant funding to develop their business plan further and incubate the project (See Annex A4.3).

#### ***4.3. What is the potential for replication/scale-up of challenge funds?***

Challenge funds can be replicated by any type of philanthropic organisation or donor. As the amounts offered are often small, it is hard to assess the true impact of these awards on a given organisation (for some recipients, such as IPA, the actual prize money is very small compared to other sources of funding). But although they are unlikely to significantly support project implementation, they do incentivise entrepreneurs to develop their ideas into business models, and a prize from recognised institutions does provide them with strong credentials when presenting their project to investors. Challenge funds also have the advantage to put entrepreneurs in contact with “mentors” that can guide them in this process, or may offer technical assistance as part of the award.

Challenge funds do imply significant human and financial investments from donors to screen and support the projects presented, however. And the impact of these challenge funds is also very much dependent on the dissemination and publicity that takes place around the prize, something that the Bill and Melinda Gates Foundation or WSP have done well but that a small foundation such as the Stone Family Foundation has been less successful at doing, with very limited publicity around the award results. The author would argue that the actual impact of a prize competition can be multiplied several folds as a result of the publicity around the scheme, as such publicity may incentivise others (i.e. non-prize winners) to continue to innovate or to replicate some of the innovations that have received prizes.

In the water and sanitation sector, the author would suggest that technology innovation prizes are less needed than prizes that would stimulate the development of innovative business models. This is because technology innovation alone is unlikely to make a significant dent at solving water and sanitation service extension challenges.

## **5. Equity participation**


### ***5.1. How can equity participation be used to support small-scale actors?***

Donors can provide equity to medium and small scale WATSAN enterprises. Equity investments are a form of finance in which investors take an “equity stake”, which means that they purchase shares in an entity. This enables them to share the risk of that entity (through fluctuations in the share price) in return for the prospect of sharing its profits (through dividend payments). For water and sanitation enterprises, raising equity can help

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<sup>7</sup> For more information on the sanitation hackathon, see: <http://www.sanitationhackathon.org/> and <http://sanitation.hackathome.com/> for the follow-up “hack-at-home” competition.

<sup>8</sup> A BOP (Base of the Pyramid) Business is defined as a business that involves the BOP as consumers of a good or service which leads to developmental effect; or a business that offers to the BOP the opportunity of participating in its economic activity as an entrepreneur or employee, which leads to developmental effect.



them strengthen their balance sheet, which in turn can improve their credit-worthiness and give them the ability to “leverage up”, i.e. to raise debt in order to invest.

When equity is provided by the public sector, such as donors or philanthropist investors, return expectations are traditionally much lower than from the private sector. Public equity investors are mostly concerned with ensuring the long-term sustainability of the business and with having some control over key management decisions. Private “impact investors” are also adopting a similar approach and lowering their expectations in terms of return on investment to support the long term sustainability of projects. They are not expecting an immediate return on their investment, but only over time. This form of capital investment is called “patient capital”. Private impact investors are showing an increasing interest in taking stakes in innovative enterprises in the WATSAN sector.

Impact investing is defined as “an investment designed with the intent to generate positive social and/or environmental impact. The business into which the investment is made should be designed with intent to make a positive impact”.<sup>9</sup>

Given the relatively low profitability of many water and sanitation businesses that provide affordable access for the poor, patient capital can be an appropriate way for private-sector minded donors and impact investors to invest in WATSAN small-scale actors, including small and medium enterprises (SMEs). Compared to grants, equity participations have the advantage to bring market discipline to these enterprises and to incentivise them to be profitable over the long term.

## ***5.2. What has been the experience so far with equity participation?***

Donors and IFIs have taken equity stakes but mainly in medium scale businesses.


IFC has taken any equity participation in medium rather than small-scale enterprises, as the transaction cost of investing in small structure is likely to be too high for such a large financial institution. In India for instance, the IFC has been among the most active investors in the Indian water industry over the past few years and has taken equity stakes in several small and medium-sized companies engaged in various activities. For instance in April 2012, IFC has committed to invest over USD 20 million in a private equity investor, Pragati India Fund that raises funds to support smaller WATSAN businesses in India's low-income states.

Other types of investors such as philanthropists (Stone Family Foundation or the Calvert Foundation) and impacts investors (Acumen Fund, Avantage Ventures etc.) are also investing in innovative and scalable WATSAN enterprises. “Impact Investment” is booming and there are many social investors looking to fund impact generating, innovative and scalable business models in this sector to fill the void with “off-grid” solutions. However, WATSAN projects are usually only a small share of their portfolio, as these types of investors tend to be more focused on clean energy investments or more traditional income-generating activities, such as agriculture or small businesses.

Acumen Fund is perhaps one of the most high-profile “impact angel investors”. It uses philanthropic patient capital to make disciplined investments (mainly loans or equity stakes, not grants) that yield both financial and social returns. Acumen Fund invests in early-stage enterprises providing low-income consumers with access to healthcare, water, housing, alternative energy, or agricultural inputs. Their typical commitments of patient capital for an enterprise range from \$300,000 to \$2,500,000 in equity or debt with payback or exit in

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<sup>9</sup> JP Morgan and the Rockefeller Foundation (2010) ‘Impact Investments: An Emerging Asset Class’.



approximately seven to ten years. Acumen Fund also provides their enterprises with a wide range of management support services nurturing the company to scale. Their aim is to jump-start the creation of enterprises that have social impacts. Their financial returns are recycled into new investments. Over the years, they have developed a stronger portfolio in the water and sanitation sector. Ecotact is one of the most successful enterprises in their portfolio (See Annex A5.2). Other similar type of impact investors are presented in Annex A5.3.

### ***5.3. What is the potential for replication/scale-up of equity stakes?***

Although it is difficult to assess the impact of this wide range of equity participations, it is undeniable that the impact investing sector is growing and thus represents a key source of finance to tap to support small scale actors. Until now, equity stakes in WATSAN small scale actors in developing countries have been limited. Public investors have favoured large scale utilities, while private investors saw little appeal in WATSAN SMEs, given the low returns and high risk involved in such enterprises. By contrast, 'BoP businesses' have the potential to raise significant amounts among social impact investors.

There are many simple, affordable off-grid solutions available to provide clean water and improved sanitation at the BOP that could interest impact investors. These range from household water purification systems, to rainwater harvesters to simple pit latrines (See Annex A5.3). Some of these water projects have been assessed by Hystra in 2012,<sup>10</sup> in a study reviewing 15 projects to provide access to safe drinking water and sanitation at the BOP. It identifies a typology of WATSAN projects in which impact investors can invest. This study can be used by investors as a preliminary assessment tool to identify the advantages and weaknesses of similar types of projects.


However, finding the right sustainable business model that can deliver such products and services at scale and at an affordable price is a challenge. Most organizations focused on addressing the water and sanitation issue are donor-dependent and few are functioning based on a model that can attract equity investments. In fact, a growing number of impact investors as well as the IFC are looking to invest in small scale WATSAN businesses but find that few businesses are mature enough to receive such investments.

Therefore, an important first step would be to encourage the creation of such businesses. In this regard, donors can play a crucial role in channelling this "patient capital" of private impact investors to enterprises, by helping them to grow beyond the prototype stage. For instance, they can finance them, through grants or equity stakes, to develop and incubate these business models at an early incubation stage before they are ready to be financed by impacts investors.

To improve the design and viability of these business models, donors such as JICA with its BOP Program<sup>11</sup> (See section 4.3 above and Annex A4.3) or the Gates Foundation are funding feasibility studies. They are partnering with consultancies to build scalable business model in the water and sanitation sector. The Gates Foundation for instance is funding Ideo.org to design business models for social enterprises that are then scaled up through franchises. For instance they have worked in Kenya on the SmartLife stores with Water and Sanitation for the Urban Poor (WSUP), Unilever, Aqua for All, and the Global Alliance for Improved Nutrition (GAIN). This social enterprise sets up stores selling pure drinking water and wellness products such as vitamins for children (the idea being that the combination of both enables the stores to be profitable). In Ghana, they are working with Unilever and

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<sup>10</sup> (Hystra, Access to Safe Water for the Base of the Pyramid, 2012)



WSUP on the design of “Clean Team”, a new sanitation service to provide an integral sanitation service to low-income households via franchise businesses. Instead of having to use public latrines, customers receive a toilet in their homes which is serviced three times a week and allows families to pay on an incremental basis.

Donors can play a role to support the creation of such business through equity participations or grants. However, this type of activity is better suited to private-sector arms of donor agencies (such as IFC or PROPARGO for France), which have the ability to make long-term equity investments and take risks.

## 6. Guarantees

Donors can finance risk mitigation instruments such as guarantees to leverage private investment in WATSAN small scale enterprises.

### *6.1. How can guarantees be used to support small-scale actors?*

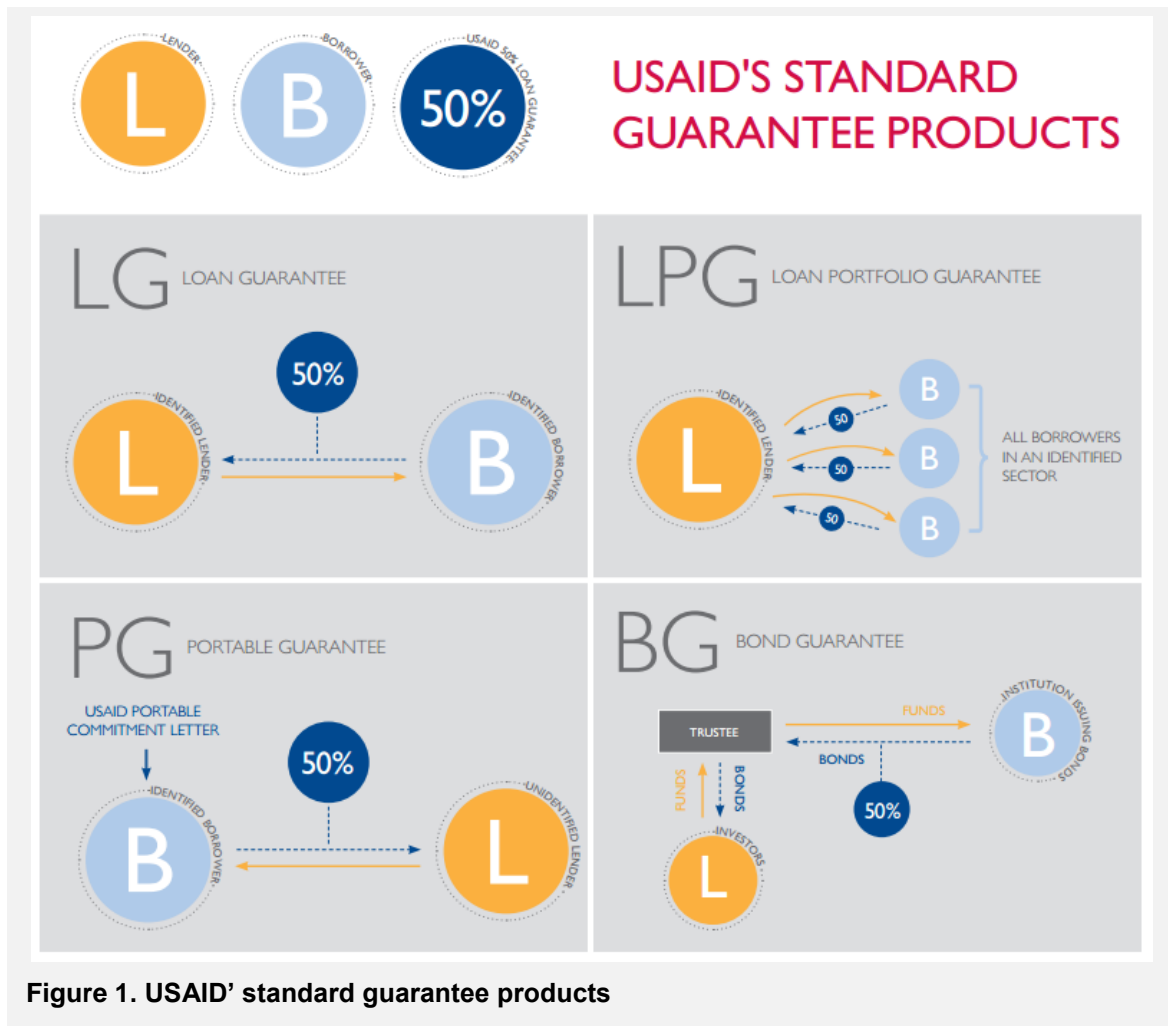
Guarantees transfer certain defined risks from project financiers (lenders and equity investors) to creditworthy third parties (guarantors and insurers) that have a better capacity to accept such risks”.<sup>12</sup> More specifically, a guarantee is a contract in which a third party (C) underwrites a financial commitment entered into by two parties (A and B).

A broad range of risk mitigation instruments is available from a variety of institutions. Guarantees can be used by donors to increase the creditworthiness of small scale businesses seeking to access market repayable finance. In particular, Partial Credit Guarantees (PCGs) can be used to lengthen the terms and reduce interest rates for small scale private enterprises. PCGs cover part of the debt service of a debt instrument regardless of the reasons for default. Guarantees can help with mobilising market-based repayable financing for water and sanitation enterprises, although their use has remained somewhat limited in the sector, particularly for small-scale actors.

Figure 1 below presents different arrangement of standard guarantee products used by USAID to mitigate risk on loans.

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<sup>12</sup> Matsukawa, T. and O. Habeck, (2007).



**Figure 1. USAID' standard guarantee products**

Source: [USAID Development Credit Authority's website](https://www.usaid.gov/development-credit-authority)


## 6.2. What have been the results of specific cases (assessment of strengths/weaknesses)?

Guarantees have been used to raise private capital for institutional finance facilities and platforms aiming to fund small scale providers and MFIs. They have been successful when donors were able to convince the commercial banks of the creditworthiness of projects supported.

CLIFF (Community-Led Infrastructure Financing Facility), for instance, is funding basic community-led infrastructure, including for water and sanitation. It is jointly supported by DFID and SIDA via Homeless International and in partnership with the Cities Alliance. The provision of guarantees (combined with capital and operational grants) has leveraged significant amounts of private financing and has helped to scale-up the programme (See Annex A6.1).

In Tanzania, TAFSUS (Tanzania Financial Services for Underserved Settlements) is a project supported by UN-Habitat that identifies slum upgrading projects, assists communities with project preparation and facilitates access to finance for those projects. Half of their projects pertain to sanitation. One of the key tools used by TAFSUS is the provision of cash guarantees to CBOs to soften the lending terms they can obtain from commercial banks (See Annex A6.2).





Other organisations have successfully sought to provide guarantees to small-scale entrepreneurs to help them develop their business, as they were not able to mobilise commercial bank loans based solely on their financial standing. For example, WaterAid in Tanzania tried to provide guarantees to CBOs and local entrepreneurs to help them acquire and operate the gulpers (small-scale pumps for pit latrine emptying). This did not go very far in that case, as neither WaterAid nor the CBOs had the necessary business experience to arrange such financing. In many cases, local commercial banks are not very familiar with the financial needs of the WASH sector so they would tend to require a full cash deposit equivalent to the amount being guaranteed, which reduces the attractiveness and usefulness of providing a guarantee for a donor.<sup>13</sup>

Although it does not specifically target SMEs, USAID has also been active in this area, via its Development Credit Authority (DCA), which was established in late 1999 to stimulate commercial lending through the use of partial credit guarantees.<sup>14</sup> A notable example of a PCG issued by USAID in the water sector was in the context of a pooled financing facility in the State of Tamil Nadu in India (See Annex A3.1). However, according to John Wasielewski who used to be at USAID-DCA, IFIs and donor agencies tend to be overly conservative and risk-averse in their use of guarantee products, as they also seek to maintain their own credit worthiness.<sup>15</sup> In his opinion, these institutions are behaving more like private financiers than development institutions. From his own admission, he thought that USAID-DCA itself could be viewed as too conservative given that the default rates have been very low, which means that they have not been sufficiently willing to push the boundaries of “acceptable” risk.<sup>16</sup>

### ***6.3. What is the potential for replication/scale-up of guarantees?***

Guarantees have been considered for some time in the WATSAN sector as financial instruments that deserve more consideration. The provision of guarantees is attractive for donors as it allows leveraging of private sector investment without a significant impact on the public purse. However, to be successful with small-scale actors, they need to be granted through an intermediary (as for CLIFF), given that the due diligence process that they require is similar to the one for loans and would be too time consuming for donor agencies.

Even large scale guarantee instruments, such as those offered by MIGA (the Multilateral Investment Guarantee Agency, i.e. the guarantee arm of the World Bank group) have seldom been used in the water sector (as compared to other sectors, such as energy, roads or telecoms), which means that the water and sanitation sector might not lend itself very easily to the use of guarantees.

It would therefore be important to assess how mechanisms where guarantees awarded by national institutions (such as in the case of FINDETER in Colombia, see Annex A.6.3.) could


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<sup>13</sup> This experience has been documented in a case study on microfinance for sanitation that has been prepared with SHARE funding and is soon to be released on the SHARE website.

<sup>14</sup> Since its creation, USAID-DCA has made more than 200 partial credit loan and bond guarantees, which has enabled approximately USD 2.3 billion of private capital to be lent in more than 67 countries (note that this applies to all sectors, not only water and sanitation). In 2009, the cost to USAID was approximately USD 53 million, meaning that for every dollar spent by USAID, an average of USD 30 was made available by the private sector. On the overall portfolio, the actual default rate was less than 1.75%. With about USD 250 million of total lending, the water and sanitation sector accounted for about 15% of that total portfolio, which shows that the sector has been relatively slow in taking up this kind of innovation. See [http://www.usaid.gov/our\\_work/economic\\_growth\\_and\\_trade/development\\_credit/](http://www.usaid.gov/our_work/economic_growth_and_trade/development_credit/) for more information.

<sup>15</sup> IFIs usually benefit from an AAA rating, which is critical to ensure relatively low borrowing costs

<sup>16</sup> Quoted from (Tremolet & Scatasta, 2010)



be created, potentially with donor support (in the case of FINDETER, they received an initial contribution from the Inter-American Development Bank), in order to mobilise funding from local capital markets that could be channelled to small-scale actors.

More research would also need to be done on the efficiency of guarantees to support small scale actors' access to finance, particularly when no financial intermediary/ platform is involved. Financial institutions in most developing countries would welcome the provision of guarantees but donors may be more or less willing to provide such guarantees depending on the level of country risk (which would also impact the cost of providing such guarantees).



# SECTION 3

## Overall assessment and recommendations

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### **Experience is limited to a small number of “pilot projects”**

The projects reviewed above show that, overall donors’ experience of working with small-scale actors in the water and sanitation sector has so far been relatively limited, although it has been growing in recent years.

Overall, there are only a limited number of projects where donors have financed WATSAN small scale actors, most of which have been small-scale. Only in a few cases have such projects been scaled up. For instance the Maji Ni Maisha project in Kenya, which has been extensively documented and cited as a model throughout the world, has achieved some impressive results in the pilot and is in the process of being scaled up in Kenya. However, it was expensive to set up in the first place and has not scaled-up so far in other countries. Those pilot projects have had very high transaction costs and have usually required heavy involvement from the donors involved (for example, from WSP in Kenya or GPOBA in Uganda). As a result they can be perceived as “donor-driven”, with the consequence that the government is not involved enough to enable the project to scale up. This appears to be the main reason for which the DBO-OBA Framework in Uganda has not been established yet.

### **Further evidence-gathering and research on existing experiences is needed**


Lessons from these pilot projects are not always available or well-documented (i.e. on the basis of impartial evaluations that are not tainted by the donor’s or the government’s own interests). Therefore, it is hard to disentangle what worked and what did not work and to fairly assign the reasons for failure to the design of the project, inadequate performance by the operator or to the political economy context. Whereas some financing models appear promising (as for the DBO-OBA project in Uganda for instance), it is not clear whether these approaches have worked or not. Additional “process-based evaluation” of these examples (including interviews with project implementers) is required. In addition, systematic comparisons of alternative financing approaches (as it was done in Cambodia for the AFD for example, by comparing alternative financing approaches based on their ability to leverage private sector finance whilst respecting equity principles) would also be needed to draw meaningful conclusions about the performance of a financing approach versus another. To some extent, where budgets are available, this could even be done through a randomised-controlled experiment.<sup>17</sup>

### **Scale-up existing initiatives that have already achieved results**

Only a few projects have managed to scale up, such as the Sanitation microfinance fund in Vietnam and the Philippines Water Revolving Fund (PWRF). The OBA Facilities have a great potential to scale up GPOBA projects but the concept is still at an early stage (such as in Honduras) and still has to prove its feasibility. Even though such a concept was proposed

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<sup>17</sup> We are not aware of any such study at present. However, we are currently discussing with the Bill and Melinda Gates Foundation the design of an RCT evaluation of alternative financing approaches for sanitation services (including microfinance and incentive payments) in Ghana in the context of the upcoming SAWiSTRA programme.



in Uganda, and could have been well-suited in this context, given the emphasis placed on small-scale operators' participation in this context, no such OBA facility has been created in Uganda so far due to lack of support from other donors or from the Government itself.

Some revolving funds have been particularly successful at scaling up. For example, the sanitation microfinance fund in Vietnam started with World Bank support has been scaled-up by the Vietnam Bank for Social Policy. The Philippines Water Revolving Fund (PWRF) has also reached an important size and is successfully attracting more commercial banks' participation. Whereas the first type of revolving fund (for microfinance) would be easily replicable in countries where strong microfinance institutions can be identified to manage the revolving fund, the second approach is likely to be relatively difficult to put in place in low-income countries (as opposed to middle-income countries which generally have more developed financial markets).

### **Consider blending financing instruments to meet different financial needs**

'Blended finance' refers to the combination of concessional finance (either straight grants or loans with a grant element) from donors with commercial repayable finance (from IFIs or market-based sources) or in some cases with donor or IFI finance provided on close to commercial terms. The main purpose of blending is to use grants to attract repayable financing that would not have been provided otherwise, whilst ensuring that the resulting project is not so expensive that the poor are excluded from the service. It mitigates the perceived risks, thus creating better conditions to attract more local currency loans from commercial banks and equity from the private sector. It also minimises the affordability constraint of access to finance for small scale businesses by providing financing on terms that are more favourable than those available in the market.

This financial mechanism can make water and sanitation projects with a delayed or drawn-out financial return more viable.<sup>18</sup>


A benefit of blending is that it can minimise the risk of "crowding-out" of market-based financing by concessional financing, a risk that is often encountered in countries which are highly dependent on external financial assistance. WATSAN enterprises may not even try to arrange a commercial loan when donors offer better financing terms and are eager to disburse funds for the few bankable projects they can identify. By deliberately blending both types of financing, donors can avoid crowding out commercial lending and help increase understanding of the sector by external financiers. Blending can either be achieved at project level or at institutional level.

At the level of a particular project or programme, blending can be achieved by defining the overall financing needs of the project and mobilizing resources from various sources into a single financial package in order to make it more acceptable and affordable to beneficiary populations and to allocate the risks more appropriately between project sponsors and financiers. One institution would usually need to act as the lead financier, much in the same way as a leading bank organises a banking syndicate to pool resources in order to finance a single project and spread the risks; the key difference being that some financing is in the form of grants rather than loans.

The different types of financing provided can match the risk profile of each project component, with some institutions providing grants for components which are more risky or with strong affordability constraints, such as connections in peri-urban areas or rural water supply investments. For example, the SAWiSTRA programme (which will provide funding for water and sanitation in small towns and rural areas of Ghana) is funded through loans from

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<sup>18</sup> Quoted from (Tremolet & Scatasta, Innovative Financing Mechanisms for the Water Sector, 2010)



the EIB and the AFD (40 million Euros each) and grants from the European Union and the Bill and Melinda Gates Foundation (5 million and 8 million Euros respectively). Grant funding from the BMGF will fund the most innovative components of the programme, such as seed financing for a revolving fund for household water and sanitation investments, local innovation prizes and incentive payments for district assemblies in order to achieve good sanitation outcomes. The Gates grant will also fund the establishment of a financing facility, SAWIP (Sanitation and Water Innovation and Performance) facility, which will act as a channel for this mix of innovative financing. The facility will initially be housed within CWSA, the rural water service agency in charge of supporting local governments with the development of their water and sanitation services, and could potentially be spun-off at a later stage. In addition, loan financing is provided for capital investments in rural water systems or school sanitation and funding from the EU covers technical assistance costs.

Blending can also be achieved when financial institutions are set up to pool financing from both concessionary and market-based sources and where public funds are used to trigger financing on a market basis. The difference with a project by project approach is that it is explicitly written in the mandate of such institutions that they should seek to combine financing sources.

Blending of different financial instruments has been used by donors in many different forms to finance small scale WATSAN actors. In fact, many of the examples reviewed in this report were cases in which different financial instruments were combined. This happened in different ways, such as through combinations of:

- OBA and microfinance, including in the microfinance for Community Water Schemes (Maji Ni Maisha) in Kenya funded by GPOBA (Section 1.1);
- Grant financing as seed financing for a revolving fund, which can then leverage commercial finance, as in Vietnam (see Section 1.3);
- Grants combined with guarantees to leverage commercial loan finance, such as in the CLIFF platform funded by DFID and SIDA in India and Kenya (see Section 6).

In the context of the on-going economic crisis which places severe constraints on public resource availability, blending different sources of finance is likely to become more and more important and is likely to require the creation of new types of financing vehicles, particularly at domestic level, in order to achieve this. One note of caution here, however, is that the setting up of such institutions often takes time and the initial costs of doing so can only be off-set over a long time frame. This is discussed in more detail in the next paragraph.


### **Invest in setting-up institutions for the long-term**

In order to overcome challenges associated with the resource-intensity of engaging with multiple small-scale actors, it would be worthwhile for donor organisations to invest in the setting-up of “funding facilities” that can then channel funding to these types of actors.

Setting up this kind of facility must be done with the specificities of the water and sanitation sector in mind, however. Some structures such as the Private Infrastructure Development Group (PIDG) have been set up to encourage private infrastructure investment, including water and sanitation infrastructure in developing countries to contribute to economic growth and poverty reduction.

But the PIDG has struggled to identify water and sanitation programmes that are aligned with its investment criteria, despite a desire to do more in water and sanitation due to the associated development benefits. The PIDG’s WATSAN portfolio currently accounts for less than 1% of its total portfolio. The PIDG does not currently work with small scale providers.





Donors could work collaboratively to build institutions that can channel financing to small and medium scale entrepreneurs. Those could be established either in a given country or internationally. For instance, the Dutch Ministry of Foreign Affairs is financing a PPP Facility as part of the “Ghana Netherlands Water Program”. This 170 million Euros programme will provide urban water, sanitation and solid waste to 5 municipalities in peri-urban areas. A Ghana window will be opened in the existing “Sustainable Water Fund”, a PPP Facility managed by the Agency NL dedicated to finance WASH PPP projects in Ghana. Approximately Euro 30 million of public funds have been allocated to the facility to finance WASH projects. It will provide the projects grants from Euro 1 to 5 Million and up to a maximum of 60% of project investment costs. The private company will be required to finance at least 20% of the costs. The project preparation costs would have to be covered by the developer. The PPP Facility could finance medium size projects such as water production and distribution activities in peri-urban areas, the construction and management of public toilets facilities, the construction and management of a Faecal Sludge treatment and reuse plant, the set-up of a de-sludging trucks leasing company, the construction and management of an engineered landfill site, a recycling business for plastic, paper, metal or electronic waste, etc. However, it is not yet envisaged that the facility could also provide smaller meso-finance grants to finance small and medium enterprises. Joining forces with this type of initiative (or designing a similar one in other countries) could be of interest.

### **Invest in well-targeted technical assistance**

Finally, many small and medium water and sanitation initiatives lack project management and business skills to access commercial finance. A common saying is that the problem in the water sector is not “a lack of finance but a lack of good projects”. This, to a large extent, is even more relevant for small-scale actors than for large scale ones, as the former frequently lack business and technical skills, which seriously limits their ability to raise financing. Any initiative that seeks to support financing for these small-scale operators should consider supporting them in different ways as well, through business skills training, assistance with funding applications and project preparation.

### A1. Grant funding for Output-based Aid

#### A1.1. *Overview of grants instruments to support small-scale actors*

OBA is part of a broader category of Results-Based Finance (RBF) instruments that can be used to incentivise different types of actors in different ways. The table below lists different types of results-based payment that can be made:

- On the demand side, to encourage recipients to change their behaviour and invest in safe water and sanitation. These RBF payments are mainly targeted at households as users or self-providers.
- On the supply side, to incentivize service providers to deliver water and sanitation service to a targeted population. These RBF payments can be targeted to any type of service providers: micro entrepreneurs, SMEs, NGOs or larger companies. OBA instruments are on the supply side of the equation.

Table A.1. below presents all types of grant finance support to different types of small scale actors, including households. The examples that are cited below are then further developed in the Annex.

**Table A.1. Overview of grant instruments to support small-scale actors (including households)**

Financial instrument	Brief description and relevance	Example of application
<b>On the supply side</b>		
Output-based aid	<ul style="list-style-type: none"> <li>Ties the disbursement of public funding to <b>service providers</b> to the achievement of clearly specified results that directly support the delivery of basic services.</li> <li>The full amount of subsidies is paid to the beneficiary (private or community operators) only once these results have been met.</li> <li>OBA can be used to incentivise <b>small scale providers</b> to expand water and sanitation coverage via connection subsidies and to be more cost effective to improve affordability for targeted groups</li> </ul>	<p>GPOBA has been involved in at least 15 OBA projects involving small and medium size entrepreneurs in the water and sanitation sector. OBA has scarcely been used in the sanitation sector. GPOBA has recently started projects in Sri Lanka and Vietnam and has approved funding for a project in Bangui, Central African Republic (the latter involves NGOs as service providers, but they would work with SSIPs and masons for the manufacturing of slabs). Overall, we have identified the following projects that deal with small-scale actors:</p> <ul style="list-style-type: none"> <li>11 in water: Cambodia, Paraguay, Honduras, Kenya, Vietnam, Uganda, Ethiopia, Tanzania, India and Yemen</li> <li>2 in sanitation: Sri Lanka and Vietnam</li> <li>2 in water and sanitation: Kenya and Central African Republic</li> </ul> <p>OBA can be used for water supply for :</p> <ul style="list-style-type: none"> <li>Expansion of the infrastructure</li> <li>Water connection via connection subsidies</li> <li>Consumption subsidies to subsidise the transition to cost-covering tariffs</li> <li>Expansion of wastewater treatment.</li> </ul> <p>OBA can be used for sanitation services for:</p> <ul style="list-style-type: none"> <li>Demand creation “software activities” : sanitation marketing, social mobilisation, triggering, Hygiene promotion, Product development</li> <li>Collection /access: Build on-site sanitation (pit latrines or septic tanks), Build and operate public toilets, Empty latrines or septic tanks</li> <li>Transport: Transport pit waste to designated points, transfer stations</li> <li>Treatment: Build, maintain and operate Waste Water Treatment plants</li> <li>Disposal/reuse of the faecal sludge : Build and maintain biogas facilities</li> </ul>
Challenge funds	<ul style="list-style-type: none"> <li>Pre-defined grant amounts award to promising <b>innovative business models and projects</b> to spur innovation and entrepreneurship.</li> </ul>	<ul style="list-style-type: none"> <li>Stone Prize for Innovation and Entrepreneurship in Water</li> <li>Cartier Women's Initiative Award</li> <li>Gates Foundation Grand Challenges: “Reinvent the toilet”</li> <li>DFID Challenge Fund</li> </ul>

Financial instrument	Brief description and relevance	Example of application
Other types of supported private sector contracts	<ul style="list-style-type: none"> <li>PPP contracts have been developed to attract <b>private sector firms</b> and finance in the WASH sector with the support of the public sector. Different types of contracts can be supported</li> <li>DBO (Design, Build, Operate)</li> <li>DBL (Design, Build, Lease) (see Section 2.3)</li> </ul>	<ul style="list-style-type: none"> <li>In Uganda, Design Build Operate contracts have been tendered out to private operators for the design, construction, operation, and maintenance of new piped water supply systems (Greenfield installations). This has been linked with output-based payments. (See Annex A1.4)</li> <li>In Cambodia, Design Build Lease Contracts have been tendered out to private operators for similar greenfield installations. The private operators benefited from a loan from the government and leased the installations. (See Annex A2.1)</li> </ul>
<b>On the supply and demand sides</b>		
Support to microfinance organisations	<ul style="list-style-type: none"> <li>Support micro-finance institutions so that they would start engaging with small-scale WATSAN actors, such as households or small-scale entrepreneurs</li> <li>Leverage private sector investments from <b>household and communities</b></li> <li>Leverage private commercial or social capital</li> <li>Grant support to finance start-up or operational costs (as done by WaterCredit)</li> <li>Grant support or loan to provide initial seed financing, particularly if private sector financing is lacking.</li> </ul>	<p>Water.org is an NGO based in the USA that developed the WaterCredit initiative to put microfinance tools to work in the water and sanitation sector. This program connects the microfinance and WATSAN communities to scale up access to credit and capital for individual- and household-based WATSAN needs. Through WaterCredit, Water.org aims to channel and redeploy financial resources more efficiently and effectively and therefore to reach increasing numbers of people. Water.org typically does not provide funding for the loan portfolio itself or related “hardware”; these costs are expected to be borne by MFIs, client and community contributions, and other sources of external capital. Rather, it acts as a facilitator of investments. WaterCredit also provides grant capital to underwrite start-up and related “software” activities of developing WATSAN portfolios, including product development and marketing, market assessments, community mobilization, WATSAN education/training, and institutional capacity building. In certain cases Water.org may provide credit enhancements, such as guarantees and standby letters of credit, to MFIs to assist portfolio growth. It also connects partner MFIs and WATSAN organizations with one another to develop WATSAN financial products and provides strategic counsel directly to these partners as needed.</p> <p>While Water.org currently does not provide financing for larger WATSAN investments such as micro-utilities or water kiosks, which (given their higher loan size) fall beyond the customary scope of MFIs, Water.org continually reviews opportunities to expand WaterCredit for micro-utilities and small WATSAN-related businesses for income generating purposes, and to provide seed and growth capital for WATSAN entrepreneurs with scalable business solutions. (WaterCredit.org).</p> <p>The experience of the WaterCredit initiative is interesting in the sense that they have worked out a model to support microfinance institutions to offer financial products for</p>

Financial instrument	Brief description and relevance	Example of application
		water and sanitation investments, with some very interesting results.
<b>On the demand side</b>		
Conditional Cash Transfers	<ul style="list-style-type: none"> <li>Potentially relevant to channel funding to <b>households</b> to modify their behaviour over time</li> <li><i>This has not been applied in the WASH sector as yet.</i> It has mostly been used in health and education but has potential to be applied to the sanitation sector as well.</li> </ul>	The “Grow Up with a Toilet” programme in Cambodia is a Results-based Financing plan proposed by (Robinson, 2010) to ensure that every child in Cambodia “grows up with a toilet” through the provision of sanitation finance to poor households during the first five years after the first child is born. Assistance would be provided to the mother of the household to improve household sanitation throughout the five-year period, with both connection subsidies (incentives for the construction of facilities) and outcome-based sustainability incentives (to encourage long-term improved sanitation practices). To our knowledge, this proposal has yet to be implemented.
Ex-post incentive payments	<ul style="list-style-type: none"> <li>Incentivise <b>households</b> with rewards to invest in sanitation at household level</li> <li>Increase the efficiency of the hardware subsidy with a result-based payment</li> </ul>	<p>The Total Sanitation Campaign (TSC) in India is a nation-wide programme to boost sanitation coverage, particularly in rural areas. The approach is based on a CLTS (Community Led Total Sanitation) approach to promoting sanitation, combined with small hardware subsidies for the poorest households. The payment of the subsidies to these households depends on the entire village reaching Open Defecation Free (ODF) status. As they are outcome-based, they are described by the Indian government as incentives provided to households “in recognition of their achievements”. Separately from the TSC, the Nirmal Gram Puraskar provides one-off monetary rewards to villages that reach ODF status. The villages can use the cash incentive to improve and maintain sanitation facilities in their respective areas with a focus on solid and liquid waste disposal and maintenance of sanitation standards. (Trémolet, Perez, &amp; Kolsky, 2010).</p> <p>The TSC campaign has achieved some remarkable results in terms of boosting rural sanitation coverage, although such results are very uneven from one state to another. Part of these variations in results were due to different approaches to the provision of incentive payments to households or communities for building latrines or achieving Open Defecation Free status.</p>





### **A1.2. OBA to support Paraguay's small independent water providers development into rural areas**

In the early 2000s, the rural water agency in Paraguay (SENASA), in charge of providing water and sanitation service to rural communities with fewer than 10 000 inhabitants, reached about 37% of the rural population (or about 18% of households nationwide). In the process, it created more than 1 000 water users associations, which assumed responsibility for service provision. In addition to partially contributing to the costs of constructing the systems, SENASA had to provide large subsidies to communities since they often failed to make agreed cash contributions or to service their debt. Reliance on public financing was high and public subsidies for rural water and sanitation systems amounted to an estimated US\$300- 400 per connection. With this system, Paraguay would have needed more than 20 years to reach 85% coverage in rural areas.

Alongside the public water utility in charge for urban areas (ESSAP), small private providers known as aguateros were supplying water to about 500 000 people in peri-urban areas, mainly in the greater metropolitan region of Asunción. These small operators had constructed piped water supply systems over the previous 20 years without public financing. Many were not registered as businesses, operating as part of Paraguay's active informal sector. Altogether, aguateros served around 9% of the country's population in 2004 or about 17% of all Paraguayans with piped water supply. Given the constraints of the state water utility and the traditional water user association model, public authorities concluded that private providers would be the best means of reaching un-served communities and rapidly expanding rural coverage. SENASA agreed to implement a pilot output-based aid program to attract aguateros and local construction companies to serve small towns.

In the first phase of the pilot, it was determined that a per-connection subsidy (amounting to USD 150 for each connection) would be provided. The winning bid, matching both technical requirements and the lowest connection fee, was extremely competitive, committing the winning consortium (two construction companies and an aguatero) to build water systems in all four towns at USD 200-217 per connection. To make it easier for poor residents to pay, the winning consortium hired these residents during construction, paying them with cash and with vouchers to reduce their connection fee.

In the second phase, the bidding variable changed from the connection charge paid by users to the connection subsidy provided by the government. The connection charge per household was fixed at USD 80 per household. In the first phase of the pilot all subsidy payments were withheld until the operator had demonstrated it had successfully provided the connections, constraining the private sector to mobilize most of the construction financing. In the second phase, shares of the total subsidy payment were to be progressively released as the operator completes components of the system.

*Source: Drees, F., Schwartz, J. and A. Bakalian, (2004), as quoted in (Tremolet & Scatasta, Innovative Financing Mechanisms for the Water Sector, 2010)*

### **A1.3. Using output-based grants to leverage mesofinance in Kenya**

The Water and Sanitation Program and K-Rep Bank developed a pilot project for supporting local water service providers in Kenya. The Water and Sanitation Program and K-Rep bank Ltd<sup>19</sup> have developed a pilot project for supporting local water service providers in Kenya that combines mesofinance with output-based subsidies to ensure appropriate focus on network extensions. K-Rep Bank was officially established in Kenya in 1999, as a bank with a focus on micro-finance, small and medium enterprises, poor households and development-oriented enterprises.

The Kenya Microfinance for Water Projects Activity was launched in 2007. Funding for implementation of the project's pilot phase, approximately USD 1.1 million, was provided by the World Bank's Global Partnership on Output Based Aid (GPOBA). The objective of the pilot project was to

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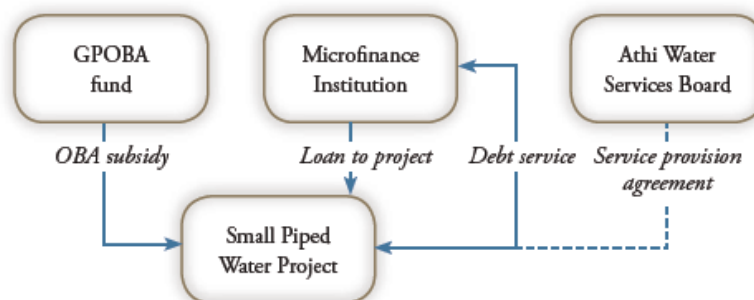
<sup>19</sup> K-Rep Bank Limited (<http://www.k-repbank.com/>) was officially established in Kenya in 1999, with a focus on microfinance, small and medium enterprises, poor households and development-oriented enterprises. See Annex A1.3 for more information on the institution itself as opposed to the pilot project.



increase access to and efficiency in water supply service by the poor in the rural and peri-urban areas of Kenya and particularly under the Athi Water Services Board region.

The pilot project was designed to address some of the constraints weighing on water service providers in reaching communities through micro-finance, which include 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. Institutional and financial arrangements work as follows: the small piped water project (the borrower) contracts a loan with the micro-finance institution (K-Rep Bank) and is responsible for making debt service payments to this institution. Further to the Kenyan Water Act of 2002, the small water project has to sign a Service Provision Agreement (SPA) with the Water Service Board (WSB) in whose jurisdiction it falls (for example, the Athi Water Services Board-AWSB for the area surrounding Nairobi). Upon successful completion of the project, the Global Partnership for Output-based Aid (GPOBA) pays subsidies to the small piped water project (figure below), which reduces the overall size of the loan to the communities, and keeps debt service payments affordable. It also provides better risk management from the lender's perspective and increases incentives for project completion as the subsidy is transferred upon the delivery of agreed outputs (including the increase in the number of connections and changes in revenues collected).

Prior to the subsidy release, the K-Rep Bank's loan amounts to 80% of the total investment. This share drops to about 40% upon successful delivery of the outputs (which needs to be independently verified) and payment of the subsidy. After the release of the subsidy, the MFI remains responsible for collecting the remainder of the loan that is to be covered from water revenues. Technical assistance grants are also provided to assist with project development: each community project receives a grant for management assistance during project implementation and during the first year of operations.




**Donor support received.** In December 2007, GPOBA signed a grant agreement with the EU Water Facility for an additional Euros 1.5 million to expand the number of target projects to 55 throughout the country. In addition, PPIAF (Public Private Infrastructure Advisory Facility) granted the Water Services Trust Fund another USD 523,000 to pilot a matching grant system to support communities to engage consultants to assist with the preparation of loan applications.

**Project results and scaling-up.** Initially the project screened 42 community systems and conducted pre-feasibility of 21 sub-projects from communities within the Athi Water Services Board area. This screening familiarized the stakeholders with the capacity of water and sanitation organisations. Although initially slow, the project showed much progress between 2008 and 2009, with the identification of in excess of 13 eligible sub-projects for financing, approved lending of more than KES 56,670,423 (USD 717,000) and 19 un-solicited proposals received by K-Rep Bank.

**Lessons learned.** The pilot project was designed to address some of the constraints weighing on water service providers in reaching communities through mesofinance, which include limited exposure of micro-finance institutions (MFI) 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.

From K-Rep's point of view, motivating factors for taking part to the project included: i) the return on the loan capital and ii) the potential for increasing customer outreach and related business. For example, K-Rep Bank plans to market financial products to the users of the water systems that it finances, such as a specialized cow leasing product for customers involved in dairy farming. The project established a simple project financing cycle that exposes both the bank and community water



projects to each other. The pre-financing engagement exposed the community project management to the requirements of the financing institutions and the bank to the dynamics of community water projects.

Sources: Mehta and Virjee (2007) as quoted in (Tremolet & Scatasta, 2010) and Muruka and Mugweru (2012) as quoted in (Trémolet, 2012)

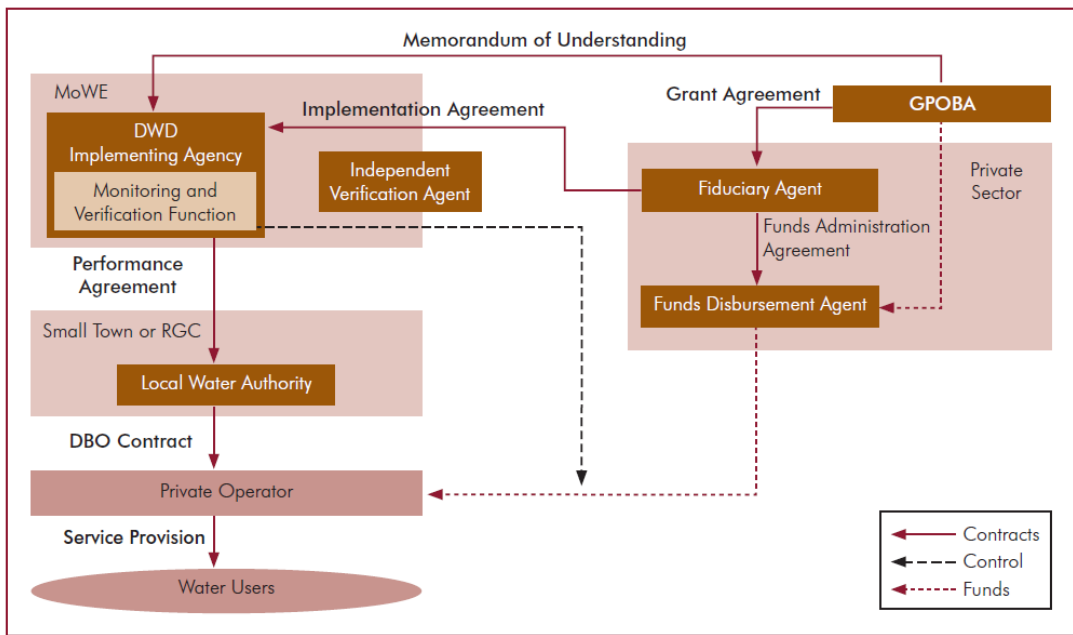
#### ***A1.4. Uganda OBA project for water supply in small towns and scaling-up to build a national Design-Build-Operate-OBA Framework***

In Uganda, GPOBA financed in 2006 a USD 3.2 Million pilot project for an OBA fund for Water Supply in Small Towns and Rural Growth Centres. Small private companies have been operating water supply systems in these areas since 2001. This project aimed to leverage private sector finance and expertise to deliver 2,000 connections (yard taps and public kiosks), benefiting almost 45,000 people while increasing efficiency and accountability in the use of funds. In 2010, 961 connections had been completed, benefiting about 8,100 people so far. The government also started exploring with GPOBA and SUWASA the scaling up of the OBA approach to build a national DBO-OBA framework for water supply in small towns.

**OBA Project Structure.** In each area, a private company has been selected on a competitive basis to implement a predefined investment program for improving the water supply system and to operate the extended system. In small towns, the goal was to expand access by increasing active connections and extending the distribution networks and, where necessary, to increase the capacity for production, storage, or both. In rural growth centres the scheme involved the design, construction, operation, and maintenance of new piped water supply systems (greenfield installations).

Although the OBA pilot built largely on the existing institutional framework, differs from the more common arrangements in Uganda's small towns in several main ways. Access to finance is a challenge for these operators, in particular to "pre-finance" investments until the OBA subsidy is disbursed. The programme partly mitigated this by tendering out Design-Build Operate (DBO) contracts to Joint Ventures between a designer, a builder and an operator. Rather than the more typical management contracts of 1–3 years used in Uganda, the OBA pilot involved design, build, and operate (DBO) contracts of 5 years for small towns and 7–10 years for rural growth centres. The presence of a construction company with more history of borrowing was to allow the JV to have better access to credit. In rural growth centres, the operators receive compensation in phases for intermediate outputs (which means that the pre-financing risk is reduced), although 45 per cent is withheld until after verification of connections and a period of water delivery. Tariffs are written into the DBO contracts along with simple escalation clauses. They are intended to cover at least 10 per cent of expected investment costs in rural growth centres and up to 30 per cent in some small towns.

Figure 1. Institutional framework for pilot implementation



Source: MoWE 2007.


**Results of the GPOBA project.** The results of the pilot phase in 2009 are unclear. It is commonly agreed that the pilot in Busembatia worked, but some argue that it worked only there, and simply because of a large subsidy. According to the Austrian Development Agency, the OBA Strategy in Uganda was not successful. It funded the pilot for €1M and stated that it was deeply disappointed that the only output was a small extension in Luwero worth \$100,000 and that the lender, after having received a guarantee, retained 20% of that \$100,000 as interest. However, according to the review from Pelrine (2013) on the lessons learned from this project, the bank financing was used in seven of the projects, not just one. The objective was not to simply facilitate bank financing for water projects but rather to introduce a more private sector driven approach to water projects, including joint liability among contractors for their work—which showed some degree of success according to that review. Nonetheless, it was true that using a commercial lender to channel funds only raised the cost of a project that a donor had to pay for anyway.

Initially, the POs relied more on their own cash and working capital (e.g. supplier credit) than on bank loans. But when the operators started to deliver results, some local banks showed renewed interest in participating. Three of the operators (Trandint, JOWA and WSS) obtained pre-financing through bank loans, overdraft facilities, and from borrowing from suppliers with whom the POs have a working relationship.

Pelrine (2013) also reported in the “Lessons learned” report that several of the sites were contracted without any subsidy. Four of the sites used the full DBO-OBA Framework whereby Designers, Builders and Operators had successfully collaborated to deliver services in step with the Framework’s objectives thus demonstrating, contrary to other opinions, that the contract size was large enough to attract teams of qualified contractors. In some cases—but not in others—the Operator was able to renegotiate the water tariff with the MWE based on a predefined formula that enabled the Operator to consistently operate above break-even.

**Consideration of an extension of the GPOBA pilot to a national DBO-OBA Framework.** Based on the Busembatia pilot, SUWASA and GPOBA supported from 2010 the Directorate of Water Development (DWD) of the Ministry of Water and Environment with exploring how to scale up the DBO-OBA concept, and developing and implementing a “DBO-OBA Framework”, i.e. a national financing mechanism with an OBA fund for private water operators of small and medium towns in Uganda using loan facilities from local banks. GPOBA was supporting MWE to plan and implement the scale up of the OBA program that would be fully implemented and funded by the Government of Uganda. The DBO-OBA Framework would use the Water and Sanitation Development Facility





(WSDF) funding mechanism, a pooled fund to finance investments at community level through a demand responsive approach. This fund would be earmarked for OBA.

The project was to take advantage of the DBO-OBA approach as a process for securing the loans. SUWASA was seeking to establish a commercial bank loan guarantee product for private water operators, directed toward partially mitigating the risks of the loans to POs. The project would also strengthen the regulatory framework and oversight procedures for town water systems managed under the DBO-OBA management contracts as well as the capacity of key stakeholders to participate in and implement the DBO-OBA framework (DWD and district/local water authorities, POs, and local banks). The DBO-OBA Framework was expected to be funded by the international donor “basket” fund (called the “Joint Partnership Fund”) supervised by the donors’ Water Sector Working Group (WSWG).

### **Results of the DBO-OBA Framework.**

Although the idea was deemed interesting and innovative, the project has not yet been implemented as several donors thought that the national “DBO-OBA Framework” was not a feasible idea in the near future. They did not put the necessary resources in the basket funds. Second, designers and builders were also reluctant to team with operators in a joint venture. The DWD repeated the interest of the government in the DBO-OBA concept, but also confirmed that it may not be used in the near future. It also appeared that the project was seen as donor-driven and that clear leadership and commitment in the project from the government was lacking.

*Sources: Azuba, Mugabi, and Mumssen (2010) and Pelrine R. (2013)*

## **A1.5. Honduras OBA Facility**

To help the Government of Honduras achieve universal coverage and improve service quality, the Global Partnership on Output-Based Aid (GPOBA) is funding a project to test the viability of an innovative output-based aid mechanism for financing water and sanitation services. Housed within the Honduran Social Investment Fund, this “OBA Facility”—the first such facility funded by GPOBA—aims to improve access to water and sanitation services for about 15,000 low-income households, and to increase efficiency and transparency in sector investment funding. To be eligible for funding from the OBA Facility, projects must meet specific criteria and payments are made against verifiable results.

The project has two interlinked objectives: most immediately, improving water and sanitation service and access; and in the medium term, demonstrating innovation in funding sector investments through an efficient and transparent mechanism for financing water and sanitation infrastructure projects. The project will improve access to and quality of water and sanitation services for low income households with an average per capita income of US\$2/day in rural and peri-urban communities. The project is currently fully funded by the Global Partnership on Output-Based Aid (GPOBA). It has three components. Component 1 provides US\$4 million for direct subsidies to finance eligible water and sanitation infrastructure projects. Each project has specific outputs, including final working connections (either domestic water or sewerage connections or yard taps) and measurably improved water quality. Component 2 provides up to US\$60,000 to support project implementers in enhancing project designs and their capacity to implement the projects. Component 3 provides US\$390,000 for the running and management of the OBA Facility, including payment for Independent Verification Agents (IVA).

The OBA Facility is housed within the Honduran Social Investment Fund (FHIS). Project implementers make a request to FHIS for a one-off subsidy to cover the unit cost per connection which is payable against pre specified outputs for each project. The Facility operates on a four-month cycle. Projects are evaluated for their social benefits and feasibility as they are received, and are ranked against other project applications for that corresponding cycle. At the end of each four-month cycle, projects that are deemed eligible by the specialist unit in FHIS proceed to implementation.

The OBA Facility in Honduras started operations in 2008. Under the first cycle of subprojects assessment (Phase 1), the OBA Facility evaluated around twelve projects and signed two contracts with implementers, which are currently in execution. One contract was signed with SANAA grouping





12 water subprojects in 16 peri-urban areas of Tegucigalpa for a subsidy amount of US\$0.9 million. The contract with SANAA was accompanied by a bridge loan of US\$0.63 million. The second contract was signed with Aguas de Puerto Cortes (APC), a private implementer, for a subsidy of US\$0.18 million. As part of Phase 2, eighteen subprojects with public implementers and four subprojects with private implementers were assessed and ranked. Taking into account this assessment and the availability of funds for additional contracts, the OBA Facility envisages signing four more contracts with public implementers and two additional contracts with private implementers in 2009–2010.

Sources: Mandri-Perrott C., Schiffler M. and Aguilera A.S (2009)

## A2. Grants or Loans to support leasing

### A2.1. PPP leasing contracts and OBA Approaches in Cambodia

In Cambodia, the World Bank supported the development of town water supply services through its Provincial and Peri-Urban Water and Sanitation Project in 2003. Within the World Bank project, two approaches were developed and promoted conjointly, a DBL approach and an OBA approach. The objectives of both approaches were to rely on private operators for service delivery and to leverage private sector investment through adequate use of public funds. Whereas the DBL approach provides up-front financing to entrepreneurs who are in charge of developing and operating a system, the OBA approach provides them with grant financing, but only after they have completed the investments and connected households identified as poor at no charge. The programmes were testing new institutional approaches for promoting public-private partnerships and providing subsidies to private sector operators. The overall project included a credit for USD 16.9 million and a grant of USD 3.1 million. DBL contracts were funded through the World Bank loan, except from the preliminary designs, which were funded by the grant. The first studies were conducted in 1999 and the first contracts were let in 2004, with an additional round of bidding in 2005. Further rounds of bidding are under preparation for 2006 and 2007.


The first objective of the DBL approach was to leverage equity from private sector operators. In future tenders, the initial equity investment by the private sector investor was expected to be raised to 20 to 30 percent, or more. The project assumed that in the future, the local financial system would develop capability for investors to obtain financing for at least five years to pay for this initial investment.

The design-build lease approach (DBL) provided long-term financing and technical assistance to entrepreneurs willing to build and operate systems in small towns. The projects were green-field projects, consisting of building water abstraction, treatment, transport and distribution facilities. The entrepreneurs needed to finance only 10 percent of the design and construction costs from its own funds and the rest was financed by the government of Cambodia from the proceeds of a World Bank loan. Due to increases in material costs and delays in the start of construction, however, private operators often have to pay a higher amount than what was estimated at the time of bidding. The entrepreneurs then paid the rest of the capital costs put up by the Royal Government of Cambodia in the form of a lease payment. In that way, they benefited from the very advantageous borrowing rates of the government, which passes on long-term financing at terms comparable to what it receives from the World Bank. The incentive to provide services over the long-term was strong, since they needed to generate sufficient revenues in order to pay the lease payment every year. Households that had indicated their willingness-to-connect during project preparation were connected for free, although there was no guarantee that those households were actually the poorest in the service area.

#### Results from the DBL Project.

**High leveraging of private funds** – Compared to the OBA project, the DBL approach had the highest leveraging effect: on average, 1 USD of public funds can generate almost 5 USD of private funds (although this drops to 2 USD when a technical assistance mark-up is included). It allows mobilizing private funds over the long term, and leveraging the contribution of customers as well.

**Attractiveness for private operators** – The DBL approach amounts to providing long-term finance and technical assistance to private operators. It is closest to standard construction contracts, and is therefore more easily understandable by construction companies, which represent the bulk of medium-sized operators active in the market.



**Limited demand risk** – The demand risk is limited by the fact that at least 50% have had to sign a Willingness-to-Connect form for the project to go ahead. As a result, there are stronger guarantees than in the OBA contract that a substantial portion of the population will take up a connection, which limits the demand risk for the private operator.

**Not performance based, limited incentives to reduce costs.** The private operator is paid based on inputs. The observed high capital costs per connection or per km of network (especially when compared to OBA) indicate that pressure to reduce costs through the competitive bidding procedure was not been strong enough. This may be because projects were largely designed by external consultants, who may be less aware of local solutions or available materials to reduce costs.

**Relatively poor targeting of the subsidy.** There is a strong risk that those households that have signed the WTC survey would be the comparatively richer ones, who are able to make informed choices about these concepts, and they are confident that they can pay the volumetric charge once they are connected. There is also the risk of manipulation of these WTC questionnaires, since sometimes it was totally down to the Communes with no external checks. There is also risks related to the targets and unknown rate of connection and consumption.

**Risk profile for private operators** – It is not clear whether private operators truly understood the risks involved with such a contract. In order to pay the lease fee, they needed to operate the services successfully, which they have no previous experience of in most cases. As the contracts most closely resemble construction contracts, the risk is strong that the wrong kinds of firms had been attracted.

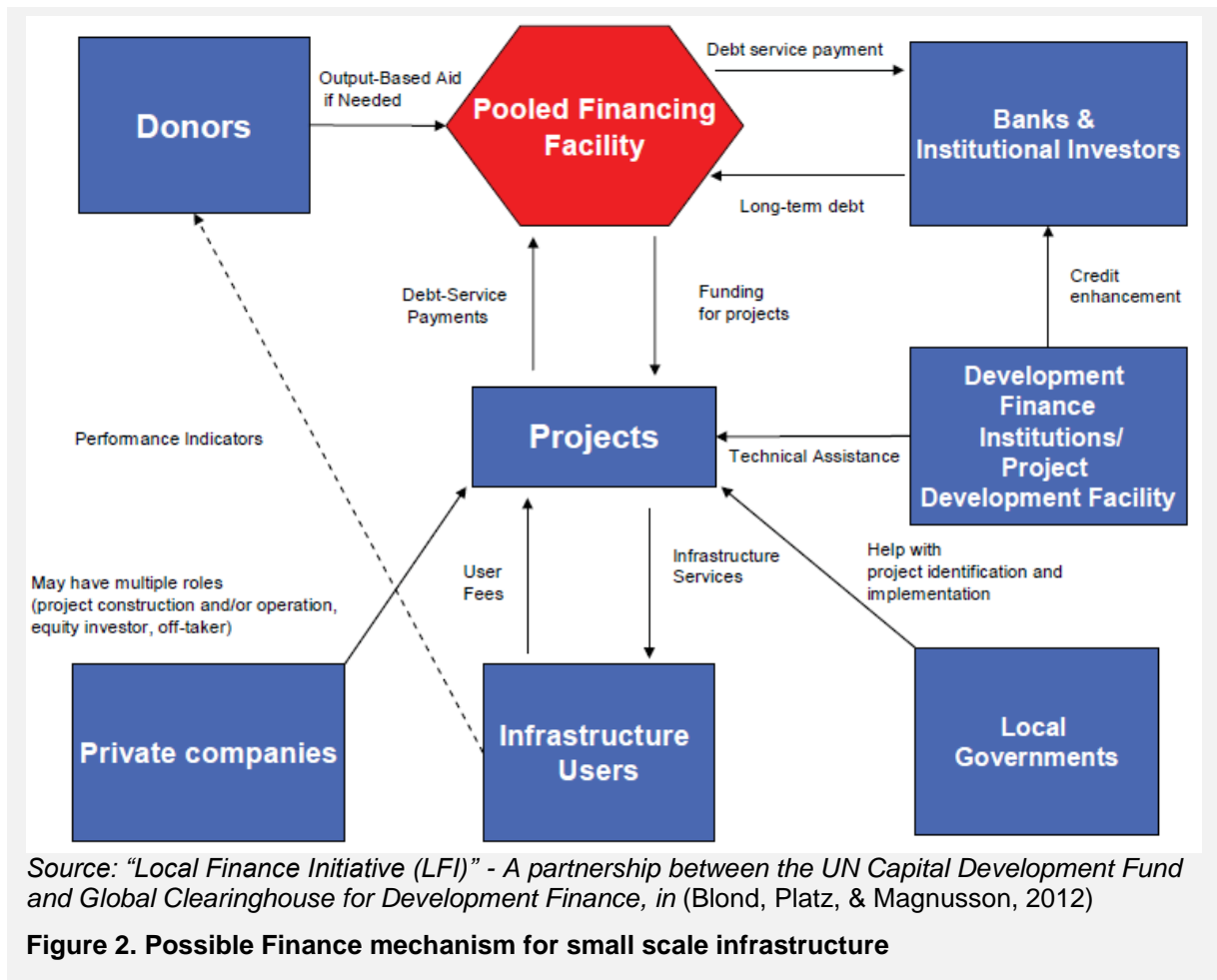
**Treatment of loan in the DBL approach** - The DBL program essentially provides a long-term loan to the private entrepreneur. Although the government provides 90% of the investment funds up-front, it can recoup its investment through the lease payments paid by the private entrepreneurs every year after year 2.

*Source: Sophie Trémolet, (2006), Study on the “Water Supply and Sanitation Project in Small Towns of Cambodia”, AFD-FEPP Funded Project*

## **A3. Seed funding for revolving funds or grouped financing vehicles**

### **A3.1. Grouped Financing Vehicles**


Other more sophisticated versions of a revolving fund are grouped financing vehicles such as pooled funds or bond banks. They use government grants to leverage additional market-based repayable finance (See Figure 2 below). The proceeds can then be on-lent in order to finance projects in the water sector. The goal is to improve access to financial markets for small borrowers. It can lower the cost of capital and improve the lending terms for borrowers by incorporating various forms of credit enhancement with the aid of external guarantees for the reserve fund as used by the USAID's Development Credit Authority (DCA) in Tamil Nadu State in India. The more profitable projects can be developed first to secure the initial capital and generate new sources of revenues, which can be used to mobilise new financing for developing a second generation of projects. This process can be repeated several times, so as to increase the number of projects financed in such a way. The pool funds can administer the funds in an output-based way, i.e. by disbursing the funds gradually as progress is achieved rather than as an initial lump-sum.



### A3.2. The Philippines Water Revolving Fund (PWRF)

The Philippines Financing Reform combines the judicious use of aid from ODA (United States Agency for International Development (USAID)), with a focus on improving the “fundamentals” of the sector and financial ingenuity. The main challenges the Philippines face with regard to the water supply and sanitation sector are that 80% of the population has access to water supply, but only 44% have piped connection, and 84% have access to latrines and septic tanks, but only 4% of the population has access to sewerage systems, and infrastructure for wastewater treatment is missing. In the past, progress in expanding and improving services has been slow. In terms of financing, public resources can cover only half of the investment requirement to meet MDG targets and nothing for wastewater treatment facilities. Internal revenues and ODA have been the traditional sources of financing for water utilities. Both have been declining over the past decade – a trend that is expected to continue. The Philippines Water Revolving Fund (PWRF) Feasibility Assessment estimated a funding gap of about \$1.8B to meet Millennium Development Goals (MDGs) targets for water supply and sanitation by 2015, in urban areas outside of Metro-Manila. The government thus became interested in attracting private finance (particularly from local financial markets) to the sector as a way to bridge the financing gap.

The Philippines Water Revolving Fund (PWRF) is one of several innovative financing mechanisms to do so. It has the following objective: blending public and private resources to offer affordable financing to utilities without distorting market terms. Initially, the idea was to establish a fund similar to the US State Revolving Funds. However, there were two major constraints in setting up the scheme. First, no government grants were available to be used as collateral, due to the very tight fiscal position of the Filipino Government (GRP). Moreover, private financing institutions were not familiar with utilities. On the other hand, there were opportunities. If GRP would provide a sovereign guarantee, public banks could borrow ODA money directly. ODA funding could then be used to leverage private funds. The



positive aspect of the Filipino financial market was the presence of high liquidity and the prevalence of low interest rates. Finally the creditworthy utilities were able to afford market based rates, but needed longer maturities than were offered by local banks. Responding to this, the PWRF was designed as a co-financing facility, blending concessional loans from the Japan International Cooperation Agency (JICA) (borrowed and on-lent by the Development Bank of the Philippines) with funds of local private commercial banks. Donors' development agencies also contributed in a second way: a domestic guarantee corporation backed by a co-guarantee from USAID Development Credit Authority will provide the credit risk enhancement for private lenders. Moreover, commercial loans that currently have maturities of ten years at the most will be supported by a standby credit line from government financing institutions to lengthen the amortisation period. The revolving nature of the Fund comes from the longer grace periods of the JICA loan (ten years) and the shorter grace period of the loans to water utilities (two to three years). Their early principal repayments will be put in a ring-fenced account and dedicated to lending for new water projects or enhancing future capital market-based instruments. The fund became operational on 30 September 2008.

Since the financing window was launched, the PWRF has lent PHP4.3 billion (\$102 million) to 22 projects, 14 of which have been 100% financed by private financial institutions. The others are co-financed by private banks, together with concessional funds from JICA, Japan's development agency. Thanks to the design of the fund and the credit risk guarantees, it has not been difficult to bring in private lenders. These projects are mainly for water source development, rehabilitation work, and network expansion.

From the borrower's point of view, PWRF offers competitive rates. Loans have averaged PHP200-300 million (\$4.8- 7.2 million) in size, and have been priced at 8.5-9.0%. This compares with rates of 12-14% on loans from the Local Water Utilities Administration, a government agency. Nevertheless, the main concern harboured by water districts is not the rate but the tenor of the loans. Borrowers are looking for 16- to 20-year money, while private lenders were at first reluctant to go beyond seven years. PWRF addressed this mismatch by offering long-term loans backed by a re-financing guarantee from the government. As the market has matured, however, the re-financing guarantee has become less critical.

The objective of the fund is now to make it sustainable in the long term without ODA replacing it with financing from pension funds. In terms of project preparation, the emphasis is now on wastewater, with most projects focusing on 'septage management' (de-sludging of septic tanks, septage treatment and proper disposal). This is a new area for local utilities, and is firing interest in PPPs. PWRF has been working with 17 water districts to prepare feasibility studies for septage management projects.

*Source: Global Water Intelligence, "Philippines water fund revolves and evolves", Vol 13, Issue 8 (August 2012), OECD (2009).*

### **A3.3.     Revolving funds for water and sanitation in Vietnam**

In 2001, a Sanitation Revolving Fund (SRF) component was incorporated in the World Bank-financed Three Cities Sanitation Project in Vietnam to provide loans to low-income households for building on-site sanitation facilities. The SRF provided small loans (USD 145) at partially subsidized rates to low-income and poor households to build a septic tank, a urine diverting / composting latrine or a sewer connection. To access the loans, households needed to join a Savings and Credit group, which bring together 12 to 20 people who must live close to each other to ensure community control. The loans covered approximately 65% of the average costs of a septic tank and enabled the household to spread these costs over two years. The loans acted as a catalyst for household investment although households needed to find other sources of finance to cover total investment costs, such as borrowing from friends and family.

The initial working capital for the revolving funds (USD 3 million) was provided as a grant by the World Bank, Denmark and Finland. The SRF was managed by the Women's Union, a countrywide organisation representing the rights and interests of women that has a long experience with running micro-finance schemes. The initial working capital was revolved more than twice during the first phase of the project (2001 to 2004) and was then transferred for subsequent phases to be revolved further. Combined with demand generation and hygiene promotion activities, the SRF helped around 200 000



households build sanitation facilities over the course of seven years. The revolving fund mechanism allowed leveraging household investment by a factor of up to 25 times the amount of public funds spent. Repayment rates are extremely high (almost 100%).

This pilot approach has since been scaled up, via other World Bank-funded projects (with an outstanding working capital of about USD 25 million as of March 2009) or through the Vietnam Bank for Social Policy (VSBP). The latter offers separate products for water and sanitation, through the Safe Water and Rural Environmental Sanitation Program (SWRESP). In 2007, the amount of loans for SWRESP was USD 20 million.

Source: Trémolet, S. with Perez, E. and Koslky, P. (2010) and Mehta (2008), as quoted in (Tremolet & Scatasta, 2010)

### A3.4. The FINISH programme in India: channelling funding to MFIs for “toilet loans”

FINISH (Financial Inclusion Improves Sanitation and Health) is an umbrella support organisation to MFIs providing microfinance for sanitation that was set up as a 5-year programme in 2008. FINISH operates as a partnership of international donors, APEX banks and NGO/MFIs. Its main objective is to expand sanitation infrastructure to rural India to cover 1 million households by 2013. They intend to do this not just through the building of toilets, but by promoting an overall “sanitation system” that takes a holistic look at the process, from a strong emphasis on hygiene promotion and awareness-raising through to safe excreta treatment and disposal. As of July 2011, FINISH had contributed to the extension of 132,000 “toilet loans” throughout seven Indian states, with the highest number being provided by BISWA in Orissa.

FINISH is financed only partly from donor grants whilst the vast majority of funds (90%) are leveraged from commercial banks. The grant portion of the programme, estimated at about 9% of the total funding, has been provided by DGIS of the Netherlands. FINISH functions as a partnership between seven organisations that each brings very different expertise. It was initiated by SNS REAAL (a Dutch Bank) and BISWA (an Indian NGO and MFI), with others joining later, including TATA-AIG (an Indian insurance company), WASTE (a Dutch NGO specialised in sanitation and solid waste), NABARD (National Bank for Agriculture and Rural Development), NHB (National Housing Bank) and UNU/MERIT (a US-based university).

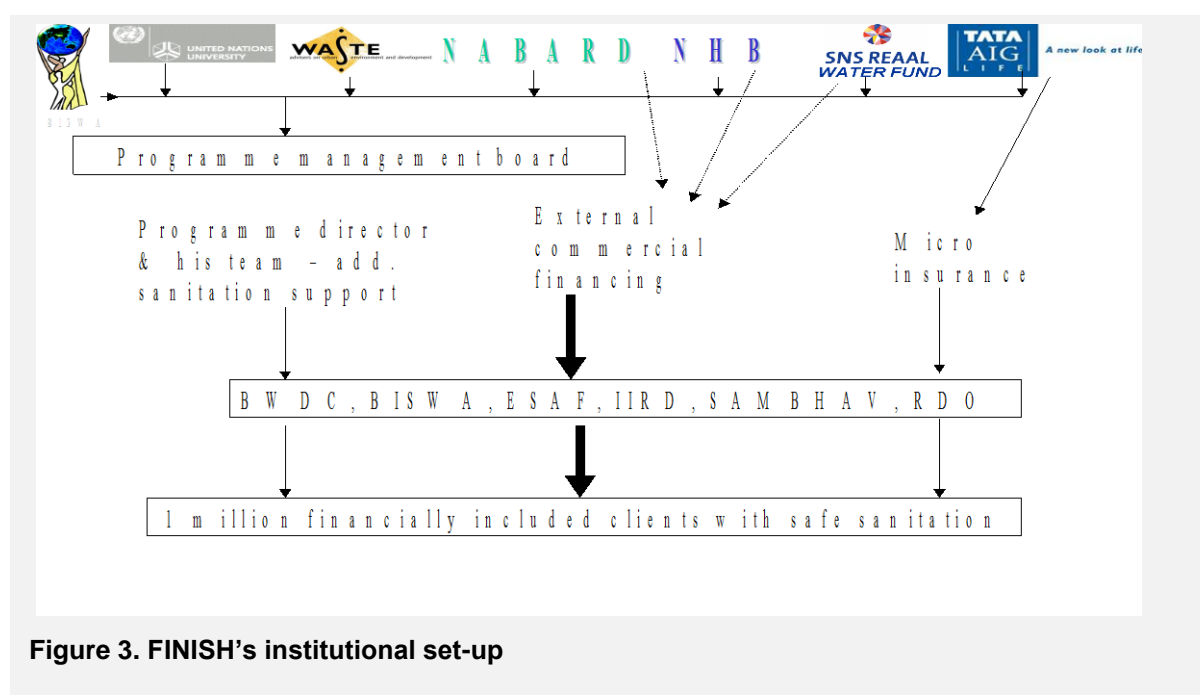



Figure 3. FINISH's institutional set-up





On the ground, FINISH works through about eight implementing partners who are based in seven states around India. These are well-established NGOs/MFIs with prior experience in microfinance, with some prior experience of sanitation and that are willing to commit 10% of their microfinance portfolio for work in sanitation. The organisations that were selected mainly operate in rural areas because this is where sanitation coverage is lowest (in some rural areas, it is as low as 5% although average coverage is around 25%).

Given that FINISH operates with a number of different NGO partners, the terms of the loan products on offer vary according to the capacity of each MFI/NGO. For example, BISWA gives smaller loans of 4000 Rupees (USD 80) over 1 year with a rate of 20% reducing to 10%. By contrast, BWDC gives larger loans of up to 350,000 Rupees (USD 7000) for a package of a septic tank latrine and bathroom.

Once they have selected their implementing partners, FINISH provides them with small grants and technological support for awareness-raising. For awareness-raising, they have included some aspects of CLTS and have also made their own media to promote sanitation.

Their strategy is to reach 100% sanitation coverage in a few villages before moving to the next ones. One innovative aspect of the programme is the provision of incentive payments to MFIs and their credit offers to improve sanitation coverage. Reaching total sanitation in a village can be a difficult task because coverage lingers at relatively high levels and never reaches 100%. In order to aim for full coverage, FINISH grants incentive payments to MFIs for their staff, as they play the joint roles of animators and loan officers. Through the MFIs, FINISH channel 600 rupees per month (USD 12) to staff members, which is raised to 1200 rupees per month (USD 24) once their initial target is reached. In addition to this, the organisations are granted 75 Rupees (USD 1.5) for each toilet built from a loan over the 50% coverage target, which is raised to 150 Rupees (USD 3) when village coverage reaches 70% and then raised again at 90% coverage. This incentive payment is paid by FINISH to the relevant partner organisation. In some cases, these organisations will chose to share it with their field workers and in others, to add it to the revenue of the organisation as a whole. Currently, 41% of the total FINISH budget has been earmarked for incentive payments (referred to as “output-based aid”).

Source: Trémolet and Kumar (2012); <http://www.finishsociety.com/>, as quoted in (Trémolet, 2012)

## **A4. Grant funding for challenge funds**

### **A4.1. 2012 Stone Family Foundation Prize for innovation and entrepreneurship in water**

In February 2012, the Stone Family Foundation launched a new £100,000 Prize- the Stone Prize for innovation and entrepreneurship in water. The Prize aimed to identify innovative, entrepreneurial and potentially scalable initiatives in the water sector and support them to take the idea to the next level of their development. The Foundation was looking for sustainable and effective services to get clean drinking water to people who need it such as marketing and selling low-cost household purification drinking water, or using mobile phone technology to inform consumers about local water delivery. They expected the prize winner to demonstrate the potential to have an impact.

The prize was granted to Innovations for Poverty Action (IPA) for the Dispenser for Safe Water in Western Kenya. This Chlorine Dispenser System (CDS) is an innovative approach to provide sustainable access to chlorine treatment at the point of collection for rural people not connected to a network. It makes water treatment convenient, salient and public. The dispenser hardware is manufactured locally and installed next to the communal water distribution point so that it can be used by the whole community. Community education encourages villagers to use the service. The chlorine is supplied in bulk and is always available. The DWS capitalises on existing supply chains and have bundled the chlorine distribution to reduce distribution costs with existing services being provided by OAF (One Acre Fund), which is a very dynamic organisation working on strengthening farmers. OAF uses funds from its agriculture programme to finance long-term chlorine supply.

There are many other sustainable water treatment projects that are being developed as sustainable social enterprises. Two other projects applied for the Stone Prize.



The Aquaya Institute in Kenya presented the “Water treatment business kit”<sup>20</sup>. This business kit can be used to support the development of water treatment and vending businesses. It aims to replicate the enormously successful Southeast Asian water refill model in new markets, beginning with Kenya and Vietnam. It is intended to provide small and medium enterprises and entrepreneurs with a step-by-step guide to developing a water treatment and vending business. Such businesses have been observed to serve customers in many parts of the world with high-quality, treated drinking water. These businesses represent the efforts of independent, local entrepreneurs to meet consumer demand for treated drinking water. Although the kit is based on research and information collected for Kenya, the guidance may be relevant to businesses in other countries. The kit answers key question: ‘Why should you open your own water treatment and vending business?’ and goes on to provide a practical ‘How To’ guide for entrepreneurs.

Their financing model is based on the K-Rep model for CBOs. They will use grant money as seed funding for a water business loan guarantee with a bank. The Water Business kit will be combined with training to strengthen business skills (funded through existing contract with IFC).

EWAG presented a project to develop, market, produce and sell a water filter product. They have developed a filtration device for drinking water treatment for households in developing countries using a Gravity-driven membrane technology. Their distribution model is combining community education with social marketing. They plan to use an innovative financial model: they will use carbon off-sets (CDMs) (given that reduces size of boiling costs, one GDM filter yields a yearly CO<sub>2</sub> reduction of about 2 tons) to subsidise marketing costs. They will also cross-subsidise the price for lower income households with their sale from the middle class.

Source : <http://www.thesff.com>

#### ***A4.2.MN Environmental Services Limited (Nigeria) – Winner of the 2009 Cartier Women's Initiative Award***

**Background.** MN Environmental Services Limited, a hygiene services management company, was established in 2008 in Lagos, Nigeria by entrepreneurs Adeola Asabia and Jife Williams. The company was created as a result of the work Ms Asabia and Ms Williams had done through their non-governmental organisation (NGO), Metamorphosis Nigeria. Metamorphosis-Nigeria improves quality of life and helps urban communities by promoting safe sanitary and hygiene practices. The NGO was set up in January 2000 with a vision of a world in which every human being has access to adequate and effective sanitation.

**Description.** Metamorphosis-Nigeria constructs public toilets and showers in highly-populated urban areas such as busy motor parks, markets, commuter points, and poor community settlements that lack access to safe water and sanitary facilities. During and after construction of public convenience facilities, stakeholders in the target area are taught safe hygiene and sanitation practices, which are geared towards changing behaviour on environment and sanitation issues.

MN Environmental Services Ltd manages these facilities. Users pay 30 Naira (24 US cents) to use the toilet and 50 Naira (32 US cents) to use shower facilities. Hygiene assistants clean the facilities and teach users about health. This creates jobs for the poor and disadvantaged. Staff are trained and provided with proper cleaning equipment, and fees collected pay staff salaries, maintenance costs, and other development initiatives needed in or near the location site.

**Outcome.** After receiving grants as an NGO to construct the initial facilities, Williams and Asabia are looking to raise finance for MN Environmental Services Ltd to run existing operations and build additional facilities. The enterprise expects to earn a return on average equity of 24% by the end of its second year. Looking to be both commercially viable and have a social impact, Asabia and Williams plan to build 38 public toilet blocks over 10 years, bringing clean water and sanitation services to

<sup>20</sup> [http://www1.ifc.org/wps/wcm/connect/region\\_ext\\_content/regions/sub-saharan+africa/publications/ssawa](http://www1.ifc.org/wps/wcm/connect/region_ext_content/regions/sub-saharan+africa/publications/ssawa)

approximately 600,000 people. In addition, provision of 38 facilities will employ 260 people directly and 1,300 people indirectly.

Source: Dalberg, (2010) *Impact investing in West Africa*

### A4.3. JICA BOP Business F/S Assistance

In 2008, the current JICA was created from the merging of different international aid activities across various institutions. JICA now provides more strategic and effective ODA through integrated, comprehensive and seamless implementation of technical cooperation as it formally existed at JICA, loan aid operations (ODA loans and Private Sector Investment Finance (PSIF) of the former Japan Bank for International Cooperation (JBIC) and grant aid for the implantation of the operations of the Ministry of Foreign Affairs.

JICA is also promoting private sector participation through PPP and Bottom of the Pyramid businesses in developing countries, which call for new partnerships between ODA projects and private sector activities. A BOP Business is defined as a business that involves the BOP as consumers of a good or service which leads to developmental effect; or businesses that offers to the BOP the opportunity of participating in its economic activity as an entrepreneur or employee, which leads to developmental effect.

The objectives of the “BOP Business Program” are to promote private sector BOP inclusive businesses in developing countries which contribute to meeting and responding to development challenge. As part of the programme JICA is providing blended finance to small scale inclusive businesses that have potential for broader economic and social impact. As a first step, JICA is funding feasibility studies to help private companies develop projects. It has launched a call for PPP and BOP ideas from private companies and selected the most innovative and impact generating ones and some of the good ideas through a competitive process for which it will finance the cost of the feasibility study. 2 batches have been screened since mid-2011 and 32 proposals have been awarded. 7 of them are water-related. The third batch of award (approximately 10 to 20 projects) will be announced shortly in 2013.

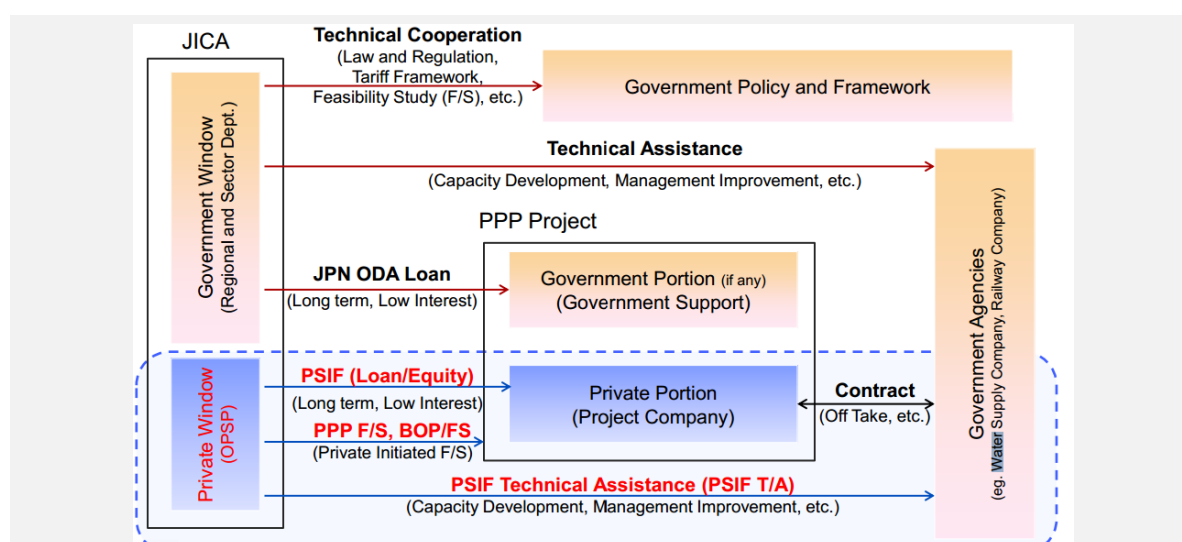


Figure 4. JICA's support for private projects (including BOP and PPP)

Source: <http://www.jesc.or.jp/info/24jyomyaku/forum02/01.pdf>

## A5. Equity participations

### A5.1. *Review of business models providing access to safe water at the BOP by Hystra*

In 2012 Hystra<sup>21</sup> published a review of 15 projects on providing access to safe drinking water at the BOP. It identifies a typology of WATSAN projects in which impact investors can invest. Each project is analysed across the following four criteria: (i) ability to solve the problem: social impact, effectiveness of treatment and scale of solution; (ii) economic sustainability, limiting the need for grants and subsidies; (iii) environment sustainability and impact; and (iv) Scalability and replicability: conditions and potential thereof.

They also assess the financial and human resource needed for each category of projects. This study can be used by investors as a preliminary assessment tool to identify the advantages and weakness of similar types of projects.

Needs addressed	Clusters of projects	Description
Water quality	Flasks & Tabs	<b>Consumable disinfectant products:</b> mostly chlorine-based, distributed in liquid or tablet forms.
	Devices	<b>Durable filtration products:</b> mostly filters, using different purification technologies.
	Plants & Kiosks	<b>Mini-water-treatment stations:</b> collective installations for more heavily polluted and/ or brackish water, suitable for small towns and villages.
Water quality and quantity	Pumping & Harvesting	<b>Installations that pump underground water or collect rain water:</b> e.g., protected wells with pumps, rainwater harvesting cisterns.
	Pipes & Taps 'Mini-Utilities' Large utilities	<b>Piped distribution networks:</b> treatment installations and distribution networks that transport treated water to homes or public stand posts. This cluster includes: a) 'Mini-Utilities': independent, small networks' operators b) Large utilities: mainstream large urban networks' operators

<sup>21</sup> (Hystra, Access to Safe Water for the Base of the Pyramid, 2012)



Cluster	Key roles	Best owner	Financing
<b>Devices</b> 	Program Management Organization (PMO)  Local operator to manufacture and distribute Devices	NGO or company specialized in business incubation  Local entrepreneur (or NGO)	Grant for social marketing campaign and funding of PMO (foundation or donor)  Loans/equity to operators (Foundation or Donor)
<b>Flasks &amp; Tabs</b> 	Program Management Organization (PMO)  Local operator to manufacture and distribute Flasks & Tabs	NGO or company specialized in business incubation  Local entrepreneur (or NGO)	Grant for campaign and funding of PMO (Foundation or Donor)  Loans/equity to operators (foundation or donor)
<b>Plants &amp; Kiosks</b> 	National platform to support and audit kiosks (possibly set-up by PMO)  Local operator to run kiosk	CSR unit/Foundation in short-term; Local entrepreneur in long-term  Village-level entrepreneur	Grant to set-up platform (Foundation or CSR of corporations)  Loans to operators (impact investors, or local commercial banks with donor guarantee)
<b>Pipes &amp; Taps</b> 	'BoP Utility' to run clusters of mini-networks	Local conglomerate or spin-off of international utility	Hybrid financing for capex (mainstream investor and donor)  Possibly grant financing for subsidized connections (Government or donor)
<b>Pumping &amp; Harvesting</b> 	Program Management Organization (PMO)  Local operator to manage pump park maintenance and renewal	NGO or company specialized in business incubation  Local entrepreneur (or NGO)	Grant for social marketing campaign and funding of PMO (foundation or donor)  Grants to finance revolving fund for pump park renewal (foundation or donor)  Grants, loans/equity to operators (foundation or donor)

**Figure 5. Summary of main resources and players needed for each cluster**

Source: (Hystra, Access to Safe Water for the Base of the Pyramid, 2009)

## **A5.2. Acumen Fund's Water and Sanitation Portfolio**

Acumen Fund centres its investment activity in water around two critical areas, seeking to spur innovation in water access and water quality by improving drinking water and sanitation. Below are examples of companies in which Acumen Fund has invested.

### **WaterHealth International (WHI) - Safe Drinking Water for the Poor**

WaterHealth International (WHI) is an India-based company that offers customers safe, affordable drinking water through its community water systems. WHI has built 500 of these systems and has helped catalyse an entire sector of new enterprises delivering clean water in India.

In 2004 Acumen Fund invested \$600,000 in WaterHealth International, a company that set out to bring safe drinking water to rural Indians. One year after their first investment, the enterprise had broken ground on two new water systems. Working with Acumen to modify the design of the water facility, a year later WHI had ten systems in operation, and had started to attract the interest of additional investors. Three years after Acumen's initial investment, WHI had raised \$11 million in private capital and were speaking with banks about financing an additional 20 systems. Today, WHI





has developed over 275 systems that impact the lives of over 350,000 people, and they are still growing. With over \$30 million now raised, this is a company that leveraged a powerful business model, dedicated leadership, and the support of patient capital, to create an innovative new approach to tackling India's water challenges.

#### **Ecotact - Quality Sanitation Facilities for the Urban Poor**

Ecotact is working to provide affordable yet high-quality sanitation services to low-income communities in Kenya. It has more than 34 pay-per-use toilet and shower facilities, including two in the slums. Ecotact's facilities saw more than six million uses in 2010.

#### **Pharmagen Healthcare Ltd - Safe drinking water for the urban poor in Pakistan**

Pharmagen Healthcare Limited supplies safe, clean and affordable drinking water to low-income residents of Lahore, Pakistan through an existing chain of open water shops. With Acumen Fund's investment, Pharmagen aims to open 32 new water shops, supplying half a million people with clean water daily.

#### **GUARDIAN - Financing water and sanitation needs in India**

Gramalaya Urban And Rural Development Initiatives And Network (GUARDIAN) is addressing the complex water and sanitation problems faced by low-income communities in India through its innovative water credit solution. GUARDIAN provides microloans to low-income families seeking to install water and sanitation facilities in their households.

#### **Spring Health - Safe drinking water kiosks in rural India**

Spring Health is bringing safe drinking water to hard-to-reach communities in northeast India through its innovative kiosk model. Spring Health employees travel by motorcycle to rural villages to purify water tanks with liquid chlorine. The purified drinking water is then sold directly to consumers by local shop owners. The company plans to reach five million people in the next three years through its unique, low-cost distribution model.

Source : <http://www.acumenfund.org/about-us/what-is-patient-capital.html>  
<http://www.fastcompany.com/1779657/case-profit-solutions-worlds-water-problems>  
<http://www.acumenfund.org/investments/portfolios/water-portfolio.html>

### **A5.3. Other Impact Investors investing in water and sanitation projects**

**Avantage Ventures** is another Asian-based social investment and advisory company that invests in high potential entrepreneurs and companies that are addressing social and environmental issues through innovative business models. They also provide management support to the social enterprises they are investing in. They have invested in Sarvajal, one of the leading innovative business models in the WATSAN sector.

Sarvajal is an Indian social enterprise founded in 2008 by the Piramal Foundation to develop market-based models for clean drinking water at the base of the pyramid. It uses an innovative water ATM to provide clean drinking water across India. Sarvajal franchises their proprietary filtration equipment to local entrepreneurs who will then be responsible for operating the machines and selling the water to customers.

**Aavishkaar**<sup>22</sup> is another Indian-based social fund that provides risk capital and support to early stage ventures. Aavishkaar has invested in 2009 in WaterLife, a social enterprise that installs, operates and maintains water purification plants in rural communities, and sells the purified water to the village community at affordable rates.

**The Calvert Foundation** has invested approximately \$4 million in social impact investments for improved water and sanitation. Most of this has been indirect, through loans to financial intermediaries that have invested in water and sanitation, but they also have a direct investment in E-Healthpoint, a social enterprise that provides clean water and affordable healthcare in rural India.

Source : <http://www.sarvajal.com/>, [www.waterlifeindia.com](http://www.waterlifeindia.com)

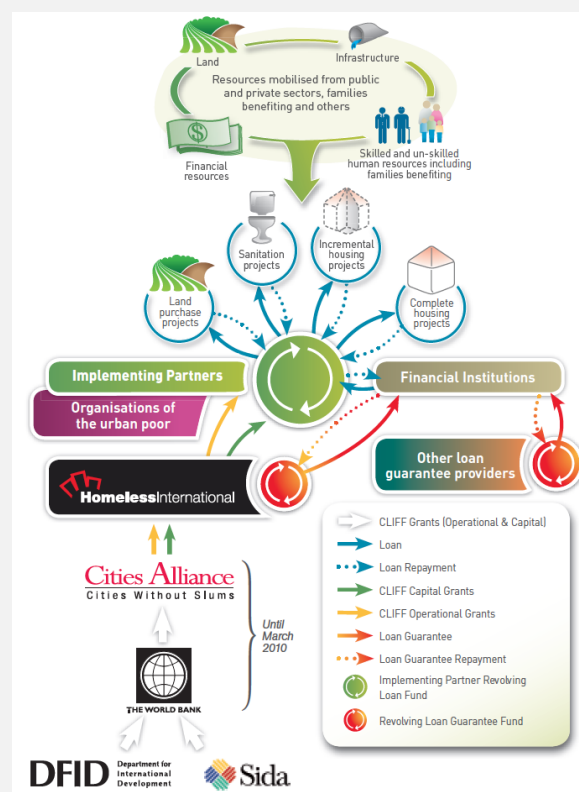
<sup>22</sup> See <http://www.aavishkaar.in/>

## A6. Guarantees

### A6.1. Grants and guarantees via CLIFF (Community-Led Infrastructure Financing Facility)

**Background.** The Community Led Infrastructure Facility (CLIFF) is a programme started in 2002 by a British based charity called Homeless International, with the support of DFID and SIDA. CLIFF is a venture capital facility which enables organisations of the urban poor to access greater public, private and civil society sector resources. These resources are used for sustainable housing and basic services projects for slum dwellers (including sanitation), which have the potential of being scaled-up to benefit even more people. In addition, they can be used to influence the policy and practice of banks, governments, international development agencies and others. The programme was initially piloted in India in 2002 and later expanded to Kenya and the Philippines.

**Channelling financial resources to ultimate beneficiaries.** As explained in the diagram below, donors provide financing to CLIFF in the form of grants. These grants are received by Homeless international and channelled into a revolving fund in the form of operational and capital grants.



**Figure 6. Overview of CLIFF activities**

With support from this fund, implementing partners and organizations of the urban poor (such as the Indian Alliance organizations SPARC, Mahila Milan and NDSF) take out loans through local financial institutions – increasingly commercial banks such as the Bank of India or UTI Bank. Often the implementing partner lack the collateral to take out a loan, which is where Homeless International can provide support in the form of the guarantee provision.

In sum, CLIFF provides:

- The bulk of the funding (75%) is provided as capital grants to enable local partners to provide loans to the projects (these funds are later revolved to finance new projects);
- Operational grants to cover the costs of project preparation and management;



- Loan guarantees through Homeless International guarantee fund.

This financial support is provided to secure infrastructure upgrades in urban and peri-urban slums through the scale up of community-based projects. These projects include sanitation as part of housing upgrade schemes, or can be directed towards sanitation in the form of community sanitation blocks or household sanitation projects.

**Activities in the sanitation sector.** Sanitation is included in CLIFF partners' projects, either indirectly as part of housing upgrade schemes (which always include household sanitation facilities) or directly, as part of projects to build community sanitation facilities. During phase 1 (2002-2010), CLIFF implemented about 29 projects, of which about 4 had a sanitation component.

**Donor support received.** During the first phase of the programme (2002-2010), DFID provided about USD 11.2 million and SIDA provided about USD 4.6 million. These grants were used as seed funding for revolving funds and leveraging commercial funding. CLIFF estimated that these donor funds leveraged about USD 87 million in commercial funding, which gives a leverage ratio of about 5. Both DFID and SIDA have raised their contributions for the second phase of CLIFF (2010-2015), to USD 24 million and USD 6.15 million respectively. During that second phase, CLIFF is looking to expand the range of implementing partners and the number of countries where it is active.

Source: Trémolet and Kumar (2012). <http://www.dfid.gov.uk/working-with-dfid/funding-opportunities/countries-and-regions/cliff/> and <http://www.homeless-international.org/cliff>

## **A6.2. Softening lending terms with guarantees: the TAFSUS example in Tanzania**

Tanzania Financial Services for Underserved Settlements (TAFSUS) is a Tanzanian not-for-profit company set up in 2010 whose main aim is to raise domestic capital, provide credit enhancement and technical assistance towards the local financing of slum upgrading and affordable low income housing. TAFSUS is registered under the Tanzania Company Act 2002 as a Company limited by guarantee. TAFSUS was set up as a non-banking financial institution with the support of UN Habitat (as part of their Slum Upgrading Facility project). A number of donors were involved in the setting up of the credit enhancement facility, including SIDA and DFID. TAFSUS is governed by a Board of Directors with members from the private sector, civil society, Ministries and academia.

TAFSUS is mandated to work with local actors to make slum upgrading projects "bankable" – that is, attractive to retail banks, property developers, housing finance institutions, service providers, micro-finance institutions, and utility companies. TAFSUS helps communities to prepare project documents and negotiate with the bank. Where necessary, they can provide a guarantee to soften lending terms. TAFSUS seeks to blend a combination of community savings, Government subsidy, and local domestic commercial bank lending.

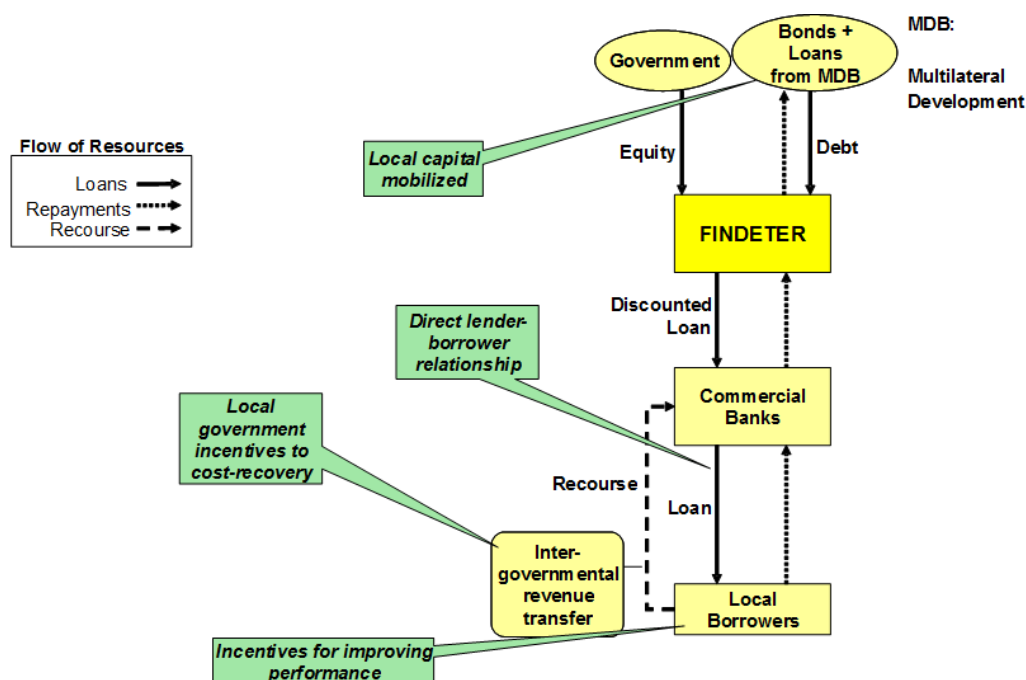
TAFSUS initially identified a pipeline of 10 to 12 potential projects, with about half of them related to sanitation, including public toilets, cesspit emptying, pit latrine construction or sewer construction. In one of the first projects considered relative to sanitation, TAFSUS is planning to facilitate the acquisition of 2 gulper units (based on the model promoted by WaterAid) by a local CBO, the Ukonga Development Trust Fund. TAFSUS is helping the CBO develop a bankable project, provide entrepreneurship training and will provide a guarantee on the Bank loan. The CBO leaders will also need to pledge their own personal assets to guarantee the loan.

At the time of writing, it was too early to tell whether the TAFSUS model had been successful or not to finance water and sanitation investments. Judging by its website (<http://www.tafsus.co.tz/portfolio/>), however, it appears to have had some success in the area of housing microfinance.

Source: Trémolet and Muruka (2012).

### A6.3. *FINDETER in Colombia: incentivizing banks to lend to local borrowers for water and sanitation projects*

The Colombian government established FINDETER (*Financiera de Desarrollo Territorial*) in 1989 to help support a major decentralisation program. At the time, municipal governments had no experience with borrowing from banks. Commercial lenders had only short-term deposits and no experience with lending to municipal governments. By lowering the cost of loans, FINDETER enhanced commercial banks' willingness to lend to municipal governments. The Republic of Colombia owns around 90% of FINDETER's shares, with the remaining owned by Colombia's local governments. Although it relied on international financing at the start (primarily from the Inter-American Development Bank and the World Bank), FINDETER's revenues from existing loans financed more than 78% of its activities in 2006. In addition, FINDETER has achieved an AAA local credit rating (from Duff & Phelps), which has helped accessing less expensive financing.



FINDETER rediscounts all or part of a loan and can offer maturities of 8 to 15 years, whereas loans to municipalities without FINDETER support would usually not exceed 5 years. Where appropriate, there can be a capital grace period of up to 3 years and an interest grace period of up to one year. Thanks to FINDETER, commercial banks have been willing to operate in the local debt market and to offer local borrowers long-term loans at attractive rates. From 1990 to 2003, FINDETER has financed about USD 2 billion in loans to more than 700 municipalities while maintaining low levels of bad debt (under 2% in 2003). Some years, FINDETER has approved more than USD300 million in new loans.



Water and sanitation investments represent about 25% of these loans. One criticism was that FINDETER's process to appraise loans was long. In 2003, FINDETER introduced a streamlined process, which led to an increase in its lending activity. This streamlined process reflects FINDETER's increasing comfort with the loan origination by banks.

Finally, although one of the former Presidents of the organisation had to step down due to corruption allegations in 2001, the organisation has received the all-clear from the national audit office (contraloría general) in recent years.

*Source: Kehew, R T. Matsukawa and J. Petersen (2005); Castalia (2008); FINDETER's website, as quoted in Trémolet & Scatasta (2010).*





## BIBLIOGRAPHY

- Azuba, C. J. (2010). *Output-Based Aid for Water Supply in Uganda: Increasing access in Small Towns*. OBA Approaches Note Number 35.
- Bank, A. D. (2009). *Pilot and Demonstration Activity for Philippines: Assessing and Developing Models for Financing Small Scale Water Service Providers. Project Completion Report*.
- Bayliss, K., & Watasa, S. (n.d.). *Contracts for Small Towns: the Role of the Domestic Private Sector in the Delivery of Urban Water in Uganda*.
- Blond, D., Platz, D., & Magnusson, M. (2012). *Financing small-scale infrastructure investments in developing countries*. DESA Working Paper No. 114.
- Cardone, R. &. (2006 ). *'Innovative Financing: Experiences with Secondary Urban Centres Water Supply and Sanitation Service Delivery' UN-Habitat report on the Water Sector in Secondary Urban Centres: Paper 1*. UN-Habitat.
- Drees, F., Schwartz, J. and A. Bakalian. (April 2004). *"Output-based aid in Water, Lessons in implementation from a Pilot in Paraguay", Public Policy for the private sector, Note 270*. The World Bank .
- Global Water Intelligence. (2012, August). Philippines water fund revolves and evolves. Vol 13, Issue 8.
- Hystra. (2009). *Access to Safe Water for the Base of the Pyramid*. Retrieved from [http://www.hystra.com/opensource/Access\\_to\\_Safe\\_Water\\_for\\_the\\_BoP\\_FULL\\_REPORT.pdf](http://www.hystra.com/opensource/Access_to_Safe_Water_for_the_BoP_FULL_REPORT.pdf)
- Hystra. (2012). *Access to Safe Water for the Base of the Pyramid*. Retrieved from [http://www.hystra.com/opensource/Access\\_to\\_Safe\\_Water\\_for\\_the\\_BoP\\_FULL\\_REPORT.pdf](http://www.hystra.com/opensource/Access_to_Safe_Water_for_the_BoP_FULL_REPORT.pdf)
- Katongole, I. (2007). *Equipment Leasing as a Financing Mechanism for Sustainable Solid Waste and Sanitation Services in Kampala*.
- Kumar, G., & Mugab, J. (October 2010). *Output-Based Aid in Water and Sanitation, The Experience So Far*. OBA Approaches Note Number 36, GPOBA.
- Mandri-Perrott, C., Schiffler, M., & Aguilera, A. (2009). *Output-Based Aid in Honduras: An OBA Facility for the Water and Sanitation Sector*. OBA Approaches, Note Number 29, GPOBA.
- Matsukawa, T. a. (2007). *Review of risk mitigation instruments for infrastructure financing and recent trends and developments*. Trends and policy options, n°4, PPIAF/ The World Bank.
- Mehta M. & Knapp, A. (2004). *'The Challenge of Financing Sanitation for Meeting the Millennium Development Goals'*. WSP. WSP.
- Mehta, M. &. (2007). *Microfinance for Rural Piped Water services in Kenya, Using an Output based aid approach for leveraging and increasing sustainability*. Policy Note 1, WSP.
- Mehta, M. (2008). *Assessing Microfinance for Water & Sanitation – Exploring Opportunities for Sustainable Scale up*. Bill & Melissa Gates Foundation. Retrieved from <http://www.gatesfoundation.org/learning/Pages/microfinance-for-water-and-sanitation.aspx>
- Mehta, M. (2008, Jan ). *Financing Water and Sanitation at Local Levels*. Retrieved from [http://www.wateraid.org/documents/plugin\\_documents/financing\\_water\\_and\\_sanitation\\_at\\_local\\_levels.pdf](http://www.wateraid.org/documents/plugin_documents/financing_water_and_sanitation_at_local_levels.pdf)
- Mehta, M. (n.d.). *Meeting the Financing Challenge for Water Supply and Sanitation*. IRC Financing . The World Bank, WSP.
- Muruka, G., & Mugweru, G. (2012). *Survey of Financial Institutions providing Support to Water and Sanitation in Kenya*. . A report for the EUWI-FWG.
- Navarro, M., & Tavares, L. (April 2008). *Output-based Aid in Cambodia: Getting Private Operators and Local Communities to Help Deliver Water to the Poor – The Experience to Date*. OBA Working Paper Series Paper No. 9.



- OECD. (2009). *Managing Water for All - An OECD perspective on pricing and financing*. Paris: OECD Publications.
- Pelrine, R. J. (2013). *Lessons Learned—SUWASA Uganda—challenges and key issues of private financing for water infrastructure in small towns. Draft Report for Suwasa*.
- Robinson, A. (2010). *Sanitation Finance in Rural Cambodia: Review and Recommendations*. A report for the Asian Development Bank and the Water and Sanitation Program. Retrieved from [www.wsscc.org/sites/default/files/publications/wsp\\_adb\\_sanitation\\_finance\\_rural\\_cambodia\\_2010.pdf](http://www.wsscc.org/sites/default/files/publications/wsp_adb_sanitation_finance_rural_cambodia_2010.pdf)
- Sophie Tremolet, AFD-FEPP Funded Project. (2005). *Water Supply and Sanitation Project in Small Towns of Cambodia*.
- Trémolet, S. (2012). *Small-scale finance for water and sanitation*. Stockholm: A report for SHARE and the European Union Water Initiative Finance Working Group.
- Tremolet, S., & Evans, B. (2010). *OBA for sanitation*. Washington D.C.: Water and Sanitation Programme.
- Tremolet, S., & Scatasta, M. (2010). *Innovative Financing Mechanisms for the Water Sector*. OECD.
- Trémolet, S., Perez, E., & Kolsky, P. (2010). *Financing on-site sanitation for the poor – a six country comparative review and analysis*. Washington D.C.: WSP Sanitation Global Practice Team. Retrieved from <http://tremolet.com/publications/financing-site-sanitation-poor>
- Triche, T., Requena, S., & Mukami, K. (2006). *“Engaging local private operators in water supply and sanitation services, Initial lessons from emerging experience in Cambodia, Colombia, Paraguay, The Philippines and Uganda”, Volume 1, Overview of experience*,. Water Supply & Sanitation Working Notes Note No 12.
- Virjee, M. M. (2002). *Financing Small Water Supply and Sanitation Providers, Exploring the Microfinance option in SSA*. WSP. WSP. WaterCredit.org. (n.d.). Retrieved from <http://watercredit.org/library/>