



Access through innovation:  
Expanding water service delivery through  
independent network providers  
Considerations for practitioners and policymakers

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Building Partnerships for Development  
[www.bpdws.org](http://www.bpdws.org)

# Building Partnerships for Development in Water and Sanitation

## The Challenge

The numbers are well known - too many poor people still lack access to basic water and sanitation services in the developing world. Factors that prohibit access are numerous. Prohibitive connection charges and tariffs, high technology standards, and uncoordinated and non-inclusive decision-making all complicate the provision of sustainable water and sanitation services in poor communities.

## Multi-Sector Partnerships

Multi-sector partnerships between public, private, civil society and donor organisations designed around specific projects or aimed at more systemic change provide an increasingly important tool to overcome these failures. Such partnerships foster innovation and promote greater accountability by improving the understanding and capacity that make projects more appropriate and effective.

## BPD

BPD Water and Sanitation is an international multi-sector learning network focused on improving access to safe water and effective sanitation in poor communities. BPD's primary aims are:

- To understand more concretely how partnerships can contribute to meeting the water and sanitation needs of poor communities;
- To provide direct support to innovative partnership approaches that aim to provide water and sanitation to the poor; and
- To disseminate findings through training activities and constructive dialogue around water and sanitation issues affecting poor communities.

Based in London, BPD has a small Secretariat that reports to an international multi-sector Board of Directors. BPD is a registered charity in the United Kingdom. Though institutionally autonomous, BPD is grateful to WaterAid for hosting the Secretariat.

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## OVERVIEW

This study was carried out from September 2005 to June 2006 in Ghana, Mali and in Mauritania by a team of consultants co-ordinated by Hydroconseil. These three countries were selected following a preliminary survey of key resource people in ten countries of the region. The independent operators studied in the three countries are all managers of water supply networks in which they have invested their own funds – in many cases starting from a core infrastructure base (borehole, storage tank, etc.) that was financed by public money. For the most part the operators are not involved in sanitation services.

- In Ghana, the operators that participated are all small companies that manage water services in small towns. All work on the basis of a contract signed with local communities (District Authority). The operators have helped improve services by extending the network in several places.
- In Mali, the study focused on independent operators that provide water services in the suburbs of Bamako, primarily in zones where the dominant operator (Energie du Mali) is absent. The contractual framework governing their operations is almost non-existent, despite the fact that a few have made significant personal investments.
- In Mauritania, the operators were all small private companies that provide water services in small towns (ranging from 500 to 20,000 inhabitants). Since 1993, more than 300 independent operators have signed contracts with the State and they have strongly contributed to developing the level of service enjoyed by small town residents.

The study has benefited greatly from the joint expertise of BPD and the French Development Agency (AFD). David Schaub-Jones (BPD) and Maurice Bernard (AFD) were particularly involved in its development and in editing or commenting on the various case studies and other documents produced. Many thanks also to the numerous peer reviewers and to Ken Caplan and Tracey Keatman for their advice and diligent proofreading.

In each country local and national authorities, as well as civil society, engaged with the process. The draft case studies were discussed and improved following in-country workshops during May 2006. Those thanked for their warm input and collaboration include:

- In Ghana, the Community Water and Sanitation Agency (CWSA), National Water Directorate (NWD), local authorities (District Assemblies) and Water Boards of the Atebubu, Bekwai and Enchi districts.
- In Mali, the Direction Nationale de l'Hydraulique (DNH), Energie du Mali, the regulator (Commission de Régulation de l'Eau et de l'Energie, or CREE), local municipalities, professional associations and NGOs working in Bamako.
- In Mauritania, the Ministère de l'Hydraulique, la Direction de l'Alimentation en Eau Potable (formerly known as DHA), l'Agence Nationale pour l'Eau Potable et l'Assainissement (ANEPA) and the regulator (l'Autorité de Régulation Multisectorielle, or ARM).

Of course this study could not have taken place without the active participation of the independent operators themselves, who were extremely forthcoming and frank during the course of the surveys and were generous enough to share with us their history, their problems and finally their expectations. Involved in doing the case studies were nine consultants, working on the ground in the three countries: Antoine Malafosse and Agyenim Boateng (Ghana); Souleymane Bouaré, Mamadou Diallo and Emmanuel Chaponnière (Mali); Mohamed Ould Tourad, Mohamed Moctar Ould Mohameden Fall, Diou Djibril Saidou Hamath and Guilhem Fromont (Mauritania).

This report of the findings is not limited solely to the three case studies presented above. Mozambique effectively constitutes a fourth case study, following a feasibility study and investment project financed by AFD, which involves numerous independent operators active in the peri-urban districts of Maputo. Where helpful, it also refers to similar studies undertaken in other contexts, in many of which one or other of the authors have been involved.

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November 2006

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## **Access through innovation:**

### **Expanding water service delivery through independent network providers**

#### **EXECUTIVE SUMMARY**

The last few years have seen increasing interest in the role that small-scale providers play in providing water to many of the officially ‘unserved’. These providers range from pushcart vendors to standpipe operators, from tanker services to those operating small water supply networks. Such providers typically operate in the informal sector and, as such, very little is known about how they actually function or what their relationships to customers and authorities look like. Discussion of the merits and drawbacks of their services is clouded by a general lack of information.

To address some of this gap BPD, together with AFD and the international consultants Hydroconseil, embarked on a year-long programme of action research in West Africa. The work focussed on network providers, whose services are closest to those of formal utilities, and who have typically taken most risks in establishing their business niche. A preliminary survey of ten West African countries pointed to interesting developments taking place in Ghana, Mali and Mauritania. These three countries became action-research case studies, where specific providers were studied in more detail and dialogue between different stakeholders supported. Later Maputo was added as a fourth case study as steps to engage independent network providers are underway there (in which AFD, Hydroconseil and BPD have all been involved).

Across these case studies a number of independent network providers were identified and surveyed. Their background, skills and capacity varied widely – from individuals driven to serve their community, to local entrepreneurs new to the water sector, to formal water operators appointed after competitive bidding. Yet all have shown a remarkable ability to adapt to local conditions in order to build up their customer base. The surveys showed them often outperforming larger formal providers in meeting demand for household connections, usually without any external subsidies. This achievement relies significantly on their ability to innovate, using appropriate standards to lower the costs of service delivery. Investment and operational risks are passed through to the user and local relationships built to provide security.

Thus we found small entrepreneurs providing water to tens of thousands of people, in small to medium urban centres, or in the unserved areas of major cities. A strong contrast was evident between providers working in small towns (where they are often the main provider) and those working in peri-urban areas (where they typically work in the shadow of a ‘dominant operator’). While their networks may be technically similar, the working environment of the two providers differs quite significantly.

Much of the contrast stems from the way the providers have entered the sector and the consequent degree of formality of their relationships with local and national authorities. In the small towns of Mauritania and Ghana the providers have to a great extent been ‘called into being’, actively sought out by the public sector to run and expand existing schemes. In Bamako and Maputo (the capitals of Mali and Mozambique), providers operate in the gaps left by the urban water utility. Their networks have evolved more organically and often spun-off from other business operations (such as hotels or small factories).

Despite the range and diversity of the providers surveyed, we found that network operators are in fact less prevalent than many assume. Across West Africa, only in Mauritania did we find a number of networks offering household connections on a large scale. Although policy frameworks across the region officially encourage the small-scale private sector, it seems that the numbers of active entrepreneurs are limited. Many are small in scale and choose to

remain 'below the radar'. While their numbers are growing, the majority of independent providers still shy away from investing in network operations. Part of the explanation for this lies in the many constraints that providers in both contexts face. Partly it results from inappropriate strategies that overlook the diversity of providers and can cause more harm than good. Significant attention was thus given to these constraints, which became a particular focus for the local dialogue that the work supported.

In **small towns** a key challenge is getting investment into the system, especially to expand the network. In Ghana local authorities struggle to source the grant funding needed for this and tariffs are insufficient to pay for network extension, especially given the high technical standards required. In Mauritania providers are afforded some flexibility over standards and are able to ask households to pay the cost of extension.

As for **peri-urban** operators, the prevailing architecture of the urban water sector relegates most of them to the informal sector. They find some stability through accommodation with local authorities, but informality constrains their investment horizons, limits network expansion and ultimately drives up prices. The challenge here is to 'bring them out of the woods' in order to better leverage their activities.

The dialogue that the work supported tended to focus on tangible short- to medium-term actions. For peri-urban areas, this can mean persuading independent operators to start engaging more with officialdom. Providers need to be brought 'out of the woods' through deals that strike a balance between support and regulation. Providers looking for a stable operating environment often seek approval from local authorities, who find innovative ways to both support and oversee their operations. Further steps to bring providers into the formal regulatory frameworks that govern water provision would do well to build upon this.

Equally, national level regulation needs to be 'relayed' to the local context in order to support independent operators active in small towns. Public investment in bulk supply is also advised; this lets operators concentrate on understanding and responding to the demands of customers.

Dialogue over such issues brings more information into the open and prompts a wider understanding of the particular challenges that arise in peri-urban and small town contexts. This can feed into wider discussions about possible changes to market structure that could open existing small networks to competition and/or adapt technical standards. It could also find ways to incentivise the dominant network operator into becoming a more active champion and collaborator.

The entrepreneurs themselves are not the only ones facing constraints. Other key stakeholders, such as local authorities, national policymakers, regulators and the dominant operator are also limited in their room for manoeuvre. Dialogue needs to acknowledge this, building flexibly on the range of assets and incentives on the ground. Independent providers themselves may be ambivalent about engagement, fearing their flexibility constrained through negotiation. In the four countries interest from national stakeholders varied; where providers are few in number some see the issue as unimportant. Others see little prestige or technical challenge in the topic. Competition plays a role, especially over reputation, status and attention (providers rarely compete directly for customers). The relative success of small, independent providers may be unwelcome in highlighting others' failings.

As such, the process of engagement itself is crucial. Champions and brokers must be found who can bridge this gap. Local authorities are perhaps a candidate, tending to be closer to



providers and appreciative of their achievements. Early confidence-building measures can be very useful.

Despite the insights generated by the work, clearly further exploration is needed. This can delve deeper into the impact on local prices that an independent operator has, and how resale from household connections impacts the broader water market (including the price paid by poorer households). The appropriate sequencing could be better understood, including when should discussions about 'formalising operations' begin and which changes to market structure should be explored first.

In summary, the work has shed more light on independent network providers, the scope of their operations and the constraints they face. Although fewer in number than expected, Mauritania and Maputo highlight the potential of their role in providing water to the otherwise 'unserved'. Their operations compare well with those of formal utilities, even without much support and subsidy. Users are broadly satisfied and appreciate their services.

This capacity and innovation can be better leveraged and substantially contribute to the Millennium Development Goals. A carefully tailored process of engagement is needed – this should harness the providers without impairing the dynamism that has made them successful. Good examples of concrete actions on financing, contracting, technical assistance and regulation exist and can inspire engagement in new settings. Yet we need to be realistic about barriers, from the fragmentation of providers to the competing interests of other stakeholders. Great potential exists – through careful engagement the public sector can build on this and thereby improve services to significant swathes of the urban and peri-urban population in West Africa and beyond.

## WHY THIS STUDY?

### 1.1. ***Independent operators – Key stakeholders in improving access to services***

There is increasing appreciation internationally of the important role that entrepreneurs play in serving water to people throughout the developing world. A recent study by the World Bank (Kariuki & Schwartz, 2005)<sup>1</sup> identified 10,000 small-scale private water providers in 49 countries and believed this to represent only a fraction of the true picture. The survey only covered *private* providers whilst many other forms of small or medium local providers exist that are either public or community-managed.

Yet while such entrepreneurs make a substantial contribution to extending access to water and sanitation services, their recognition in public policy is often extremely limited. This lack of recognition effectively sees many entrepreneurs relegated to the informal sector, thus reducing access to information on how they operate, who they cater to, and the true value of the service that they provide. A lack of recognition often shortens the horizon of their investment and limits the scope of their operations, both of which can push up costs for consumers.

To generate wider understanding of the role that entrepreneurs play in providing water services, BPD (Building Partnerships for Development in Water and Sanitation) and the French Development Agency (AFD) have enlisted the support of Hydroconseil to work jointly on a two-year action research programme. Particularly by opening up channels of dialogue between local stakeholders, the work seeks to better leverage the participation of independent entrepreneurs in extending water services in three West African countries: Ghana, Mali and Mauritania.

### 1.2. ***Specific programme objectives***

Beyond contributing to a better understanding of such operators and their activities (they tend to seek little publicity), the action-research programme looks to identify ways in which independent operators (IOs) can be more mainstreamed as partners in increasing coverage and services in particularly poor urban settings.

Two arenas in which independent operators can make a real difference have given particular focus to the work. These are peri-urban districts and small towns. Those living in such zones frequently do not receive services from the main water operator (often the national water company). This is partly for 1) financial and technical reasons – current investment is insufficient to extend the existing network to peripheral zones; 2) commercial reasons – water companies may see those living in such areas as unattractive customers (believing them poor or lacking land-tenure and thus open to future eviction); and 3) occasionally for political reasons.

#### **Defining ‘independent operators’**

The term ‘independent operator’ used throughout this study refers to small private operators who provide a complementary or alternative service to the “dominant” operator, whether this latter is public or private. This definition encompasses associations or user groups, provided that they deliver services on a commercial basis. Independence refers to their source of water, which does not come from the network of a large organisation (see the table on page 6 for more on this).

According to recent studies, such independent operators serve more than 80 percent of the market for drinking water in towns or neighbourhoods that either cannot access the existing network or which are effectively well out of reach of the national operator. The size of these operators varies considerably, from vendors that deliver buckets of water to peoples’ homes, to small companies that sell water via their own distribution networks.

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<sup>1</sup> Kariuki, Mukami, & Jordan Schwartz. 2005. “Global SPSP Survey.” Public-Private Infrastructure Advisory Facility, Washington, D.C.



An independent operator has built his own storage tank in a large suburb of Bamako, serving customers via a standpipe. True 'investors' are still rare in the peri-urban districts of Bamako (the study listed a dozen), but all the signs suggest that such private initiatives will multiply in coming years to respond to an exponential growth in demand and the continuing inability of the national company, Energie of Mali (EdM), to expand its own network.

Photograph © Hydroconseil, 2006

The action-research made it possible to identify those stakeholders concerned with the issue of small independent operators, better understand the constraints IOs face and kick-start a process of dialogue between the parties. A particular focus was the role that IOs can play in sector investment plans and in initiatives to improve services in informal areas. Policy-makers, water regulators, the water company, local communities, users associations and other civil society actors all influence the choices and profile of IOs.

### **1.3. A particular focus on small networks**

The focus on investment led the work to concentrate specifically on independent entrepreneurs that run network services (that they had either fully or partly financed themselves). The reasons for this choice were that:

- they offer a level of service that is directly comparable to that of formal providers (household connections or standpipe services);
- in contrast to mobile vendors (who may use carts or tankers), such operators offer a real opportunity to scale-up and rapidly extend services to zones that currently lack access (thus helping to meet the Millennium Development Goals);
- several have a track record of leveraging finance into the sector; and
- network operators have shown they possess the initiative and management skills that make them promising partners for future investment projects.

Table 1 (overleaf) illustrates where these providers sit in relation to other types of entrepreneurs providing water services.

### **1.4. How were the countries for the case studies chosen?**

A quick regional sample

At the outset, ten countries were selected that were likely to have the sort of network operators fitting the definition: Benin, Burkina Faso, Gambia, Ghana, Guinea, Mauritania, Mali, Niger, Senegal and Chad. The intention was to reduce these to three countries in which the action-research programme could be launched.

Relevant stakeholders in these ten countries then completed a survey that asked about the importance of such operators in the local market, but also considered the potential of developing a framework of productive dialogue between these operators and local and national decision-makers.



## Why Ghana, Mali and Mauritania?

The three countries eventually selected (Ghana, Mali and Mauritania) offer diverse experiences and allow interesting contrasts to be made between the different types of operators running such networks. In all three, we found entrepreneurs involved in the running and / or development of networked systems (using private boreholes). At a later stage, Mozambique was included in the study, and hence in this report, for reasons outlined later. Similar entrepreneurs are active there.

In Ghana, three small towns were studied. Here three private operators operate within a formal framework, having negotiated with the government body Community Water and Sanitation Agency (CWSA), tendered for the contracts, etc. In the last five years each operator has signed a management contract with their District Assembly (who play an important role as 'delegated authorities' within the institutional framework). The operators are small private companies that are looking to grow their business by working in other small towns. Under the management contracts, their level of financial investment in the systems is limited.

In Mauritania the situation is more established, dating back ten years to when the State signed contracts with individuals and companies to manage a number of small town water systems. Local authorities and users are not party to the contracts, but do play an important role in the initial selection and appointment of the operator. In the majority of towns the operators have invested heavily in the extension of the network and have championed a relatively high level of service (focused on individual household connections).

In Mali, small independent operators are rapidly emerging in those peri-urban areas of Bamako that the main water company Energie du Mali (EDM) is unable to service. Some of the operators (around a dozen) have fully financed the infrastructure to both source and distribute water. Bamako has strong parallels with peri-urban zones in Maputo, Mozambique (which was later incorporated into the study).

<b>Table 1. Classifying private operators according to their activity and source of water supply</b>	
<b>Source of water supply is dependent on the dominant operator<sup>2</sup></b>	<b>Source of water supply is independent of the dominant operator</b>
A water supply sub-network that receives a bulk water supply from the dominant operator and then provides services within a defined zone.	An independent water network whereby operators own their own water source (well or small treatment unit) and distribute water via a network made up of standpipes and individual connections.
Connected to the principal network of the water company, operator's distribution points may include public standpipes, water kiosks or even neighbourhood water resale from house connections.	Connected to independent water sources (wells, boreholes), operator's distribution points are typically standpipes from which users and cart vendors buy water. No network has been developed.
Mobile vendors on foot (carts, <i>pousse-pousses</i> ) buy their water from standpipes or users connected to the water company network and then deliver to houses.	Mobile vendors on foot (carts, <i>pousse-pousses</i> ) buy their water from boreholes or a network independent from the water company's and then deliver to houses.

Adapted from Mukami Kariuki, Introductory presentation to a workshop in Asunción, 5 December 2005.

<sup>2</sup> While the reference to a 'dominant operator' has a clear meaning in urban areas, the concept is more ambiguous in rural areas and small towns. A dominant operator in an urban area corresponds to a public or private company that has a monopoly position in supplying water services to the capital city and main urban centres.

The above table presents a typology of entrepreneurs typically active in the water sector. The BPD / AFD action-research programme has concentrated on the top-right category, as highlighted. The border between this category and the one directly below it is sometimes fluid – a standalone water point can progressively evolve towards a more developed network, notably in peri-urban areas not served by the national company (where there is a significant base of potential clients for independent network operators). Equally operators that fit into the top left category fulfil several of the criteria laid out in Section 1.3. Globally however, more tends to be known about these operators, their *modus operandi* and the constraints they face (hence their not being included in this work).

### **1.5. When and where is this study relevant?**

Given the economies of scale involved in water production and distribution, it would appear rational for a single operator to run water systems, and eventually, to integrate diverse networks. This study does not challenge that fundamental observation. However, it does recognise that in many places the dominant network operator, whether because it lacks the obligation, incentives and/or resources, has consistently fallen far short of meeting the needs of whole segments of urban areas.<sup>3</sup> In its stead, small independent operators distributing water via their own networks have proven a viable alternative. This is particularly true in situations where:

- the performance of the dominant operator (DO) is weak and/or the cost and technical conditions prohibitive for expansion to unserved areas;
- there is strong user demand, particularly through willingness to pay, that provides certain reassurances for independent operators to invest in their own networks;
- local conditions (notably local hydrogeology) make service via independent networks economically feasible; and
- local operators exhibit clear capacity or potential in terms of investment and commercial management.

Some categories of independent operators may be considered transitory, and policymakers question whether they warrant much support. In many contexts, and for the foreseeable future however, independent network operators offer a clearer option. Supporting their operations can therefore warrant serious consideration.

(More discussion of how independent network operations compare to those of the dominant operator follow in Section 4, while comments on collaboration between the two and the timeframe of any support both appear in Section 6.)

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<sup>3</sup> In all four case studies the dominant operator serves between 10 to 60% of its operating area, and only 5 to 50 % of the households to which its public service obligation commits it. The remaining households (a majority) largely revert to IOs for their services – yet these IOs are not well-integrated into the official frameworks that govern service delivery. A pragmatic assumption would be that the performance of these DO is neither likely to be significantly better, nor significantly worse, in the next ten years. If so, IOs will likely continue to play a significant role and thus these activities should be integrated into the broader framework of service provision for this period of time

## Section 2. WHO ARE THESE OPERATORS?

### 2.1. An overview of the institutional context in the case studies

The table below gives an overview of the three countries used as primary case studies, in particular noting the institutional context.

<i>Parameter</i>	<i>Ghana</i>	<i>Mali</i>	<i>Mauritania</i>
Population in 2005	25 million	14.3 million	3.8 million
Urban / rural split	44% / 56%	19% / 81%	47% / 53%
Urban growth	4% per year	4.5% per year	5.5% per year
GNP per capita (USD)	400	320	525
<b>MDG targets</b>			
Rural (coverage)	73%	71%	70%
Urban (coverage)	88%	80%	67%
<b>Required investment to meet the MDGs</b>	(US\$ million / year)	(US\$ million / year)	(US\$ million / year)
Rural	76	24	15
Urban	85	13	42
<b>Dominant Operator in large urban areas</b>	Ghana Water Company Limited (GWCL), public utility	Energie du Mali (EDM), public utility providing services in 16 centres	SNDE, public utility providing services in 15 centres
<b>Dominant Operator<sup>4</sup> in rural areas and small towns</b>	Community Water and Sanitation Agency (CWSA)	Direction Nationale de l'Hydraulique (DNH)	l'Agence Nationale pour l'Eau Potable et l'Assainissement (ANEPA), Contracting Authority for 320 small towns
<b>Main institutional actors</b>	National Water Directorate (NWD), Water Authority for both urban and rural sectors, District Assemblies, and PURC (the urban regulator).	Commission de Régulation de l'Eau et de l'Energie (CREE), multi-sector regulatory agency in charge of water and energy. Water supply is dealt with at local level.	l'Autorité de Régulation Multisectorielle (ARM), the multi-sector regulatory agency; APAUS (Agence pour l'Accès Universel aux Services). Local councils do not play a role in the sector.
<b>Private operators (network and others)</b>	12 independent operators manage small piped networks. There are also many small private operators in urban areas (especially water tankers).	In Bamako, 25 operators manage independent networks; 1,700 standpipe managers; several thousand mobile cart vendors.	361 operators (most of whom are individuals) of which 90% have a contract with ANEPA.

### 2.2. Background to the operators and their water supply networks

#### Ghana

The operators studied in Ghana were mostly small formal businesses, often already involved in the water sector as well as in other sectors. Their involvement in small town water networks was via a formal staged process (call for expressions of interest, call for proposals,

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<sup>4</sup> CWSA in Ghana, DNH in Mali or ANEPA in Mauritania are not directly responsible for water services in rural and most small towns (following the withdrawal of the government in each case). However these institutions continue to play a crucial role as a key stakeholder in getting water supplied to these areas.

etc.) and supervised by the government agency CWSA. Typically this was in the context of a wider donor-funded investment project. The operators did not participate in the initial capital investment, undertaken with public funding, but have since contributed to the development of the service through extension of networks and the development of private water connections.

### **The Case of Mr. Cissé, operator in Mouribabougou, a suburb of Bamako**

#### **Operator's background**

While Mr Cissé's first investments in water distribution were for reasons other than providing retail water services and he remains reluctant to state openly that he turns a profit now from water sales, his substantial investments demonstrate a real commercial strategy towards the water distribution in Mouribabougou (a village that forms a large suburb of Bamako, 15 km from the city centre).

Initially Mr Cissé invested in 8 boreholes in order to develop aquaculture activities. Lately he has used part of this infrastructure to distribute water to households through a network that he has entirely self-financed.

#### **Investment undertaken**

- 11 km of piped network
- One water tower with a capacity of 80 m<sup>3</sup>
- 10 standpipes
- 240 private connections.

Households pay 300,000 FCFA to connect to the network regardless of their distance from the existing pipes. In comparison, the operator in Kalabancouro (another outlying suburb of Bamako) charges 178,000 FCFA for each connection located within 20 metres of the existing network.

*Total investment realised (including boreholes) is estimated between €200,000 and €300,000.*

#### **Projects anticipated**

Mr Cissé is ambitious about developing his service. Indeed he expects soon to build a water reservoir of 600 m<sup>3</sup> the other side of a small rise in order to extend his network to neighbouring villages. Land has already been acquired. This new investment has not yet been costed by Mr Cissé and the programme for its eventual construction remains to be determined.

## **Mali**

In Bamako, the market for peri-urban water services is dominated by public standpipe managers (around 1,700 are estimated). Mobile water vendors are numerous but lie outside the scope of this study. According to the definition given in section one, these standpipe managers are not entirely 'independent', yet some of them have developed a real investment strategy, taking over the management of more than ten standpipes and thus creating what amount to small businesses.

Beyond this, 25 operators were surveyed who can be considered independent. Within the suburbs of Bamako these 25 operators serve some 22% of customers. While the technical level of operations is consistent (one independent borehole, a water tank and a small piped network distributing water through standpipes and private connections), independent operators can be divided into two groups, depending on how the initial system investments were undertaken.

- 'Managers' are operating networks that were originally developed as part of a public investment project, and have either replaced or are under the control of user associations to whom the operations were originally entrusted. These operators have extended the network using their own funds or revenues from water sales. In addition to the initial service they took over, typically restricted to standpipe services, they have often developed private household connections in response to local demand.
- 'Investors' manage networks that they have fully self-financed, using their own funds and revenues earned in the first months of operations. A typical example is that of Mr. Cissé, who manages a piped network in Mouribabougou, a big village that has been absorbed as a suburb of Bamako by rapid urbanisation (see adjacent box). Some have limited ambition and are satisfied to run limited networks comprised of a few standpipes; others, still a minority, are keen to capture a larger share of the market for water services and are ready to invest.

The most dynamic operators of the two categories stand out due to their interest in seeking out demand and making new connections. These connections bring in substantial revenue

in themselves, but the operators' actions are also indicative of a wider commercial strategy aimed at building a loyal and stable customer base through the provision of a responsive and reliable service.

## Mauritania

Independent operators that have signed a contract with ANEPA are one-person companies, and each individual has been formally or informally selected and approved by local stakeholders, whether by user groups, the municipality, or by traditional authorities. Until now, no operator has gone beyond managing a single piped network – this seems to be linked to the selection process, which is very (perhaps overly) respectful of local specificities. The broader reputation and status of the applicant tends to be as important as their technical skills or investment capacity.

The number of independent operators (more than 320 if we consider only those that are truly ‘private’) allows a useful typology to be developed, for which key parameters are the size of settlement and the level of service demanded by users. The table below provides a summary of the key features for three categories of operators. Note that the last category, of around 30 operators, best reflects the striking dynamism of independent operators born out of Mauritania’s innovative approach.

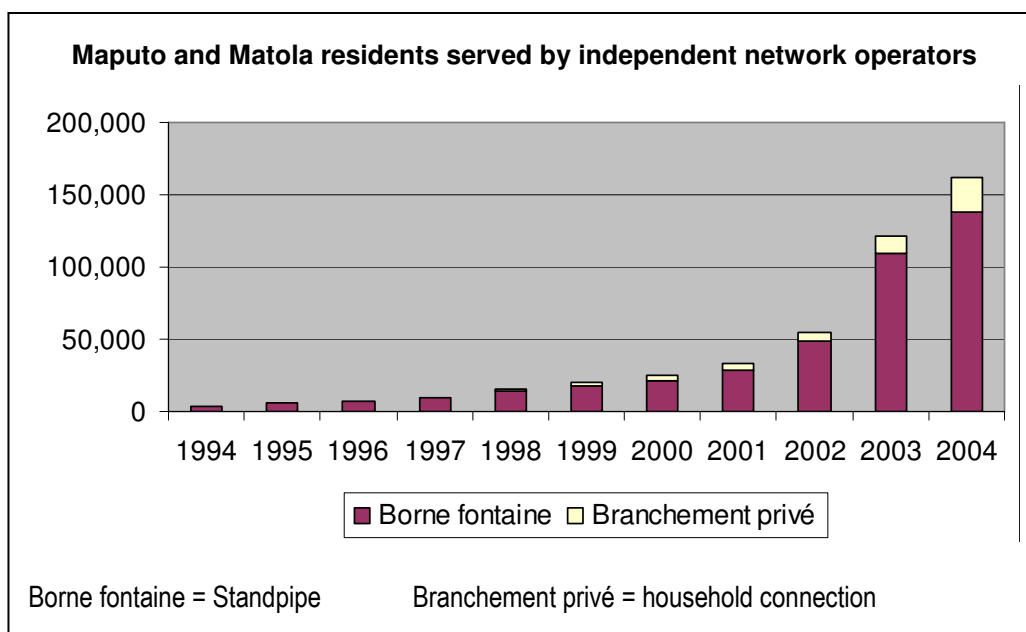
<b>Operator</b>	Respected local individual	‘Professional’	Specialised entrepreneur
<b>Locality</b>	Village	Small centre	Small town
<b>Training and experience</b>	Elementary or secondary school	Previous experience in management	Graduate (engineering degree or equivalent)
<b>Selection process</b>	Appointed by the community, mostly on social criteria	Selected by the community amongst several candidates	Competitive selection based on skills
<b>Operator’s profile</b>	An older person, widely respected	Someone retired or soon-to-retire, available for such an activity	An individual with previous experience
<b>Expected benefits</b>	Recognition from a political and social perspective	Income is just enough to provide for management on a full time basis	Turnover identical to that of a small centre managed by SNDE
<b>Staff mobilised</b>	Only one part-time employee who multi-tasks	Small technical staff (a plumber / invoice clerk, a pump attendant)	3 to 10 full time employees, technical and commercial staff

## Maputo

Although Maputo was not a primary case study for the work, Maputo has in recent years seen rapid growth in the urban population served by independent operators. As such it offers a good counterpoint to the Mali case study. Another reason is that the authorities in Mozambique have gone some way towards engaging these operators in discussions about the evolution of the sector, a process from which early lessons can be drawn. A third reason is that AFD (jointly overseeing the work), have started a programme of support that looks at how to bring these operators more firmly within the framework of drinking water provision in Maputo (a process in which the principal consultants, Hydroconseil, have also been heavily engaged). As such a wealth of information has been available to the study team.



The graph below shows this rapid growth.



Up to 200 independent operators are running small networks in the capital city of Maputo and its sister city, Matola, providing household connections. Those connected pay for the extension of the network to their door (using flexible PVC piping) and a meter, which sits within the provider's compound. Most source their water from boreholes they have drilled themselves and build storage tanks, adding incrementally as more storage becomes necessary.

Estimates done for another BPD study (on pro-poor regulation) found that such providers were serving up to 30% percent of Maputo and Matola's urban inhabitants. (*Adapting regulation to the needs of the poor / Case Study: Mozambique, BPD, 2006.*)

#### **A portrait of independent operators that questions orthodoxy**

Developing a typology of operators that is representative of all cases met in the course of study is not an easy task. However the portrait that emerges for the more dynamic independent operators, i.e. the ones that take risks and invest in response to demand from water users, is that of a person (not a business) endowed with a sharp commercial sense. This person is typically able to invest initially and is skilled at managing relations with local authorities. This portrait runs largely counter to the common perception of the 'ideal independent operator', whose profile is that of a formal small business, equipped with technical skills.

It should be noted too that suburban areas seem to provide an incubator for the 'investors', i.e. independent operators who contribute significantly to the initial capital investment and who build greenfield water facilities (as opposed to operators that benefit from a base of existing infrastructure, and who finance extensions from internal cash flow generated by water sales). This aspect has been seen before in other cases; for instance in Maputo, but also in Uganda, Niger and Nigeria.

### **Section 3. INDEPENDENT OPERATORS OCCUPY TWO MAIN MARKET NICHES**

#### **3.1. *Small towns and peri-urban areas – two very different markets***

Entrepreneurial network providers tend to develop their activities where they find opportunities. This is often in places where the dominant operator is either absent or particularly uncompetitive. This tends to cover a few commercial niches, the importance of which varies from country to country:

- Rural centres and small towns. These rarely interest the national operator, who often views them as unprofitable or a distraction from serving larger cities.
- Peri-urban districts where it can be difficult to recoup the costs of network extension, due to a combination of distance from the existing network and / or the limited ability to pay of residents.
- Unplanned zones (often referred to as slums or squatter camps). These are sometimes close to the existing network (in the centre of town, for instance) but the dominant operator usually sees several constraints to serving them (more below).

The first constitutes what is hereafter referred to (for convenience more than geographical accuracy) as the **small towns market**.<sup>5</sup> They can be supplied via an independent network and households are often very heterogeneous, but total consumption is often more modest than larger urban areas (there is little trade and many alternative sources of water, such as private wells or manual pumps). It is a niche within which independent operators have excelled (such as in Mauritania, Ghana, Niger or Uganda). They tend to operate conventional services for a group of users that frequently find themselves either neglected by the dominant operator or lying outside their official service area.

The second makes up what is hereafter referred to as the **peri-urban market**, i.e. unserved neighbourhoods of a large city (that often fall within the perimeter of the dominant operator). These are poor peripheral districts neglected by the development of the network.

The third niche, typically comprises zones in the centre of town, whose uncertain status has discouraged formal service provision (non-residential zones, squatter camps, etc.). It is a niche that has seen numerous entrepreneurs emerge, particularly operators who fully finance their infrastructure. Yet there is a crucial distinction – distance from the existing network. The limited distance either leads entrepreneurs serving these markets to source their water from the network of the dominant operator (in which case these operators are no longer independent), or where they do not do so, offers great potential for them to do so in the future.

Such operators are in the top-left of Table 1 and not the top-right segment upon which this particular piece of work is focused. This study does not entirely disregard this niche however and some of the observations in Sections 5 and 6 do apply to it. As page 6 notes, there is some overlap between the categories outlined in Table 1.

These first two market niches are then the focus for independent network operators. The case study countries selected were chosen in order to explore both scenarios:

- In Mauritania and Ghana, independent operators in small towns play an increasingly important role (comparable situations have been documented in Niger, Uganda and Vietnam)

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<sup>5</sup> There has been a lot of debate as to what exactly constitutes a small town. See <http://www.worldbank.org/html/fpd/water/topics/smalltowns.html> for a definition.

- In Mali, independent operators in the peri-urban zones of Bamako were studied (for which comparable situations have been documented in Vietnam, Paraguay, Tanzania and Yemen). As mentioned Maputo also falls into this category.

The table below illustrates the principal characteristics of these two markets and the resultant strategies adopted by independent operators.

<b>Table 4. Broad characteristics of the two niche markets served by independent network operators</b>		
<b>Aspect</b>	<b>Small towns market</b>	<b>Peri-urban market</b>
<b>A portrait of demand</b>	<p>Strong demand for household connections that consume between 20 and 40 litres per person per day. Demand for standpipes remains strong in certain regions and in rural markets with little cash-economy (very small centres).</p> <p>The market for networked services is not always reliable as alternative sources of supply may be abundant. Whether free or not, these suppress demand (private or public wells with well-developed networks of neighbourhood resale).</p>	<p>Strong demand for household connections that consume between 30 and 40 litres per person per day. Demand for standpipes has fallen in the last 10 years. Where a network is lacking, there is a strong demand for house-delivery (buckets, carts and tankers).</p> <p>Market for network services generally reliable and loosely regulated by competition from mobile vendors and new market entrants. Prices tend to be quite dynamic.</p>
<b>A portrait of historical supply</b>	<p>Previous networks are unlikely to exist and water generally drawn from public sources, more or less well maintained by local authorities or management committees (well, boreholes, springs).</p>	<p>There is always some sort of main network service (public or private) whose coverage is insufficient (between 20% and 80% coverage)</p>
<b>Relationship to the monopoly of the Dominant Operator</b>	<p>Most small towns are not covered in the mandate of the dominant operator (and their monopoly) as they are not considered financially self-sufficient.</p>	<p>Monopoly rights applying to these zones tend to be clearly outlined in the dominant operator's contract, even where they are not respecting concurrent public service obligations.</p>
<b>Influence of land-title</b>	<p>Land titles are well governed by common-law. Land reform is slow and usually does not threaten the status of existing occupants.</p>	<p>Land title is frequently disputed (no-build zones, squatters, non-residential areas) and neighbourhoods are subject to fundamental and occasionally abrupt restructuring (expulsion, etc).</p>
<b>Urban growth</b>	<p>Moderate to strong growth. Growth of the town will not challenge existing status of occupants. The network is usually the primary network and has been designed from the outset to meet long-term demand (over 15 to 30 years).</p>	<p>Strong to very-strong growth. Peri-urban zones are typically absorbed by classic urban growth. Alternatively, they may undergo profound restructuring. Medium-term investments are not unreasonable (5 to 10 years).</p>
<b>Main constraints for independent operators</b>	<p>Investment in bulk supply is intensive and needs vary significantly. The operating margins of the operator are often limited and prices set or regulated.</p>	<p>Legal insecurity is a strong constraint and any contract that the operator may possess is usually insufficient to guard against possible expropriation. General context is dynamic and rapidly evolving.</p>

### **3.2. The small towns market**

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#### **Mauritania and Ghana: The importance of political will**

Comparison of small town water supply in Mauritania and Ghana is instructive. In both countries there are several hundred small towns (of several thousand inhabitants) that are not served by the DO (GWCL in Ghana and SNDE in Mauritania) despite strong demand for modern water services (either from standpipes or individual connections). Nevertheless, the development strategies adopted in each country are quite different.

In Ghana, the DO has long aspired to serve many towns (as SODECI has succeeded to do in the Ivory Coast). It created many small rural networks, operated directly, without great concern for the economic viability of the systems. By the end of the 1990s, GWSC found itself operating 212 networks, a good half of which were severely dilapidated. Since 1999, GWCL has tried to reduce its losses and sought to transfer to others the responsibility (and cost) of running these small schemes. The majority of these rural schemes were transferred to community structures (Water Boards), whose management performance remains unimpressive. Limited efforts have been made to bring in the local private sector, but have lacked real political will.

During this time, CWSA was created by the Ghanaian government with a mandate largely to support community management. CWSA has typically vested the management of small town water schemes in Water and Sanitation Development Boards (WSDBs) which operate under the guidance of local authorities (see Annex 9.4 for more details).

In Mauritania, small rural schemes were first entrusted to municipalities, which operated them directly. In 1994, this direct management model had largely proven a failure and the Mauritanian government put in place a new management model. This encouraged management to be delegated to local private IOs and fell within a broader strategy that sought to create jobs for unemployed graduates. The success of this strategy has surpassed all expectations. In all the towns concerned, even the smallest, a candidate to run the system was found and there are now more than 300 such operators.

The political will of the Mauritanian government to support delegated management to local private IOs was confirmed in 2001, with the creation of ANEPA. This is a public institution whose role is to supervise and support management by local operators.

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The small towns market for IOs is comprised of urban or semi-urban centres that fall outside the mandate of the dominant operator. Apart from the odd exception (SODECI, in Cote d'Ivoire for example, managing water services in more than 500 centres), this represents the vast majority of small towns (between 300 and 500 alone in the countries sampled) and between 30% and 60% of the rural population. Small towns such as these experience rapid growth, further reinforced by ongoing decentralisation.<sup>6</sup>

Water demand has evolved significantly in the last few years, and inhabitants of small towns increasingly want household connections, which they are ready to finance or co-finance.<sup>7</sup> Although purchasing power remains limited, small towns' consumers are already accustomed to paying high prices for water (systematically paying higher prices than customers of the dominant operator, whose tariffs are directly or indirectly subsidised and who benefits from greater economies of scale).

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<sup>6</sup> A broader discussion about why SODECI has targeted small centres and succeeded in serving them would be helpful, but is outside the immediate scope of this work. See Section 9 for further sources of information.

<sup>7</sup> In certain instances, such as Mauritanian towns of more than 5,000 inhabitants, public standpipes have simply disappeared from the urban landscape due, in large part, to a lack of demand.

### **The expropriation threat facing Mauritania's small towns**

SNDE (the dominant operator for urban water supply in Mauritania) has announced its intention to integrate into its service perimeter two of the largest networks currently managed by IOs (Guerou and Tintane). This integration would be done by executive fiat, without any compensation for the IOs that have assured service provision for more than 10 years and that have invested significantly (they have extended their networks by more than 30 km and connected 4,000 subscribers without any public subsidy).

Such expropriation would send a very bad signal to potential investors: it will discourage the other 320 IOs from investing in network extension and from new operators applying. In conclusion, it will endanger the balance of the entire delegation system established in 1994 and through which IOs have financed a large part of ANEPA activities, which, until now, has provided some legal guarantee.

Community management (via management committees, users associations, etc.), and its limited record as regards performance, is more usual in this context. Significant capital is usually needed for investment in water production (boreholes) and primary networks, and often comes from public funds (frequently under donor programmes). Nevertheless, where their contracts allow, small entrepreneurs are readily investing in pumping and distribution infrastructure (to serve both household connections and public standpipes). Their contracts and the institutional frameworks that underpin them, are often modelled on those used in major cities, and can prove onerous. Where service delivery is undergoing decentralisation, this has a significant influence on their operating environment.

IOs that operate in such contexts face certain constraints that impair their ability to grow, to offer lower prices and to provide a consistently reliable service. Analysis of these constraints was an important part of the case studies undertaken in Ghana, Mali and Mauritania.<sup>8</sup>

The main constraint that such providers face concerns their finances. As part of the formal 'water market', they often have little autonomy when it comes to tariff setting. In both Ghana and Mauritania there

was some ambiguity about how tariffs are revised; inertia in the face of rising costs was threatening their financial equilibrium.

An interesting contrast arises when it comes to raising investment in the system – in Mauritania providers were able (and allowed) to get new users to pay the cost of new connections and thus able to expand the network incrementally. In Ghana the challenge of how to get investment in the system (to face growing demand) remains unsolved – with neither the providers nor government seemingly able to source the sums required.

Able to expand in this way, some operators in Mauritania have established significant networks with a sound financial footing. One consequence of this has been to attract the interest of the DO, which in a small towns context is typically the national water provider. However, expropriation has become a threat, as the box highlights.

Contrasting the four countries reveals a further constraint posed by technical norms and standards. In Mali, Mauritania and Maputo, independent operators' effectiveness (and their financial margin) relies on the use of technical standards remarkably well adapted to the context in which they operate: flexible piping, shallow trenches, incremental storage added using plastic tanks, etc. That enables them to keep the costs of connecting users very low, with a cost per head often lower than 30 Euro (public investment projects typically struggle to attain 80 Euro per head). In Ghana this is not the case; much higher technical standards significantly increase costs and make expansion of the network much more difficult.

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<sup>8</sup> While small scale providers in the water sector are generally diverse, they often face a similar range of constraints. Significant attention was given to these constraints and a framework developed that looks specifically at six factors which all have a large impact on the scale and development of small scale provision of water services. This tool was used in all three case studies and generated some interesting insights into how the 'business' operates (more information on the framework and the issues it raises can be found in Annex 9.3). The framework also reinforced the importance of contrasts between IOs that operate in small towns' contexts versus those that work in peri-urban areas.

### **3.3. The peri-urban market**

#### **Maputo and Bamako: The importance of water resources**

Comparing IO activities in Bamako and Maputo is very instructive. In both cities the coverage rate of the DO is notably low (3 connections per 100 inhabitants on average). Large swathes of each city do not benefit from any public provision (not even public standpipes) and those that do receive a service find it particularly unreliable (with water cuts and bad water quality commonplace). This context provides an opportunity for IOs - indeed the informal market for water services is fairly developed in both cities, with informal providers filling the void by serving around half of all households. Yet the manner in which this has developed in each city is very different:

- In Maputo up to a hundred entrepreneurs have invested in boreholes and are providing a good quality service through more than 200 distribution networks, offering both standpipes and individual house connections.
- In Bamako, IOs have shied away from developing new boreholes and concentrated on less advanced systems – on standpipes connected to the EdM network or by investing in pushcarts. Yet where there are existing boreholes with a good yield (drilled either by the State, by international aid organizations or by NGOs), one finds IOs operating systems and developing distribution networks.

Malian entrepreneurs are not to be criticised through comparison with their Maputo counterparts. Each has followed an investment strategy suited to the particular context and long experience. The key for the study has been to unpick the factors that shape each strategy and, by doing so, identify actions for the public sector that can improve the service customers receive.

The institutional context is similar in the two cities. The DO is a private firm, several years into a lease contract. Both have suffered from growing pains – in Bamako the operator has just withdrawn and the contract for Maputo has been turbulent at best.

The legal framework governing the activities of independent operators is better defined in Bamako than in Maputo. In Bamako those IOs that do exist benefit from formal contracts signed with public institutions. The public sector built the networks and now regulates their activities. In Maputo, IOs have to a much greater extent remained in the informal sector, and their activities remain for now unregulated.

The main contrast between the cities is not in the institutional framework, but in the relative abundance of water resources. In Maputo underground water resources are abundant and widespread. Here (as in Ho Chi Minh City, Kathmandu, Asunción, Jakarta or Sanaa) the first boreholes were drilled by private investors for private use (for small industrial activities, for hotels, etc.). Having tapped the water resource, these IOs quickly spotted a commercial opportunity – selling water to their direct neighbours, to their street or to their local neighbourhood. Only in a second phase of development have certain investors (often the initial entrepreneurs) drilled more boreholes in order to build on their early sales.

In Bamako (as in Ouagadougou, Nouakchott, Nairobi or Conakry), tapping into underground water resources is not as easy. Those that do, face high risks by investing. Local investors tend to seek less risky service options as a result; public standpipes connected to the network of the DO, the transport and sale of water (via carts or tankers), or network extensions from existing networks with their own borehole.

Broadly speaking, the peri-urban market for IOs is made up of districts unserved by the monopoly operator, either because they are too far from the centre of town, or because their land-tenure status is uncertain. The numbers living in such neighbourhoods tend to be

growing rapidly (between 5 and 10% per annum). While it is hard to be precise about the proportion of the city they represent, censuses recently undertaken (for instance in Maputo, Buenos Aires, Port-au-Prince, Kisumu, Ouagadougou and Nouakchott) suggest that such districts shelter between 20% and 60% of the city. As such any IO that serves these areas is really ‘filling a gap’ in the current market for urban water services.

Peri-urban customers want services close to where they live (so they no longer have to pay the high prices charged by vendors or spend a lot of time fetching water) and quick responses from suppliers (if technically feasible, operators are expected to respond to requests for connections within a few days or weeks). The proportion of poor customers varies, but is often significant – for them connection costs are a particular barrier to access. Typically users care little about the technical quality of their connection as long as a reliable service is provided.

Independent operators infrastructure is very diverse, but is typically self-financed (often entirely, since the operators do not receive public subsidies). Networks managed by independent operators range from simple pump-fitted wells serving a public standpipe to fully-fledged and technically-complex water distribution networks.

The often ramshackle appearance of these networks obscures remarkably flexible investment strategies (an independent operator will not invest in a single cubic metre of storage unless this improves the paying service they can offer customers). The often uncertain legal context in which they work contributes to short investment horizons (return periods are frequently around 2 to 3 years, and rarely exceed 5 years).

While IOs in small towns face a range of constraints related to tariff negotiations accessing public investment and high technical standards (as noted), peri-urban operators typically face a quite different context. The contrast in the background of the operators working in each niche is influential in this. For instance, operators in peri-urban areas revealed during the study tended to be more ‘organic’ than those in small towns – having established their operations in spite of, rather than in response to, national policy and projects.<sup>9</sup>

A significant relationship is between them and the ‘dominant operator’ – the urban water utility that typically has an exclusive monopoly right to provide water services in the greater urban areas and especially the secondary towns.

In theory there are good reasons for awarding this legal monopoly. It is the counterweight of the universal service obligation imposed upon the utility and is designed to prevent other operators ‘cherry picking’ the utility’s best customers. Yet when the utility repeatedly serves only some urban residents, and fails to serve all, the legal monopoly becomes counter-productive. Combined with legislation that frequently forbids the operator from delegating some of its responsibilities (i.e. sub-contracting to other parties), this relegates peri-urban IOs to a twilight world of informality and illegality.

The consequences of this are widespread. For one, it contributes greatly to insecurity of the investments undertaken by the IO, which, as noted, are often greater for peri-urban operators. These investments (whose cost may be passed onto customers) are exposed to the risk of expropriation without compensation, or where the IO is working in areas whose tenure is debated, risk having them razed during ‘resettlement’ operations. Lacking a legal basis to operate, peri-urban IOs face difficulties in securing rights of way or abstraction rights and need to pay above and beyond what would be expected of the dominant operator.

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<sup>9</sup> In contrast to peri-urban areas, small towns operators have often been ‘called into being’ by a formal process within the water sector. In Ghana this meant competitive tenders; in Mauritania the government actively seeking out and cultivating new operators.

Their financial horizons shrink as this ‘forced informality’ typically places them outside any existing subsidy mechanisms (aimed at relieving the financial burden of serving the unserved or providing water to poorer communities) and makes them ineligible for any grant financing for water infrastructure. Banking and credit offers suffer – lending organisations are naturally risk-averse and reluctant to finance informal operators.

As a result independent operators follow three main strategies to finance their investments: 1) rely on savings accumulated overseas (for instance operators in Maputo); 2) call upon the local informal lending market (which demand high interest rates and raise their costs); 3) rely upon the internal cash-flow of their operations.

Access to water resources can also be impacted. Uncertainty around the availability, reliability, quality (and some extent cost) of water resources can be a major constraint for independent operators. This is especially true in water scarce areas, where competition with the dominant operator for the water resource and the high costs of drilling and maintaining wells can be prohibitive. Outside the legal framework, operators’ abstraction is not always regulated and can limit providers’ ability to start or expand operations. Interestingly Mr. Cissé in Moribabougou, in the suburbs of Bamako, has his water quality tested and approved by the national agency. Given that current water sector policy in Mali makes no provision for IOs, this highlights how such providers often live in an ad-hoc world where some regulations apply, but others are ignored.

Addressing or mitigating these issues is one of the main goals of such entrepreneurs and their supporters, at the heart of which lies the ‘forced informality’ created by legal rights and restrictions placed on the dominant operator.

#### **Section 4. WHAT ARE INDEPENDENT OPERATORS CAPABLE OF?**

##### **4.1. *The ability of IOs to serve markets the DO does not reach***

As Section 3 outlines, independent network operators are particularly active in two principal niches – small towns and peri-urban areas. These are areas either neglected by, outside the mandate of, or unreachable by the dominant operator. Yet IOs have demonstrated a remarkable ability to operate in such settings, providing an affordable service to those who would otherwise be without. A sign of their achievement are the high penetration rates of household connections in networks managed by IOs, typically achieved without any assistance from the State. Moreover, when one considers the strong constraints outlined in the previous section, the quality of service they provide, in terms of hours of distribution, tariff levels, and water quality is generally respectable.

##### **4.2. *Local capacity varies, may come from unlikely sources and is quick to develop***

The case studies showed that the capacity of operators varies widely at the outset. Yet it also revealed that independent operators have a remarkable ability to restructure and evolve towards becoming small, professionally-minded companies. Their commercial dynamism and inventiveness can be impressive.



In the Mauritania’s small towns, the principal demand is for private connections. Independent operators were quick to appreciate this and have responded with astonishing commercial success: 35 000 individual connections made in 10 years, far more than those made by the dominant operator (SNDE) over the same period and attaining a penetration rate worthy of a developed country: 7 to 20 individual connections per 100 inhabitants.

Photograph © Hydroconseil, 2006



At the heart of many of these independent operations typically lies an individual or company that does not specialise in the water sector. The study highlighted many profiles, previously considered atypical: from building firms (in Ghana’s small towns), to small businesses (in the suburbs of Bamako), from retired civil servants (in Bamako), to young graduates (in Mauritania small towns), to returning immigrants (Maputo’s suburbs). When one opens the doors to such individuals, finding operators is generally fairly easy, contrary to common perceptions.

As the context evolves these operators are able to adapt and scale up. One of the more striking examples is the professionalism of independent operators shown in Mauritania’s small towns. Here, after more than 10 years, veritable small companies have emerged to manage the water services of the larger centres. Certain operators have gone as far as to develop accountancy departments (in keeping with the standards of businesses in the informal sector) and employ up to ten people, including plumbers, accountants, electrical engineers, meter-readers, etc.

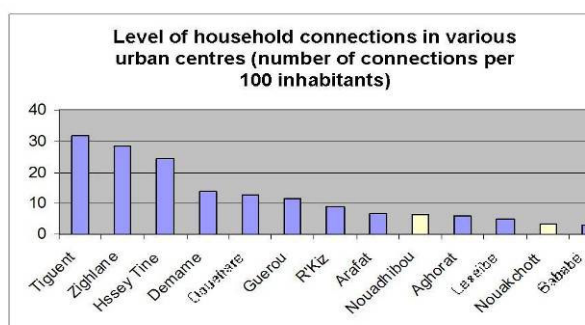
### 4.3. *How does their performance compare?*

The action-research programme was geared at understanding the constraints faced by IOs and at prompting dialogue between them and decision-makers. An initial step were surveys undertaken amongst the customers of IOs, in order to better understand the scale, impact and nature of their operations. These surveys, while far from exhaustive, afforded some interesting insights into how the performance of IOs compares with the dominant operator. Four particular aspects are considered, namely: coverage; tariff levels; customer satisfaction; and service to the poor.

It is important to remember that this is only a snapshot of the findings from the four case studies. Equally importantly, IOs’ achievements have typically come with little to no help or subsidy from officialdom.

### 4.4. *Impressive expansions in coverage*

As discussed, there is strong demand for household connections in Mauritania’s small centres. IOs here have responded well and their track record is clearly superior to that of SNDE, the dominant operator. The number of connections per person shows their progress: in the 325 centres served by operators under contract to ANEPA there are 5.7 connections per 100 inhabitants, whereas SNDE only reaches 4 per 100.



Connection density in selected urban centres in Mauritania

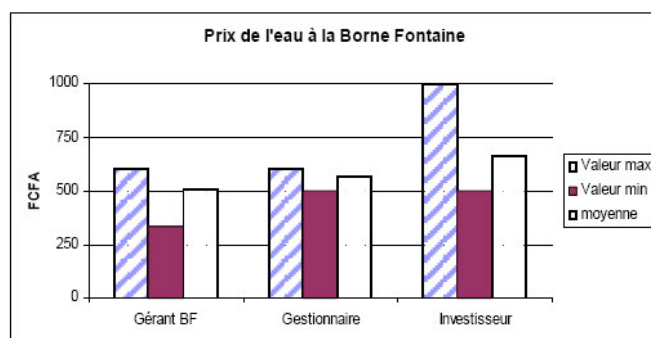
The case study compared over twenty towns with Mauritania’s two urban centres, Nouakchott and Nouadhiou, which are served by SNDE. The adjoining graph shows the impressive performance of the smaller operators. Commercial dictates have guided IOs here - expanding the number of connections has allowed them to increase their revenue (through a margin on sales and charges for connection); vital given that tariffs (set by ANEPA) have been more or less static for 10 years (despite rising input costs, such as for diesel).

#### 4.5. Tariff levels hinge on the source of investment

Tariff items (FCFA)	'Manager'	'Investor'	Electricité de Mali (DO)
Price per m <sup>3</sup> (in FCFA) – flat volumetric rate charged by IOs	250	500	122 FCFA < 20 m <sup>3</sup> 382 FCFA > 20 m <sup>3</sup>
Monthly meter rental	0	500	686
Other charges	0	0	7,678
Connection charges	178,000 per 20 m	300,000 flat fee	-
Annual bill assuming 36 m <sup>3</sup> consumed per month	108,000	222,000	110,856

This data, from Bamako in Mali, gives an indication of the sorts of tariffs charged by IOs and how they compare to the DO, EdM. Where the IO is operating a system that has been developed by others ('Manager'), but has not invested their own funds, the tariffs charged are broadly in line with those of the DO. Where the IO has invested their own money in the system and needs to recover both capital and operating costs ('Investor'), their tariffs are higher and an average bill perhaps double. Neither IO benefits from any sort of operating subsidy.

As for the prices charged at standposts [*Prix de l'eau à la Borne Fontaine*] – which are used by a majority of poorer users – the adjoining graphic shows that the average price [*moyenne*] charged by all three types is broadly the same. The price charged by EDM-appointed standpipe operators [*gérants*] is only slightly less than that charged by 'managers' [*gestionnaire*] or 'investor' [*investisseur*]).



Relative standpipe prices in Bamako, Mali

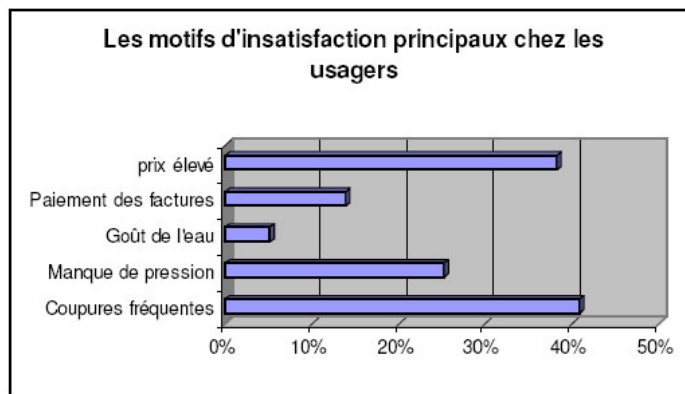
An interesting phenomenon, which warrants further investigation, was that in peri-urban areas, the simple presence of an independent network contributes to a drop in overall prices. It does this by increasing resale and supply to vendors and other mobile retailers. For example, in Bamako's suburbs, one independent operator charges a high price for access to the network, with connection costs running at around 300,000 FCFA (450 Euro). This is beyond the reach of the poor. Yet his initiative has enabled the network to be extended to wealthier customers. They are re-selling the water (which is tolerated, if not officially authorised) and their supply competes with existing cart vendors. This has led to an overall drop in tariffs charged across the neighbourhood.<sup>10</sup> This suggests that merely by bringing retail water into a particular neighbourhood, IOs can benefit poor customers, even if they do not sell them water directly (or do not see them as target customers). This is in keeping with the argument that, by promoting re-sale of water from those with household connections, one can bring a 'stand-pipe service level' closer to customers. In both instances increased competition in the market at lower levels of service helps regulate prices.

<sup>10</sup> The full impact within a peri-urban neighbourhood of an operator whose connection costs remain high is still poorly understood – notably regarding the market response of any existing suppliers (vendors, etc.). Further study of this matter would be an interesting extension of this piece of work.

#### 4.6. **Customers broadly appreciate the service**

Customers were broadly happy with the service provided by IOs. This satisfaction has driven the impressive gains in coverage described above (seeing that users are typically being asked to pay the full cost of extension). The percentages dissatisfied with the service rendered by IOs were found to be on the low side (although this depends on the context): around 10% in small towns and 25% in the peri-urban districts.

It is not easy to make direct comparisons with the services offered by the dominant operator - very few people are customers of both IOs and the DO (those with two houses may qualify, but few others). However, by looking at customer surveys the constraints can be further explored.



Principal complaints of small towns' users, Mauritania

For instance in Mauritania, users' main objection was over frequent interruptions in supply (40% in the adjoining graphic). The next cause of concern was price, followed by a lack of pressure. The process by which bills were presented and settled and the taste of water offered the least cause for concern. As noted, IOs in Mauritania rarely have full control over the maintenance of the pumping equipment (this falls to ANEPA) and this exacerbates the problem with service interruptions. In other cases, where IOs had more control over the source of the water, such complaints were lessened.

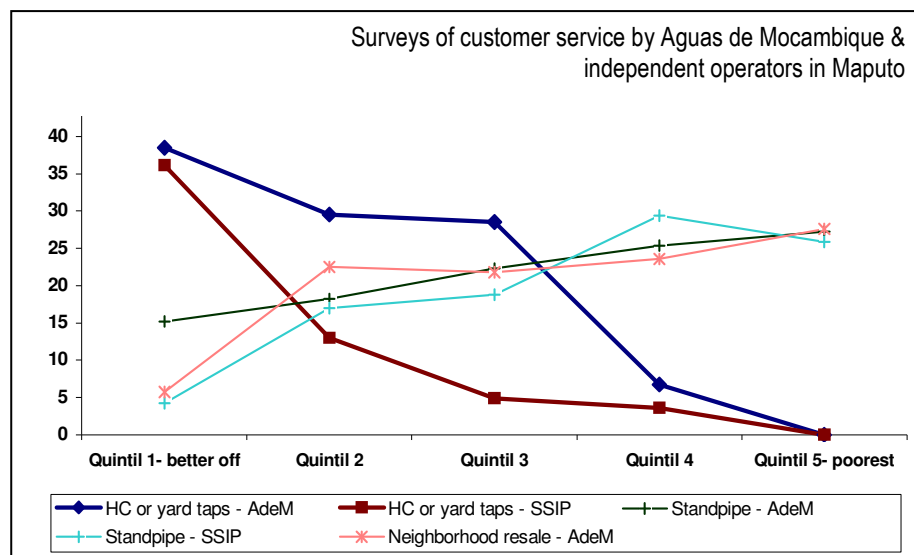
#### 4.7. **Independent network providers do reach the poor**

Independent operators are often accused of focusing on profitable users to the general detriment of the poorest. The study calls into question this widely-accepted idea; the case study surveys showed that the performance of independent operators in serving the poorest is already fairly good, especially given the lack of subsidy and other support they receive.

Service to the poor is in reality is a highly local and political issue. Independent operators are sensitive to this and where local authorities are inclined to champion the needs of the poorer half of society, they bring IOs along with them. This is part of the tacit agreement that links IOs to local authorities (as binding as any written service agreement), and which provides IOs with their 'licence to operate'. Accordingly we see how the main independent operators in Mauritania have achieved very high penetration rates that include service to the poorest segments of the population. Their connection rates are between 7 to 20 household connections per 100 inhabitants, which is appreciably better than the penetration rate of SNDE (a subsidised public company that is supposed to serve all users). Where there is less social solidarity or pressure to serve the poorest, IOs will first concentrate on wealthier customers.

Furthermore, as Section 4.5 above showed, the rates IOs are charging at standposts are often in keeping with those charged by the dominant operator. The effect of an IO's operations on the existing water market (for instance on vendor activities or resale from houses with their own supply) is also interesting, if poorly understood. First indications are that the increased supply and competition in the market for resold water brings down prices overall. This benefits the poor.

Evidence from Maputo supports the claim that IOs are certainly no worse than the DO at reaching and serving the poor, despite the fact the latter benefits from subsidies and other support specifically geared at helping it reach poor citizens. The graph below comes from a survey carried out in 2005 with around 600 households in the peri-urban districts of Maputo. Households are customers either of the water company (Aguas de Moçambique - AdeM) or independent operators (SSIP). It shows the penetration rate of various levels of service provided by these two types of operators. Individual connections (HC) or access to standpipes (yard taps) is given according to the various quintiles [*quintil*] of household incomes. The first quintile represents the richest users, the fifth quintile the poorest.



It shows the penetration rate of various levels of service provided by these two types of operators. Individual connections (HC) or access to standpipes (yard taps) is given according to the various quintiles [*quintil*] of household incomes. The first quintile represents the richest users, the fifth quintile the poorest.

The first point of interest is that the performance of independent operators and the water company is almost the same when it comes to standpipes, whatever the quintile. This is level of service corresponds (alongside resale) to the vast majority of poorer households in Maputo. The second point is that for individual household connections, while the water company outperforms the IOs for the second and third quintiles (thanks in large part to subsidised household connections), the performance of the DO and IOs is roughly equal for the two quintiles that correspond to the poorest users. In terms of household connections provided to poorer users the IOs are not doing well, but nor are they doing any worse than the dominant operator. The monopoly water company meanwhile benefits from subsidies specifically geared at targeting the poor.

Moreover, independent operators are typically more market responsive. For example, in Mauritania, 75% of operators surveyed offered credit (sometimes over several months) and 25% invested capital either directly or indirectly in service to the poor (e.g. supply points for cart vendors, or standpipe provision in poorer areas where there is little demand for household connections). Such responsiveness is much rarer amongst dominant operators.

#### 4.8. *Entrepreneurs' technical and commercial strategies*

Water distribution is an activity that requires significant capital, necessitating operators to make long-term investments in equipment that is practically impossible to move or resell (boreholes, pipework, civil engineering works). This is why traditional water companies (whether public or private) are very reticent to intervene in zones whose legal status is insecure (e.g. slums or unplanned settlements), to serve unusual customers (joint tenants, sub-letters, squatters, community associations, etc.), or to invest in customers that they believe may not pay. Yet such households represent a very significant proportion of the population of large cities in developing countries: across the world this amounts to over a billion people. In their stead, these commercial niches are occupied by independent operators who adopt innovative strategies to manage their investment risk. These strategies include:

- transferring part of their risk to users. Customers are asked to cover the cost of household connections, including the connection to the main network (some IOs offer credit to ease the immediate burden on households);
- bolstering their legitimacy through high coverage levels. Independent operators that succeed in serving more than 80 % of households in a particular zone benefit from strong yet informal legitimacy, in particular with local authorities (who will back them should others interfere);
- reducing their capital costs to a minimum. Operators invest in high-pressure networks of small diameter, dig shallow trenches for pipework and cut back on connection apparatus, etc.

These strategies lower their costs, and give them more confidence about investing in the first place. They also plan to recover their investments in a relatively short space of time, thus minimising the risk of expropriation or of a dramatic shift in their business context (eviction of their customers, for instance).

Yet certain functions remain outside the typical reach of independent operators, and from their perspective constitute an important constraint. Maintenance of the generators and submerged pumps used in small towns water supply are particular examples – often (for both technical and financial reasons) this is still undertaken by either the State or by the formal private sector (national representatives of the main generator and pump suppliers). Financing of major bulk water infrastructure is another, especially in areas that are water scarce.

The following sections discuss ways in which the existing performance of IOs can be built upon and best harness their existing commercial and technical strategies. They also explore how to overcome some of the constraints that IOs in both small towns and peri-urban contexts face.

## **Section 5.            HARNESSING DIVERSE AND INDEPENDENT OPERATORS**

As IOs have a valuable role to play in serving otherwise marginalised communities, the immediate question is then how can their activities be better harnessed within the formal frameworks that govern the water sector? There are essentially two mutually supportive categories of action that policymakers and practitioners can undertake:

- they can follow a strategy of engagement, seeking to link up with those operators that are already running independent networks; and
- they can reform the structure of the water sector itself, looking both to harness existing operators and to create conditions favourable to the emergence of new ones.

Considering both categories, it is important to retain the often crucial distinction between provision in small towns and provision in peri-urban contexts (as Section 4 emphasises).

### **5.1.            *Persuading independent operators to ‘come out of the woods’***

Independent operators often prefer to keep much of their business in the informal sector, where they feel protected from possible abuse or interference by officials (but also taxes, registration fees and hassles, etc.). Yet this makes it harder for them to access banking services or tap local markets or donor

#### **Formalising independent operators in Maputo, Mozambique**

In northern Maputo up to 200 small independent networks assure water distribution. Nevertheless these providers are unregistered and lie in the informal sector, their activities regulated by competition alone. The asset-holding company (FIPAG) and the regulator (CRA) have come to recognise the importance of their services and are now looking to integrate them into the broader framework of service provision. Yet being informal, offers the IOs certain advantages which they are unlikely to forsake without a tempting counter-offer. To “bring them out of the woods”, they’ll need a better deal that addresses issues such as access to water resources, security of investment and regulation of tariffs.

projects for financing. Becoming part of the formal economy may afford them new opportunities, allowing them to develop their activities and improve the services they offer.

This means that an appropriate role for the ultimate ‘delegating authority’ (whether state, local authority or commune) is to create an environment that encourages IOs to formalise their activities.

In peri-urban contexts, to bring operators “out of the woods”, one needs to offer operators a *quid pro quo* – in exchange for entering the formal sector, they should be offered legal protection of their assets, access to bank credit, etc. Lofty decrees that compel anyone distributing drinking water to register themselves with the authorities are rarely a viable option (IOs often avoid registering precisely to avoid unwanted attention from officials). (Professional associations of independent operators are possible brokers here (but as discussed later in this document, not the only ones).)

In small towns the process of formalisation, typically takes a different guise. The challenge is often less geared to getting ‘organic’ private operators of small town supply to sign up to formal frameworks (there are very few examples internationally of this, and none within the four cases) and more about attracting these operators into the sector in the first place.

To this end, the Mauritanian government has taken pragmatic steps in its small towns that appear to have been very effective. A decade ago it sought to attract young graduates to small rural centres, hoping them capable of managing water services on a professional basis, and keen to relieve a growing burden on public finances. In 1994, following the failure of attempts to establish direct municipal management, it launched a programme of delegated management that soon proved highly successful. The government was deliberately matching supply (young graduates in the search of employment) with demand (households increasingly ready and able to pay for a quality service).

In 2001, the Mauritanian government consolidated the experiment by creating ANEPA. ANEPA is responsible for contracting the 350 IOs, supervising their activities and ensuring the regulation of the small towns sector (especially tariff regulation). It is one of the rare cases in West Africa where a public institution engages with operators that have developed more or less autonomously (prior to ANEPA’s creation, the operators were subject only to light supervision by the ‘*Direction Hydraulique*’).

## **5.2. ‘Relaying’ regulation to the local level**

Regulatory frameworks are often poorly adapted to deal with independent operators. Typically they have been developed to oversee a service provided by one or more large national or regional operators. National-level regulatory tools (the purview of ARM in Mauritania or of CRA in Mozambique) tend to be poorly suited to the decentralised and dispersed activity of hundreds of small and medium-companies that make up IOs. These national regulatory agencies are often finding their feet in regulating the various contracts and institutional

### **How water supply is regulated in Lusaka, Zambia**

In Lusaka a series of independent network schemes (originally funded by donors) are managed by Water Trusts. These schemes serve up to 625,000 people in peri-urban settlements but until recently fell largely outside the regulatory framework. Although the Trusts’ performance is generally superior to that of the dominant operator, calls for them to be regulated are now being heard.

Interestingly, some of the prime advocates for such a change are Trusts themselves, who see benefits to being included in the national framework of water regulation. They want their own operating licences to be issued; in contrast, Lusaka Water & Sewerage Company (LWSC) is suggesting that the Trusts become part of its operations. NWASCO, the national regulator, has helped the parties to find a compromise – the Trusts will henceforth fall under LWSC’s licence, yet retain much of their autonomy (enshrined in a joint Memorandum of Understanding).

In Zambia then, independent operators see being regulated (part of ‘formalisation’) as bolstering their autonomy and as a safeguard to their current status. In other countries are their similar underlying dynamics that can be built upon to introduce appropriate regulation? In small towns do ‘local relays’ exist for such regulation? And what is an appropriate role for ‘consumer voice’ in this context?

frameworks that govern the DO's activities. They find it hard to devote attention to the activities of independent operators.<sup>11</sup>

In their stead, one often finds more local actors, such as municipalities or community structures. These frequently play a *de facto* role in overseeing the operations of small private operators, even if this relationship is not always formalised (as it is in Ghana, where operators sign contracts with the local District Assemblies). This is perhaps unsurprising, given that local communities and authorities are typically quite pragmatic when it comes to solving local problems; they themselves tend to appreciate the challenges faced by independent operators (having grown frustrated with trying to prompt a better service from the DO).

In small towns, where operators often go through some sort of formal selection or appointment process, local communities often play an important role. In Mauritania, even though local authorities are not formally integrated within the institutional framework, they validate candidate applications and approve the final choice of operator. Local authorities can also play a considerable role in managing local conflicts, particularly between the operator and their customers (as in Ghana, although here some of the conflict is in fact between the operator and local authorities themselves). The evidence suggests that local communities and local authorities are indeed able to provide some regulatory oversight of the activities of independent operators.<sup>12</sup>

In peri-urban areas, operators are less often appointed in this manner. More commonly, one finds operators looking to establish a comfortable *modus operandi* with local municipalities or their equivalent; they engage local interlocutors in the search for some level of security and stability (a local 'licence to operate'). In both Bamako and Maputo, the operators have semi-official approval of local communities and officials, paying local taxes or applying for local 'business licences'.

### **5.3. Licensing independent operators**

The case of Lusaka (above) demonstrates that licenses can indeed be one tool to identify, recognise and oversee IOs. Indeed, when looking to integrate existing independent operators into the broader framework of service provision, especially in peri-urban settings, licensing the operators is often an attractive option. This means awarding licenses to operate not only as registered companies (as mentioned above, many already have trade licences or company registration), but as public service providers. This is often the best way to identify IOs, offers a means to develop codes of conduct and potentially a tool for pushing standards to improve. Some view it as an adjunct to regulation; award or renewal of a licence can require such things as a safe source, certain minimum levels of service, periodic testing of water quality, etc. Such licensing processes have existed for many years in contexts as diverse as:

- The licensing of standpipe operators (in Mali, Mauritania and Mozambique),
- The licensing of truckers associations (in Ghana),
- The licensing of re-sellers (in the Ivory Coast), and
- The licensing of rural network operators (in Mauritania).

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<sup>11</sup> One clear exception, the Mozambican regulator, CRA, is interested in the activities of IOs in Maputo and is looking to develop adapted regulatory tools for them. A key consideration is one of scale – according to 2005 estimates, there were around 200 independent networks in Maputo, serving water to more than 165,000 people.

<sup>12</sup> In Mauritania, during twelve years of delegation, those few operators that have had their licences revoked all lost them because their inability to maintain continuity of service fatally eroded the confidence of their customers.



From this diverse experience (and observations from the four case studies), the advantages and the difficulties of licensing approaches can be summarised as follows:

<b>Issues around licensing operators</b>	
<b>Advantages of licensing</b>	<b>Challenges of licensing</b>
Improves awareness of IOs (even if not all are likely to register)	Creates an additional brake on supply as in a context of scarce resources (non-licensed IOs may decide to quit the business)
Improves service standards (licences are reserved for independent operators who respect a 'quality charter')	Provides additional opportunities for corruption (IOs may be asked to pay bribes in order to obtain licences). Licences are typically subject to a fee at the outset and sometimes for periodic renewal.
Integrates IO activities into formal economy and improves staff working conditions (IOs pay taxes and more of their staff are brought into any social security system that exists)	May lack necessary bureaucratic capacity to smoothly, transparently and rapidly oversee the license process (staff, legal capacity, IT resources)

#### **5.4. Promoting associations of independent providers**

Another way to bring IOs into the formal arena is by promoting professional associations. These are seen by some as a way to introduce some self-regulation to operators' activities, or a means of creating a manageable interlocutor with which government and others can engage. Where there is an imbalance of power between providers and officials, associations can, under the right circumstances, boost the ability of providers to negotiate a level playing field. They can also advocate for policy and legal changes. There has even been experience of associations coming together to offer a credit pool to their members and thus contribute to the sustainability of operations.

Peri-urban operations are a particular focus for associations. In large cities, creating associations for IOs has proven quite easy. Indeed Africa's informal operators have a long history of creating trade-union structures, seeking thereby either to defend collective interests or develop networks of mutual assistance. Often all that is required is an appropriate invitation by policy-makers for IOs to start to create an association. In Maputo, independent providers formed the association AMATI soon after the asset-holding company, FIPAG, expressed a desire to engage them. Comparable structures exist in many places – for instance the water-tanker association in Ghana; the association of water-reseller in informal settlements, ARE-QUAPCI, in the Ivory Coast; the union of vacuum-truckers, USV in Benin; or the Aguateros' Federation in Paraguay.

By contrast, in small towns scattered over large distances, creating the linkages required and organising meetings between IOs is much harder. Associations that form in this context are certainly less spontaneous and require more support from either the regulator or from policy-makers. Although an association for Mauritania's small-town operators has existed for some time, it still represents only 3 % of the 320 operators, and has never succeeded in becoming a true interlocutor for ANEPA.

Policy-makers can make a significant contribution to the sector simply by recognising the legitimacy of associations and by negotiating with them a framework to govern members' activities. Yet the truth is that experience globally with associations has been very mixed. Those seeking to either create new associations or engage with existing ones need to be cognisant of this and pay due consideration to a number of problems that can arise (some of which are discussed in Section 7.4).



## **5.5. Creating a platform for dialogue**

### **Building upon assets**

Solid relationships ‘build upon assets’. In essence this means making best use of existing resources and processes in place and finding creative ways to blend them together. Prospective partners thus avoid predetermined notions of who should do what (so-called ‘blueprint approaches’) and accept and work with the diversity that exists on the ground. This is a philosophy particularly well suited to the issue of independent network operators. As sections 3 and 4 outlined, there is an incredible amount of innovation and activity on the ground that can be considered ‘assets’ by any policymakers interested in harnessing IOs.

### **Non-traditional operators are one such asset**

In peri-urban areas, such as in Bamako and Maputo, providers are typically operating in the gaps left by the urban water utility. Their networks have tended to evolve more organically with little public sector intervention. Many entrepreneurs running these small operations started by developing water supplies for their own business needs (e.g. hotels or small factories). Only afterwards did they move into water selling in response to local demand.

In contrast, in the small towns of Ghana the providers have to a great extent been ‘called into being’. Policymakers started by creating a framework for independent network provision and only then sought out candidates to run (and perhaps expand) existing schemes.<sup>13</sup> The relationships between stakeholders were mapped out in advance and contracts structured around this. Operators then bid to win these contracts (as part of a wider donor-funded project).

This approach of creating the framework and then asking operators (with the relevant background and experience) to come forward is fairly typical. One can question however, whether this classical approach is the best-suited to building upon the assets to hand.

The non-traditional approach in the other three cases holds important lessons. In Mauritania, a programme to harness the skills of unemployed graduates was the starting point. Operators by and large come from the local community and across the 380-odd towns are a diverse group – their motivation for engaging varies significantly, their skills and outlooks are suited to different contexts. Competitive procurement was never a consideration (and could well have been counter-productive, discouraging able operators, whose main motivation is service to their community, or whose technical and commercial capacity would have been considered insufficient). In peri-urban areas, such as Bamako or Maputo, the mismatch between the expected and actual profile of operators may be even greater. Few of the IOs that have grown out of other business lines (such as hotels) would have fitted a preconceived profile sought via an expression of interest. There are clear implications here for how operators are found and ‘selected’. Procurement policies need to take note.

When dealing with small independent providers, outsiders must be especially careful if they are trying to define ‘who can be an operator’. They must recognise and accept alternative (and often more organic) entry and growth strategies. Any policymakers interested in dialogue have to be open to counterparts who may not fit the preconceived profile. It may also mean finding other ways to regulate access to the market than by competitive tendering alone.

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<sup>13</sup> A common perception is that suitable candidates for small town operations are hard to find. The experience of Mauritania largely refutes this; there were plenty of candidates willing and able to run simple networks, often with strong ties to the communities being served. It just took an open-minded approach to identifying them.

As Section 5.2 highlighted, oversight of the operators happens to a large degree at the local level. Especially in the peri-urban context, the temptation is to try and bring IOs into the formal regulatory framework. This often means applying rules and regulations developed for one or two large operators to the much smaller and much more diverse operations of the IOs. More often than not this is a mistake; akin to using a hammer to crack a walnut. A preferable route perhaps is to explore the potential of existing community voice and locate new interlocutors at the local level.<sup>14</sup>

For many partnerships, written responsibilities are not always reflected in actual roles on the ground. An example is Mauritania, where users pay for the extension of the network, regardless of what written policy dictates. In Mali representatives of DNHE are testing Mr Cisse's water and issuing water quality certificates (a scenario unforeseen by official policy). In the long-term it is desirable that such mismatches be reduced or eliminated entirely. Yet these seeming discrepancies have allowed IOs in Mauritania's small towns to overhaul the coverage rates of SNDE and brought a degree of oversight to Mr Cisse's operations. In the short- to medium-term those driving dialogue would therefore do well to be relaxed about this. Rather than try to ban successful or useful practices, they should weigh up what is helpful and what less so, and ask how, over time, a more gradual convergence can be obtained. Demanding 'compliance' overnight is likely to be counter-productive.

One rule-of-thumb is that the diversity of roles found on the ground should be, to the extent possible, reflected in a diversity of responsibilities. A tangible example is in Mauritania; operators' contracts are standard across all 300 plus operators despite their enormous diversity (captured in Table 3). One recommendation of the action-research programme is for local stakeholders to explore ways in which these contracts can be adapted to the particular context and circumstances of the operators. Some are interested and able to invest their own resources in the systems, some are better suited to the simple management of an existing network and need more external support. If we are to build upon assets to the full extent, Mauritania's small towns contracts need to reflect this.

#### Finding legitimate interlocutors

Dialogue needs reliable interlocutors for its success. The question of who represents various stakeholders is a crucial one for early negotiations and later decision-making. Interlocutors can be helpful in grouping interests and reducing transaction costs. Yet they also need legitimacy. This means finding interlocutors (or intermediaries) that properly represent each constituency.

#### Who represents the public sector?

Having highlighted the diversity of IOs, the public sector itself is far from monolithic. In Mauritania, for instance, a range of public bodies exist, from the ministry to the regulator, from the public operator to ANEPA. As elsewhere, these public authorities each hold quite different perspectives.

All four case studies demonstrated this. Yet they also suggested that the roll out of decentralised services has had important consequences for IOs. One significant contrast is often between local and national authorities. Local actors often have a deep appreciation of the services IOs offer, given that they are serving local constituents, are often from the locality and may have local political connections. In contrast national actors tend to be reactive rather than proactive on the issue.

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<sup>14</sup> An honest assessment of this nature is informing developments in Mozambique. There the regulator, who already has 'delegates' supporting it in key towns across the country, is exploring how best to work with communes, and possibly NGOs, to create 'regulatory relays' at the local level. These will funnel information upwards to the national regulator, but also act as their eyes and ears on the ground, developing and applying more appropriate tools of regulation (combining both 'carrots and sticks') at the local level.

Frameworks for decentralised service delivery have reinforced the role of local and municipal government in service delivery and permitted local government representatives to engage on a more equal footing with national water sector actors. Local authorities are increasingly ready to challenge national government on the merits of IOs.

Yet actions to engage providers or change market structure will require strong support from national level decision-makers. What role can local government play in lobbying their national counterparts?

No one organisation is likely to fully ‘represent’ the public sector; the reality is that there are several interlocutors here. Rather than shy from this, any process of dialogue should recognise it early, ensure the right people are represented and find some means (appropriate to that particular context) to balance the interests and outlooks of various government role-players.

Who speaks for the operators?

As suggested earlier, associations can act as an interlocutor or gateway for IOs, making it easier for policymakers to reach out to providers. They can also increase the credibility of providers vis-à-vis policymakers.

Positive experience of associations exists (as highlighted in Section 5.4). Yet a few caveats are needed. One is that many providers in peri-urban areas have emerged out of non-water business lines. This suggests that ‘professional water provider associations’ risk not engaging many potential providers (hoteliers, etc). If Mauritanian authorities had only engaged ‘typical water providers’ at the outset, they would have missed out on much of the diversity and dynamism that has underpinned their success. Thus the diverse background of the IOs suggests that the wrong sort of association can be a gatekeeper (barring access to our desired constituency).

Worse, experience outside the four countries has seen associations becoming cartels. Existing members have set minimum tariffs that can be charged, limited membership and / or intimidated competition. This is clearly an extreme form of gatekeeper that prevents access to legitimate stakeholders (more discussion of this follows in Section 7.6).

Open-minds are needed about the potential of existing and would-be providers. Prior to deciding on appropriate interlocutors for the private sector, it is recommended that the background and evolution of any existing IOs is properly surveyed.

## **Section 6.            HARNESSING OPERATORS THROUGH SECTOR REFORM**

The previous section discussed steps that could be taken within the *existing* framework that governs the water sector in many developing countries. In contrast, this section discusses steps that may well require changes to the market structure itself. While they may perhaps be regarded as more radical as a result, they offer significant potential to better harness the dynamism and innovation of independent network operators. They include:

- opening up the sector to formal competition from IOs
- investing ‘upstream’ of the IOs to support their activities
- adapting technical standards, thereby bringing them more in line with the approaches actually being used in the field.

## **6.1. Opening the sector to competition for the market**

In discussing the constraints faced by IOs (page 17), the impact of the monopoly accorded to the dominant operator was mentioned. One disadvantage is that this almost automatically relegates IOs to the informal sector. By formally opening up certain segments of the market to other providers, it is possible to offset some of these. In peri-urban areas, where the pernicious effects of this monopoly are perhaps most keenly felt, there are various ways of doing this, without completely breaching the monopoly contract. For instance:

- One can introduce competition over network extension to new areas. Where the DO proves slow to invest, the monopoly clause can be suspended for a period of time (such as 10 years). This allows IOs to step in and build distribution networks, while ensuring an adequate return on investment. This strategy has been adopted in Nairobi's slums to address the severe public health consequences of a huge backlog in investment (in what amounts to around half the city).<sup>15</sup>
- One can allow competition for new household connections. Where the penetration rate of household connection is stuck at low levels (< 50 % of the households), the monopoly clause itself proves abusive. This justifies the market being opened to competition in the public interest. (This has happened in Paraguay, where the creation of small water distribution companies (*aguateros*) was authorised in peri-urban areas. Within the space of ten years more than 400 were founded. Today they serve around 50% of all households and charge tariffs competitive to those of the public company (which is subsidised).)

In small towns, by contrast, the issues are typically quite different. DOs tend to balk at serving small towns, believing their systems below the critical size needed to be financially viable. For instance, EDM (Mali) only distributes water in the 16 largest towns of the country, while SNDE (Mauritania) also manages only 16. As for GWCL (Ghana), it has reduced its mandate to cover less than a hundred towns.

Private IOs have found the means to make water provision in very small towns of Ghana, Mali and Mauritania viable. Opening the sector to competition has made it possible to diversify supply and, in the case of Mauritania, cover the best part of the backlog. There, 350 independent operators manage as many water systems in places where several thousands (and sometimes as few as several hundreds) of inhabitants would have had to wait a considerable time before SNDE reached them.

The withdrawal of the dominant operator from small cities provision often constitutes a trigger for the development of independent operators, who occupy the vacuum this creates. Failures of attempts at community or municipal management also play a part in the emergence of IOs. Yet this evolution often emerges as a side-effect of broader decisions rather than a deliberate policy shift. How then can services be proactively expanded in small town contexts?

## **6.2. Encouraging subcontracting in a peri-urban context**

An alternative approach to direct competition for the market between IOs and the DO is to look into the potential for the DO to sub-contract the management of customers in marginal zones (slums, isolated towns, etc.) to an IO. Where this collaboration leads to increases in coverage there is a strong case for this being done for the public good. Yet many operators' contracts explicitly prohibit sub-contracting. Opportunities for such subcontracting exist in:

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<sup>15</sup> Pragmatic approaches such as this can be fairly simple to design and apply, as direct decisions about the 'planned future' of slums are not required. Incentives can be offered to entice IOs (such as guaranteed security of investments, appropriate technical standards that are adapted to slums, etc.). During the 1990s in several African capitals (Bamako, Niamey, Ouagadougou, Djaména) dozens of boreholes were drilled independent of the network, in order to alleviate (with some success) the lack of utility services in outlying urban districts.

- slums and the unplanned settlements, where uncertainty over land-title acts as a brake on investment by the DO. In Abidjan, SODECI has sub-contracted 'licensed resellers' and in Port-au-Prince (Haiti) and Nairobi (Kenya) sub-contracting is the only means of providing a public service inside slums that contain up to 50% of all households (this applies more to the third niche outlined in Section 4.1, but still resonates);
- rural areas, where services need expanding to numerous small and isolated communities. In Morocco, the operator has explored sub-contracts as a way to increase coverage from the 360 communities it currently serves to more than 10,000.

There is a strong argument to be made for DO contracts to include clauses that authorise and regulate sub-contracting. For example, targets for household connections (that exist in many contracts) can be modified, permitting connections carried out by subcontractors to be included. Bulk water production targets (often included) could also include water sourced directly by IOs.

### **6.3. Investing in water production 'upstream' of independent operators' distribution networks**

In many areas of Africa (including Ghana, Mali and Mauritania), underground water resources are limited and boreholes have a high rate of failure (often above 80% for boreholes whose yield is sufficient for the needs of an average small town). Accordingly 'water resources availability' becomes a key factor and a principal investment risk. This is confirmed by the fact that IOs in these countries tend not to invest in boreholes, but only in downstream networks.

On the other hand, in regions where water resource availability is less uncertain (including Maputo, Dar Es Salaam, Vietnam and Paraguay) independent operators have readily invested in boreholes, even where these prove to involve major and costly works (such as in Kathmandu or Sanaa). Having one's own borehole assures IOs greater independence and control of their supply.

If policymakers are considering using public money to support provision by independent operators, the above suggests that support to the abstraction of water is a prime consideration. Particularly in small towns, activities such as prospecting and borehole drilling are perhaps the most fruitful arenas for public investment. This:

- can considerably reduce investment risk for IOs and thus draw them to small centres that remain unserved by the DO.
- allows public authorities to retain greater control over underground water resources (which is clearly in the larger public interest).
- furthermore, it makes it possible to cross-subsidise between regions where water resources are scarce (and where significant investments in boreholes are needed, as is frequently the case in West Africa) and regions where water is more abundant.

Even in peri-urban areas, investing in the abstraction of raw water can be a useful step to support alternative service providers. This can take several forms:

- one option is to increase the production capacity of the DO (increasing the available quantity of bulk water), while giving the DO incentives to resell some of this surplus to IOs. This is a strategy that has been successfully adopted to supply water to Kibera in Nairobi; comparable strategies by public utilities have proven successful for CAMEP (Port-au-Prince, Haiti) and LYDEC (Casablanca, Morocco);
- a second option is to develop new bulk supply capacity that remains independent of the DO (e.g. by developing independent 'borehole fields'). The more dynamic operators then distribute this water – either the dominant operators or IOs themselves. At the end of the 1980s, the cities of Bamako, Niamey and

Ouagadougou all increased the number of powered boreholes in this way, thereby reducing the growing water deficit afflicting peri-urban districts. In Bamako some of these older boreholes are now being operated by IOs, who have gone on to develop downstream distribution networks.

Channelling public investment into increased bulk supply is a particularly relevant strategy for unplanned settlements, especially slums. This is because, regardless of how unplanned settlements evolve, new bulk supply infrastructure (where appropriately sized and designed) is an investment in future demand growth. Having supported investment in bulk supply infrastructure, the government can delegate the risk and uncertainty of investing in distribution networks inside unplanned settlements to others, such as IOs.

#### **6.4. *Adapting network services to the willingness and capacity to pay of consumers***

IOs are particularly good when it comes to two things. First is ‘knowing their customers’; they tend to live in the same districts and face the same constraints (powercuts, unpaved roads, insecurity of tenure). The second is their ability to adapt the standard of the service that they offer based on the vagaries of local demand. Crucially, it is this ability and inclination to innovate that provides their main comparative advantage.

In small towns during the 1980s and 1990s, water was often provided by means of a manual pump or, at best, a public standpipe. However, in the last ten years public standpipes are gradually being forsaken for individual household connections. In certain countries (such as Vietnam, Morocco, Mauritania), there is now almost no demand for public standpipes – here IOs, responsive to customer demands, have adapted their ‘offer of service’ and provide house connections.<sup>16</sup>

In peri-urban areas, IOs have followed various strategies. Some have built their network off an existing borehole and standpipe operation. Some have taken over small government or NGO networks. Many have started the network themselves from scratch, often building on a borehole that was developed for personal or business use. Yet these diverse operators tend to share one important skill; the ability to offer an adequate service at a modest price. This is no miracle – they achieve this by simplifying standards. Out go inspection chambers (in any case, their neighbourhoods often lack pavements), as does the recommended pipe-depth of 120cm (as there is little risk of trucks crushing the pipes). Connections are made using PVC pipes, a meter and a stop-valve. Only in this way can capital costs realistically be brought down to the capacity of households to pay.

This evolution reflects common sense. Yet although IO strategies typically conform well to local demand, they rarely correspond to the norms and standards defined by national and international bodies. The consequence is that independent operators find themselves relegated to the margins of service provision, with their quality of service called into question by officials (regardless of the strong support from their customers and the fact that their approach to services is the only one affordable to the vast majority of people).

Pragmatism suggests that this contradiction between official service standards and the needs of poorer households needs resolving. Yet this can be controversial. It challenges deeply-entrenched attitudes shared by many engineers and decision-makers. Namely:

- that there is a universal acceptable standard for service provision (for instance, 80 litres per person per day) and all operators must adhere to this standard (regardless of households’ actual capacity to pay);

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<sup>16</sup> This demand for household connections has not necessarily been prompted by large rises in household incomes. In Mauritania or Senegal, the capacity and a willingness to pay of households keen on a household connection remains modest (around a 100 Euro for installation and 2 to 3 Euro per month for consumption).

- that the design of water distribution networks is complex and cannot be left to independent operators; officials must supervise both design and construction right down to the detail of connecting individual households.

Realistically however, if the Millennium Development Goals for water are to be at all feasible, such rigid doctrines need to be challenged. They stifle innovation and prevent operators developing much-needed alternatives to conventional water supply options. This despite the fact that IOs tend to understand poor households' needs better than either DOs or decision-makers).

Policymakers realistically have three options. They can ignore the technical standards used by the majority of IOs. They can oblige IOs to adopt the same technical specifications as apply to the DO, and police this strictly. This risks causing over-investment and large increases in IO tariffs.<sup>17</sup> Lastly they can develop and put into law new technical specifications, better adapted to unplanned areas (narrow, unpaved roads), to households' capacity to pay and to the business models of IOs.

The latter permits the recognition of water distribution systems that are certainly less sophisticated, but which are both functional and accepted by households. It not only legitimises many existing systems developed by IOs, but provides a sound basis for new ones.<sup>18</sup> It allows a more appropriate benchmark to be set, by which the standard of many existing and new schemes can be judged (rather than an unrealistically high standard that relegates many to illegality). It also benefits the DO themselves, allowing them to reach a wider constituency at less cost and thereby improve aspects of their own performance.<sup>19</sup>

### **6.5. Moving from competition to collaboration**

The dominant operator's perspective can be crucial

As suggested above, IOs can potentially be seen as sub-contractors to the DO. This raises a fundamental issue. What is the attitude of the dominant operator towards IOs? How does this influence the likelihood of successful engagement? Do they see themselves as a competitor to IOs, a collaborator in the process, or are they merely indifferent?

In practice it is quite common to find that the DO is indifferent. In Bamako such indifference reflects IOs lack of visibility (they are not yet very numerous) and the challenges EdM faces in its 'core business' of serving the existing network. In Maputo, Aguas de Moçambique is more engaged, partly as policymakers have chosen to be proactive in engaging with IOs. Local circumstances also play a role in Maputo; a large extension project is bringing networked water to a district where IOs currently hold sway. The displacement of these operators (even as others are being courted) is high on the agenda and has prompted a dialogue over terms and conditions of any transfer. Where dialogue can focus on tangible issues such as this (or on concrete short-term benefits to the DO), it is more likely to get their real attention.

Where the DO sees itself as a competitor, the chances of successful dialogue are greatly reduced. The power of the DO to lobby policy-makers (and otherwise act as a destabilising

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<sup>17</sup> The capital costs of adhering to high technical specifications are often around 150 to 200 Euro per person (for a conventional water distribution network with household connections; costs are double that for a sewerage system and waste-water treatment station). Such capital costs are definitely beyond the capacity to pay of poor households - typically 20 to 40 Euro per capita. The undeniable success of IOs in developing private networks in Vietnam is based on their ability to construct full networks (right down to household connections) for between 10 and 30 Euro per person. (Source: Collignon).

<sup>18</sup> An alternative view is to focus on output (such as water quality) and put aside the focus on technical input specifications. This allows operators to find their own innovative solution, but retains oversight.

<sup>19</sup> An important consideration that may limit some of this flexibility over standards is how IOs' networks are eventually integrated with that of the DO.

force) usually far exceeds that of IOs – who must necessarily search for allies for their cause. In such circumstances the role that third parties can play, either as a champion of independent provision or as a broker of dialogue, are very important. The key here is to understand what interests frame the initial position of the DO, and whether creative negotiations can allay some of their concerns or make the ‘deal’ more attractive to them (more follows in Section 7).

A preferable scenario is that of the DO as a collaborator. Are there ways that DOs can be incentivised to lobby for IOs, through sub-contract agreements or other arrangements? In Manila the concession contract of the two operators initially encouraged them to find and support independent providers (IOs connections counted towards their coverage targets). In Haiti the political power accorded the public provider, CAMEP, through its role in serving the slums has proven a great motivation. Where DOs make money on bulk water sales to IOs (while also relieving pressure to meet their universal service obligations), clearly a good case for collaboration can be made. Dialogue, especially over peri-urban provision, should therefore seek to bring in the DO early and forging space for them to be creative in suggesting ways to work together.

A key step is always to search for individuals within organisations that can act as gateways rather than gatekeepers. Who has the most motivation to engage with the issue and can champion it internally? Within the DO is this the peri-urban director or rather the commercial manager? Is it the public relations or regulatory liaison officer? Getting the right person at the right stage in the process is crucial.

#### Predictability and stability – a shared goal

While prompting change is a key part of dialogue around independent provision, it is certainly not the whole picture. Predictability and stability is a key factor for both the DO and IOs.

With regard to the investment horizon, in many contexts significant unpredictability about the security of investment bedevils IOs. Their engagement with local authorities to procure business licences is a direct reaction. Insecurity drives up tariffs as operators seek to recoup their initial investment as quickly as possible. A key goal for reform is often to lengthen the investment horizon for IOs (for instance in Uganda’s small towns where longer contracts are being debated) and provide predictability (such as Ho Chi Minh where the terms and conditions that govern the expropriation of an IO’s network are enshrined in the agreement between the parties.).

DOs also seek predictability, in their case about planning and the terms of future transition. What happens when, as in Maputo’s Distrito 4, the network reaches an area where IOs are entrenched? Are the IOs forced to withdraw or allowed to stay and compete? Policymakers may want to know what outcome is the best for the local households, but the operator may be more concerned about its bottom line and reputation. To incentivise DOs (and stick to the dictums regarding rational market structure noted earlier in this document) discussion may need to initially focus on the short and medium term, as well as being open about the possibility of IO networks being absorbed by that of the DO.

#### What is an appropriate timeframe?

As Section 4 highlights, there are many reasons to advocate for the active involvement of IOs. These stem from their ability to work in difficult conditions and to their proven record in expanding coverage. Customer appreciation rivals or exceeds that of many DOs. Their flexibility, understanding of local demand and close relationship to local social networks makes them often more responsive than the DO could ever be. Local level regulation of IOs is possible and can deliver demonstrable results.



Should then IOs be considered a long-term fixture of the institutional context, or should they be viewed more as a temporary means to an end (over say, 5 to 10 years)?

There is much debate about this issue and many different views held. From the economic standpoint, it is possible to benchmark IOs against the model of an 'efficient operator'. This creates strong arguments for supporting independent operators in the interim, but not necessarily as a permanent solution. A key assumption here is that the dominant operator will actually be able to reform and improve their current performance to match that of the model. From a social standpoint, there are strong arguments for the more decentralised service delivery that IOs embody.

Essentially the answers to this question will have to be guided by the local context, with careful economic and social analysis as support. It will be up to the local stakeholders to decide what is appropriate to their particular circumstances (although more work on the topic globally would be helpful in framing such discussions).

From a dialogue perspective it is important to raise the issue of timing. Each party needs to know where it stands and what parameters are up for negotiation. Each has a desire for predictability and stability. Any brokers to the dialogue need to manage an inherent tension; in the short-term promoting a change to the way the sector operates and in the medium-term planning for the predictable evolution of the sector.

#### **'Negotiating a deal' in Zambia**

Lusaka's water trusts (mentioned earlier), have been the context for an interesting deal, struck between the Trusts and their 625,000 users on one hand, and the Lusaka Water & Sewerage Company on the other, with the national regulator, NWASCO, acting as broker.

The tariffs charged by the Trusts are significantly higher than those charged by LWSC, but despite this, they are strongly supported by their own users, who have rejected merging with LWSC and paying lower tariffs. This curious state of affairs stems from an understanding, inculcated early on in the development of the Trusts, of the need for financial sustainability. Lusaka residents served by the Trusts have seen much other infrastructure fall into disrepair and disuse and distrust the ability of LWSC to sustain a quality service over time.

The Trusts, wanting to safeguard their independence, have struck a deal with NWASCO and LWSC where they will retain their autonomy over tariffs, but henceforth fall under the LWSC service licence. LWSC will assist them with major technical issues and now gain some role in provision to large areas of the capital that it previously lacked.

## **Section 7. NEGOTIATING THE DEAL**

Whether in small towns or peri-urban areas bringing IOs into the framework of service provision means brokering a 'new deal'. An essential part of this is that the parties to the dialogue have the authority to propose and underwrite any such deal. Government negotiators need to be able to mandate some of the actions in sections 5 & 6. IOs need to be able to follow through on commitments.

### **7.1. *Champions are needed to drive the process***

Water provision is an inherently political issue. Many, if not all, of the actions suggested above require political will in order to be taken up. Champions with sufficient energy and influence to bring about change are needed. Mali and Ghana show that one potential champion for IO issues is local government. Local authorities are typically more closely engaged with independent providers than their national counterparts (issuing generic business licences and collecting local taxes). Their local constituents benefit from the providers' activities. Decentralisation has progressively handed them the responsibility for water provision.

Where local government is less suited to the role, as may be the case in Mauritania or Maputo, other candidates should be sought. In Mauritania, ANEPA is a natural candidate, given the nature of its mandate (but may need allies to convince its fellow public bodies). In Mozambique one can see the useful catalytic role that donors can play, especially via

investment projects that innovate with market structure. Asset-holding authorities (that control investment) such as Mozambique's FIPAG are also potential champions.<sup>20</sup>

## **7.2. Proceeding by small steps and tackling tangible issues**

A key question at the heart of any dialogue is one of choice. In Ghana and Mauritania, the choice lies largely with local authorities and national decision-makers – who is going to run public networks and how? In Mali and Mozambique, in contrast, the choice lies more with the operators. Are the IOs going to find the offer of formalisation tempting enough to 'come out of the woods'? Can the DOs be persuaded to work with, rather than against, IOs? The setting for dialogue in each context is therefore quite different, sometimes with significant implications.

Yet across these contexts, once a champion is ready to take the issue forward, and stakeholders are broadly comfortable with the choices being made, the question becomes how to table any proposals for change. Alterations to market structure or technical norms can be regarded as 'big-bang changes'. Experience elsewhere, such as in El Alto, Bolivia (where alternative service standards for sewerage were tested) suggests such change may be more palatable when planned in small steps. There the focus was on piloting alternatives first and generating more information (but also on getting the regulator involved early). Only after a successful pilot were alternative standards incorporated into national legislation. Third parties, in the form of donor agencies, helped to broker and champion this process.

Quick wins are important in this regard. Entrepreneurs need to be engaged and kept engaged, especially where they are the ones 'choosing'. The same applies should small town authorities be choosing whether to appoint private entrepreneurs (and who these are). Keeping either engaged is not always easy when national dialogue tends to descend into long policy debates and the intricacies of legislative frameworks. The four case studies have all shown that focussing on immediate and tangible issues is the best way to draw in stakeholders and to get them engaged. Quick wins allow them to see merit in the process and act as a prompt and motivation should later (and possibly more controversial) discussions become bogged down.

Annex 9.8 looks in more detail at the four case studies and describe what such small steps and tangible issues look like in the context of Ghana, Mali, Mauritania and Mozambique.

## **7.3. How is the deal captured and confirmed?**

One lesson from small towns is that 'contracts' are by no means the whole story. In Mauritania and Ghana providers have entered into contracts with national and local stakeholders respectively. These play a role in the relationships between stakeholders, but are far from the only point of reference. Mauritanian providers have succeeded in extending the network via household contributions in spite of the contract, rather than thanks to it. In Ghana, negotiations over tariffs, network extension and quality of service have not necessarily taken their cue from the signed contracts. In no setting is the contract the final word. After all, the contracts of international operators are frequently negotiated; in the context in which IOs operate, contracts are even less likely to be cast in stone.

Thus while the negotiation of a contract (or licensing procedure) can form a practical issue around which to structure early dialogue, this will not address many constraints faced.

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<sup>20</sup> A key issue is not just the motivation of the organisation to champion change, but what outlook individuals themselves have. They may well face considerable resistance or scepticism from their own colleagues especially when it comes to any restructuring of the sector.

Moreover, ‘political churn’ and turnover of individuals is also a factor (the IOs may sign a contract with one set of officials, only to be presented with a fresh set of local counterparts several years down the line). In contexts where local dynamics and individual relationships are crucial, licensing or contracts are only one tool, amongst several, that will structure and guide relationships between stakeholders.

In such circumstances, brokers may play a useful confidence-building role between parties at the outset and help smooth the evolution of any nascent partnership. Where brokers have been party to early negotiations, they can help to maintain or refresh the ‘original deal’. For instance, CWSA in Ghana has usefully stepped in to resolve conflicts between new local authorities and existing operators, helping to provide some predictability over time for the IOs involved. Brokers elsewhere could usefully be identified, supported and given an explicit mandate to intervene.

There are no doubt other ways to capture and confirm the essential deal being made. A good start is to consult parties to any dialogue to see what suggestions they make; what do they consider provides security and what not? As usual the philosophy of building upon assets is helpful; what have IOs tended to seek in order to bolster their position? What assurances do DOs consider reasonable? How can the operating environment be kept stable, even as politicians and decision-makers change?

#### **7.4. Potential pitfalls**

There are many potential pitfalls along the way. In any partnership there is often an understated competition between the partners – for resources and prestige, for roles and responsibilities. In Mauritania this is certainly the case – the various public bodies that relate to the small towns water sector have very different outlooks and agendas. For instance, the Mauritanian government continues to dole out heavily subsidised (or free) equipment to operators, rather than allow them to raise their tariffs and cover this expenditure from network receipts (or institute a more transparent procedure by which such equipment is allocated). This gives the State significant powers of patronage, allowing it to reward some groups and punish others. The networks may have the capacity to be self-sufficient financially, yet the current system does not permit this to be tested. This undermines the standing of another government body, ANEPA, whose legitimacy rests on the success of the small town IO model.

Any dialogue needs to be able to handle these types of tension and provide a platform where the various parties can present their views (and hopefully reach effective compromises). If this is not possible then decisions taken behind closed doors may fatally undermine negotiations.

Associations are another potential source of problems. Policymakers must guard against awarding associations a monopoly over the service; this turns them into cartels and leads quickly to unwelcome price-fixing. Indeed under the pretext of organising the sector, professional associations have shown a marked tendency to evolve into cartels. They trade on privileged relationships with policy-makers, with political parties or even with certain projects, in order to acquire a monopoly over their particular market segment. This process is so rapid that those dealing with professional associations must continuously be on their guard:

- in Cotonou, USV was created in 1995. Shortly afterwards it acquired a monopoly over licences for septic tank emptying but in more than ten years has issued no new licences and has effectively locked-up the market for emptying services. It has also fixed a flat fee for emptying and prohibited its members from offering discounts;
- in Abidjan, almost as soon as the statutes of the union of water resellers had been drafted, it declared itself in charge of issuing licences to new operators. It seems

that existing members wish to limit competition, despite the effectiveness of SODECI's policies being largely based on the previous ability of any registered user to legally resell water.

Policymakers can take steps to mitigate against this unwelcome tendency. For instance, they can engage only those associations that remain clearly open to new members; that avoid disguising barriers to competition via membership conditions; or that look to dictate minimum tariffs to their members. One tactic can be to work simultaneously with two associations, thus promoting healthy competition between them. Looking wider, corruption is a fact of life for the water sector. The context in which IOs operate is no exception. Some of the challenges that IOs face when dealing with officialdom have been alluded to; licensing schemes are particularly susceptible to falling prey. Collusion can see officials of the dominant operator running resale business on the side, or benefiting from kickbacks from tanker operations. As yet the sector has not explored in great depth how such activities affect independent network operations, nor how to counter this. More work is needed on this topic and due consideration of how it applies to IOs required.

## **Section 8. Specific Recommendations**

Below are eight recommendations that emerge from the action-research programme, and from wider work on the topic. These suggest how the skills and energy of entrepreneurs can best be harnessed through independent networks. They look at ways to create opportunities for such entrepreneurs and how to structure dialogue around these.

### **A. Embrace and recognise diversity**

- Be open-minded about the background of providers. Mauritania, Mali and Mozambique have all showed that entrepreneurs can have very diverse backgrounds, yet still perform impressively in expanding coverage.
- Be careful if trying to define 'who can be an operator'. Room must be left open for alternative (and often more organic) entry and growth strategies.

### **B. Be creative about bringing providers into the fold**

- Question whether classical approaches to procurement and regulation fit the diversity outlined above. Innovate when recruiting, build on local candidates, local knowledge and local oversight.
- Consider regulating access to the market by means other than competitive tendering. Question the relevance of rules and regulations developed for large operators. Make sure licences remain open and geared at outcomes and not inputs.
- Tailor approaches according to the crucial distinction between small towns and peri-urban settings.

### **C. Create new opportunities by disaggregating the water market**

- Recognise where a monopoly awarded to the dominant operator is proving counter-productive. Consider formally opening segments of the market to other providers (which does not automatically undermine the DO).
- Competition over network extension to new areas is possible. When the DO proves continually slow to invest, their monopoly clause can be suspended for a time-bound period.
- Competition for connecting new households is possible. Where the penetration rate for household connections is stuck at low levels, public interest justifies opening the market to others.
- Letting IOs run small town systems can be productive. In Mauritania the coverage rate of IOs is far superior to that of the dominant operator, which is free to concentrate on larger towns.

#### **D. Build on comparative advantage**

- Independent operators are good at innovation and finding flexible ways to meet customer demand. They are less inclined to bear major investment risks or implement strong cross-subsidies.
- Meet them half-way. Consider assisting with water resource abstraction in small towns.
- Amend technical specifications to better adapt them to the contexts in which IOs work, including households' capacity to pay and proven business models of IOs.
- Assess which parts of the market fit the strengths of the dominant operator, and which the strengths of independent operators. Allocate roles accordingly.
- Reflect the diversity of providers and their roles in a diversity of responsibilities. Be willing to amend standard contracts so that they are fit-for-purpose and reflect the capacity and drive of providers.

#### **E. Engage the dominant operator**

- Engage the dominant operator and give it incentives to collaborate with, and support, independent operators.
- Consider authorising and regulating sub-contracting via the contract of the DO. Count connections made by subcontractors in household connection targets. Include water sourced directly by IOs in any bulk water production targets.
- Understand the interests that guide the DO. Look to creative negotiation to allay these concerns and make the 'deal' attractive to them.

#### **F. Plan for evolution**

- Given the context, carefully consider the timeframe for IOs. Should they be viewed as a long-term fixture, or as a temporary means to an end? Discuss and clarify the arguments for each.
- Look to lengthen the investment horizon for IOs and provide predictability for all sides. Discuss the outline terms of any potential transition from IO networks to provision by the DO.
- Avoid demanding 'compliance' overnight. Weigh up successful and useful practices, and seek more gradual convergence over time. Create an environment that encourages IOs to gradually formalise their activities.

#### **G. Focus on an outline deal, then take steps to secure it**

- Focus on immediate and tangible issues as the best way to draw in and engage stakeholders. Build confidence and commitment through quick wins. Consider using brokers in early negotiations, especially if they can help maintain or refresh the 'original deal' at a later stage.
- Bring operators 'out of the woods' with a reasonable quid pro quo – exchange oversight for legal protection of assets, access to bank credit, etc. Seek parties to the dialogue that have the authority to propose and underwrite deals.
- Recognise that contracts are far from the only point of reference in the relationships between stakeholders. Negotiation of a contract (or licensing procedure) can form a practical issue around which to structure early dialogue, but will not address all constraints. Ask stakeholders about other ways in which to secure the deal.

#### **H. Support appropriate interlocutors**

- Identify champions with sufficient energy and influence to bring about change. One potential champion for independent network operators is local government.
- Consider supporting and working with associations that represent IOs. Avoid awarding associations a monopoly over the service; engage only associations that work to keep the sector open. Encourage transparency.

- Take care that your chosen interlocutor does not rule out non-traditional providers that may nevertheless provide a good service. Recognise the potentially diverse background of IOs
- Search for individuals within organisations that can act as gateways rather than gatekeepers.

## **Section 9. Further work**

There remains much that is poorly understood about the issue of independent network providers and more work on the topic would be very helpful in informing policy decisions and strategies of engagement. Some suggestions follow:

### **Origin, evolution and growth of independent operators**

Many of the operators surveyed had non-traditional roots. Is this particular to the four cases studies, or is this experience widespread? How do independent operators generally grow and what shapes that? Do landlords also provide network services, and if so, would engagement strategies be similar? How much movement is there from one category to another in Table 1 (independent to dependent, standpipe operators starting small networks, overlaps between mobile and fixed providers)?

### **Enabling and disabling environments**

The case studies were selected precisely because there was evidence of active IOs. In contexts where there are fewer IOs, why is this? Is it a reflection of better performance from the dominant operator? Or are there other constraints, perhaps less positive, that are preventing their emergence?

What are the points of comparison between relatively enabling environments and those that are disabling? It would also help to document more instances where the dominant operator has had incentives to collaborate with and support independent operators.

### **Appropriate regulation and community voice**

More could be understood about appropriate ways to regulate independent providers, accepting that some of the regulatory tools developed for larger, formal, operators are perhaps ill-suited to the task. If we are not going to regulate access to the market by competitive tendering, then what other mechanisms are there? What can we learn from other sectors? What role does community voice play in provision by IOs and is this a feasible form of regulation? Do we need to empower community voice, and if so, how?

### **The impact on the poor**

The analysis from Maputo showed the penetration rate for household connections according to income. IOs operating in Bamako seemed to follow similar strategies. Yet more could be understood about how IOs tend to serve different income levels. Do they routinely offer two levels of service – standpipes and household connections – and what determines their commercial strategies?

Importantly, we should know more about the impact that resale from networks (including those of IOs) have on the broader water market in a neighbourhood. Does this put downward pressure on tariffs faced by the poor? Are poor households benefiting in this or other ways? What is the overall impact on the poor of an IO commencing operations, even if they do prioritise service to wealthier households?

More work should also be done to understand how consumers, especially the poor, use the services developed by IOs? Are there other arguments in favour or against IO provision, perhaps around community empowerment etc?

### **Getting costs down**

More information is needed on typical costs of network provision by IOs and what drives these. Lower technical standards are certainly important, but what other factors are at play. More comparative analysis of the cost structures of the DO and IOs operating in similar settings is also warranted.

For small towns operations, why is SODECI successful and others national operators are not? What are economics of running small town systems? What lessons can be learned?

Better sharing of experience on what technical specifications have proven appropriate elsewhere is also needed. This is especially true for instances where there are plans for future integration of IOs' network with that of the dominant operator.

### **Timing and objectives of engagement**

Issues around timing remain poorly understood. Should IOs be engaged early on in their development, when there are still relatively few? Or if rapid growth is underway (such as has been documented in Maputo or Bamako), does it make more sense to wait until IOs are more numerous?

Should the emphasis be on creating an environment that encourages IOs to enter the market and gradually formalise their activities, or should it be geared towards assisting those who are already in the market to scale-up? What experiences are there that fit into either camp?

### **Getting a deal done**

There is very little information on what engagement processes have proven successful elsewhere. What does each side in such instances consider a reasonable quid pro quo?

Experience in working with associations should be better documented. How open are they to non-traditional providers? On balance, are they to be recommended? With what caveats?

Lastly, if contracts are far from the only point of reference in relationships, what other securities are sufficient for both the public and private sectors? How are these elaborated?

## **ANNEXES**

The following annexes can be found on BPD's website at [www.bpdws.org](http://www.bpdws.org). They are available in both English and French. Alternatively, email, [info@bpdws.org](mailto:info@bpdws.org) for copies.

- 9.1. List of acronyms and abbreviations
- 9.2. Sample contractual tools
- 9.3. Constraints faced by independent operators: a framework for analysis
- 9.4. Ghana case study summary
- 9.5. Mali case study summary
- 9.6. Mozambique case study summary
- 9.7. Mauritania case study summary
- 9.8 Considerations for dialogue for the four case studies
- 9.9 Sources of further information

## **Access through innovation: Expanding water service delivery through independent network providers**



Small independent operators are individuals or small and medium-sized companies (often informal) that offer a complementary or alternative service to that of the 'dominant operator' (typically the national water company in urban zones and a state agency in rural districts). Independent operators contribute significantly to improving the coverage of drinking water and sanitation in peri-urban districts of cities and large towns, in small towns, and even in rural areas.

Despite this undeniably positive role, they are often relegated to the informal sector and face strong constraints. Particularly troublesome are uncertainty as to their institutional status (independent operators seldom have contracts recognising their activity, and fit poorly within regulatory frameworks designed for large companies), a lack of legal protection for their investments, occasionally indifferent relationships with local communities, and finally, a lack of access to credit. Many of these constraints have their roots in the limited understanding of 'institutional actors' as to how poor people actually access water and sanitation services.

BPD and the AFD jointly undertook a two year action-research programme looking at the role that small independent network operators play in developing water services in three West African countries: Ghana, Mali and Mauritania. A particular focus for the work was improving dialogue between local stakeholders and adapting the regulatory framework in order to better serve the needs of poor consumers.

This document is a synthesis of the three case studies carried out in West Africa, all of which focused on operators that had invested in the construction and/or extension of distribution networks. Above and beyond relaying lessons from the field, it offers a set of tools for practitioners and recommendations to policymakers about how better to integrate such operators in developing country water and sanitation projects.

*Please note that the opinions expressed herein are those of the authors and not necessarily those of BPD or its members.*

*Building Partnerships for Development in Water and Sanitation (BPD) is a not-for-profit membership organisation that supports public, civil society and private sector decision-makers and practitioners engaged in partnerships that provide water and sanitation services in poor communities. Active since 1998, BPD focuses on how best to structure, manage and assess such multi-stakeholder collaborative arrangements.*

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