

Benin – Innovative public private partnerships for rural water services sustainability - A Case Study

Sylvain Adokpo Migan with Tremolet Consulting

June 2015



Author: Sylvain Adokpo Migan with Tremolet Consulting

About the authors: Sylvain Adokpo Migan, Senior water and sanitation specialist, is the Country Work Program Coordinator for Benin based in Cotonou (Benin - West Africa). He is leading Benin small scale piped water schemes inclusive business support project, in establishing jointly with IFC, innovative PPP concessions for water supply and sanitation service delivery.

He is leading the World Bank Group Water Global Practice engagement in this country while contributing to Bank strategic support for domestic private sector participation for sustainable service delivery, with the needed institutional arrangements and regulatory mechanisms. This work is generating learning in terms of innovative uses of business to business (B2B) options for water Business Service Development to the poor.

He is a team member, currently supporting similar initiatives and operations in other countries in Africa and Latin America.

Photo Credits: Sylvain Adokpo Migan (World Bank/WSP)

The Water and Sanitation Program is a multi-donor partnership, part of the World Bank Group's Water Global Practice, supporting poor people in obtaining affordable, safe, and sustainable access to water and sanitation services. WSP's donors include Australia, Austria, Denmark, Finland, France, the Bill & Melinda Gates Foundation, Luxembourg, Netherlands, Norway, Sweden, Switzerland, United Kingdom, United States, and the World Bank.

Disclaimer

The findings, interpretations, and conclusions expressed herein are entirely those of the author and should not be attributed to the World Bank or its affiliated organizations, or to members of the Board of Executive Directors of the World Bank or the governments they represent. The World Bank does not guarantee the accuracy of the data included in this work. The boundaries, colors, denominations, and other information shown on any map in this work do not imply any judgment on the part of the World Bank concerning the legal status of any territory or the endorsement or acceptance of such boundaries.

Copyright Statement

The material in this work is subject to copyright. Because The World Bank encourages dissemination of its knowledge, this work may be reproduced, in whole or in part, for noncommercial purposes as long as full attribution to the work is given.

© 2015 International Bank for Reconstruction and Development/The World Bank

Benin – Innovative public private partnerships for rural water services sustainability - A Case Study

Sylvain Adokpo Migan with Tremolet Consulting

June 2015

Foreword

As the Millennium Development Goals (MDGs) come to a close and countries begin to consider Sustainable Development Goals (SDGs) moving forward, there is a certain urgency around making water supply services more sustainable and their investments longer-lasting. This is the case in many rural parts of Africa where today's villages are quickly becoming tomorrow's small towns and an improved system for developing piped water schemes is needed.

Although 63% of the population in Sub-Saharan Africa continues to be rural, accelerated urbanization is underway across the continent and many rural growth towns are quickly becoming denser. In the recent decades, the average Sub-Saharan Africa main city typically experience persistent annual urban growth rates of 5 to 6 per cent, while some cities saw annual growth rates in excess of 10 per cent, implying population doubling every decade. As these populations increase, so does the complexity with regards to the sustainable provision of water supply. This requires a shift from the community water boards that were championed for rural water supply systems a decade ago, to a recognition that more professionalized, dedicated management of piped rural water systems are becoming necessary in order to overcome hurdles of water treatment, network rehabilitation, expansion in coverage, and cost recovery.

In addition, the advent of the SDGs is also highlighting an important global debate around domestic financing for development. Increasingly, there is a recognition that development challenges will require a much broader effort in terms of domestic financing, including more strategic, performance-based investment decisions by the public sector, as well as the crowding-in of investments from domestic private sector and households. A World Bank study conducted in 2009 in sub-Saharan Africa highlighted promising contribution of the private sector in the water sector. The findings indicated that the private sector participation has resulted into a 54% increase of household connections per private sector operators, 18% increase of the volume of water distributed, and a 41% increase in the number of hours of service per day.

Benin is one of the countries that has sought participation of the private investors in the water sector, and this case study demonstrates the potential impact of the Benin experience. Against the backdrop of a private-public-partnership (PPP) legal framework, piped rural water systems are increasingly being managed by private entrepreneurs under an *affermage* arrangement with municipal councils. Under the terms of subsidized concession contracts, these private sector entrepreneurs are providing service as well as re-investing their own private resources for significant system expansions and increasing household connections. In this way, Benin has developed an arrangement for service provision that has the potential of moving rural water supply along the path towards sustainability as well as introducing a mechanism for capturing private resources for system expansion.

This case study provides evidence of the possibilities for attracting private sector engagement in piped rural water systems, and also clearly lays out some of the on-going sustainability challenges. There is an important learning opportunity for the rest of Sub-Saharan Africa to develop similar PPP schemes to address the challenges with a greater emphasis on sustainable services that evolve together with the changing demands of rural populations.

Olivier P. R. Fremond,
Benin Country Manager.

Glenn Pearce-Oroz
Principal Regional Team Leader for Africa
Water and Sanitation Program (WSP).

Acknowledgements

The World Bank Global Practice Technical Assistance project upon which this case study was based was prepared by a team from the World Bank made up of staff from the Water and Sanitation Program (WSP)—a multidonor partnership administered by the World Bank—and the International Finance Corporation (IFC).

This report was written jointly by Sylvain Adokpo Migan (Sr Water and Sanitation Specialist World Bank Water Global Practice - WSP), and Consultants from Tremolet Consulting, London Sophie Tremolet, Goufrane Mansour and Fatahi Amoussa. Sylvain Adokpo Migan and Mehita Sylla (Senior Investment Officer, IFC) served as task team leaders. Study team members included Jemima Sy (Sr Water and Sanitation Specialist, WSP). The report was prepared under the direction of Glenn Pearce-Oroz, WSP Principal Regional Team Leader for Africa, Olivier P.R. Fremond, Benin Country Manager, and Jyoti Shukla, Senior Manager, Water and Sanitation Program (WSP).

Peer reviewers within the World Bank Group included Carla M.N. Faustino Coelho, Senior Investment Officer, CASPA, Jean-Martin Brault, Water & Sanitation Specialist and Philippe Marin (Senior Water & Sanitation Specialist, GWADR).

This case study is based on data and reports from the implementation of “Benin small scale piped water schemes inclusive business support project (P132114)” developed jointly with IFC C3P. The project Team members were Sylvain Adokpo Migan, Mehita Sylla (Senior Investment Officer), Jane Jamieson (World Bank Group PPP Group), David Bot Ba Njock (IFC) and Monyl Toga (IFC).

The authors are particularly thankful to Benin Ministry of Water representatives who shared their knowledge of the sector with us, especially Mr Mamadou Gado (Chef Service Développement Local) and Mr Thierry Helsen (PPEA, COWI). We are also very grateful to all municipal representatives in Zogbodomey, Gogounou, Sakété and Pobè for the discussion we had and for sharing all relevant documents. We are thankful to the private operators who shared with us details about their activities and expressed their views on the project, particularly Delcos Consult, CoGeFi and Ogo-Olouwa-Kitan. We wish to thank Ecobank staff for their time, particularly Mrs Sandra Chankouin (Head Value Chain). We also thank Mr Dorothé Gounon (General Director) and Mr Marius Kouchoelo (Head of Department) from CePEPE for their clarifications and all staff at the Dutch Embassy.

Editorial support was provided by Eric Lugaka (Copyeditor).

Executive Summary

Over the past decade, the Government of Benin has made great strides to professionalize the management of piped water systems (PWS) in rural areas and small towns. Since 2007, the sector actively supported the implementation public-private partnership (PPP) contracts for operating PWS. The sector introduced an *affermage*-type PPP model to connect decentralized municipalities and small-scale private operators (POs). The number of PWS managed through an *affermage* contract went from 1 in 2007 to 269 (57% of the total number of PWS) in 2014. These 269 PWS under *affermage* deliver water services to an estimated 1.7 million people (28% of the population).

Despite this rapid growth, the implementation of the *affermage* model faced serious challenges, as highlighted in a 2010 diagnostic study commissioned by GoB with funding from the Water and Sanitation Program. The implementation of *affermage* contracts was hampered by a number of factors including:

- Municipalities do not have an accurate knowledge of their assets;
- Municipalities lack technical, monitoring and financing capacity;
- POs have limited technical skills, lack experience with the tendering process and have limited access to finance to carry out required investments that would make the management of PWS more profitable;
- The contractual framework did not provide enough incentives for POs to perform; and
- The tender process was obstructed by political agenda or personal interests.

The findings from this diagnostic provided the basis for launching reforms to enhance the sustainability of rural water services, with support from WSP. The main objective of these reforms was to improve the contractual arrangements between decentralized municipalities and POs and to test an enhanced PPP model on a number of selected PWS over Benin.

The reforms led to the implementation of four 8-year subsidized concession contracts for 10 PWS in three municipalities with three different private operators. WSP and IFC estimate that the four transactions will generate a total investment of USD 1 million of which USD 277,000

will be mobilized from domestic private sources for the 10 sites and create at least 1,071 new connections within two years of implementation. In total, an estimated 48,500 people should gain improved access to water services through these contracts. These results went beyond the initial objectives that the sector had set.

This promising outcome is the result of four years of activities designed to tackle the challenges that the sector was facing. The GoB, through the Ministry of Water (MERPMEDER) implemented these activities in partnership with WSP, International Finance Corporation (IFC) and the Dutch Embassy. Strengthening the professionalization of water services in small towns required the following:

- Designing a PPP model adapted to local realities;
- Building the capacity of stakeholders involved, both on the public and private side, for entering into an enhanced PPP;
- Facilitating access to finance in order to strengthen POs' financial basis and enhancing commercial rigour in the management of PWS;
- Mobilizing public funds to carry out network rehabilitation, extensions and densification (in addition to the funds required for designing the PPP model);
- Introducing an innovative monitoring tool that can benefit both the public and private sectors.

At the core of these activities lies the strengthening of the professional management of PWS so as to ensure the sustainability of investments carried out in the sector.

As part of the enhanced PPP model, the subsidized concession was introduced following due diligence studies that assessed the technical, legal and financial conditions of PWS management on the selected sites. The subsidized concession model introduces investment obligations for the POs, which allows leveraging limited public funding, and therefore transfers a portion of the risks to the POs. Transferring such responsibilities to the POs can potentially improve service delivery as they can more closely match investments to actual demand, and therefore be more demand-responsive. The profitability of the contractual arrangement is enhanced by the expected increase in water sales volumes due to an increase in household connections.

In these contractual arrangements, a cluster of several (2 to 3) PWS is tendered under one contract. Among other advantages, clustering enables reducing transaction costs, including within the cluster PWS that are less profitable, making the transaction appealing to the POs who are attracted by bigger water sale volumes and attracting commercial banks by proposing larger transactions.

The four contracts were successfully tendered following a two-stage procedure: a prequalification stage to screen the candidates technically and financially able to enter into a concession agreement (and carry out the investments required) and a qualification stage. The RfP indicated that candidates must finance at least 10% of the works and that the winning bid would be awarded to the PO requesting the lowest level of subsidies. Such a bidding method enables enhancing value for money on CAPEX as well as incentivizing POs to invest.

POs' contributions reached an average of 27% of overall works costs, exceeding expectations. The overall subsidy requested by the POs was FCFA 368,441,735 (equivalent to USD 759,442 as of August 2014) when the Transaction Support Report (TSR) anticipated a GoB contribution of FCFA 475.7 million, representing 90% of anticipated works costs.

These results support the recommendation that the rural water sector in Benin should carry on with reforming the management of PWS and scale-up the enhanced PPP model beyond the pilot phase. The key recommendations for the scaling-up of these activities are: to strengthen the monitoring framework of rural water services, and introduce a robust monitoring of the subsidized concessions that will feed as lessons for the design of new PPP contracts; to strengthen the DG-Eau regulatory unit in order to update the guidelines for tariff setting and benchmarking POs' performance; setting up a national water sector financing facility to channel CAPEX funding to municipalities and POs – the sources of funds for this facility should be a combination of tariffs and domestic taxes (both at national and local levels); and to consider sanitation and hygiene as well as water supply - this will be particularly important for small-towns where access to greater quantities of water is provided through an increase in household connections. In such circumstances, adequate solutions to deal with wastewater must urgently be found in order to avoid health risks.

Abbreviations and Acronyms

AFD	<i>Agence Française de Développement</i>	O&M	Operations and Maintenance
AFEB	<i>Association Fédérative des gestionnaires privés de réseaux d'Eau du Bénin</i>	OGEB	Directorate of Planning and Management of Water
ANCB	Benin National Municipalities' Association (<i>Association Nationale des Communes du Bénin</i>)	PADEAR	<i>Projet d'Assistance au Développement du secteur de l'alimentation en Eau potable et de l'Assainissement en milieu Rural</i>
BDI	<i>Base de Données Intégrée</i>	PO	Private Operator
BDS	Business Development Support	PPC	Public Procurement Commission
BPO	<i>Budget Programme par Objectifs</i>	PPEA	<i>Programme Pluri-Annuel Eau et Assainissement</i>
CAPEX	Capital Expenditure	PPP	Public Private Partnership
CePEPE	<i>Centre de Promotion et d'Encadrement des Petites et Moyennes Entreprises</i>	PRPP	Individual Responsible for Public Procurement
CONAFIL	National Commission of Local Finance	PRSP	Poverty Reduction Strategy Paper
DANIDA	Danish International Development Agency	PSP	Private Sector Participation
DG-Eau	<i>Direction Générale de l'Eau</i>	PSRC	Poverty Reduction Support Credit
DPS	Domestic Private Sector	PWS	Piped Water Schemes
DPSE	Directorate of Programming and Monitoring and Evaluation	S-Eau	<i>Services de l'Eau</i>
EOI	Expression of Interest	SAEP-MR	Rural Water Supply Services
FADeC	<i>Fonds d'Appui au Développement des Communes</i>	SDCSAEP	Community Development and Strategy Services
FCFA	Franc CFA	SHAB	<i>Service de l'Hygiène et de l'Assainissement de Base</i>
FONAGA	<i>Fonds National de Garantie et d'Assistance aux Petites et Moyennes Entreprises</i>	SHU	Urban Hydraulic Services
GoB	Government of Benin	SMEs	Small and Medium size Enterprises
HC	Household Connection	SNV	<i>Stichting Nederlandse Vrijwilligers</i> (Netherlands Development Organization)
IFC	International Finance Corporation	SONEB	<i>Société Nationale des Eaux du Bénin</i>
IFC	<i>Société Financière Internationale</i>	SSA	Sub-Saharan Africa
IVA	Independent Verification Agent	STEFI	<i>Suivi Technique et Financier</i>
IWRM	Integrated Water Resources Management	TA	Technical assistance
KfW	<i>Kreditanstalt für Wiederaufbau</i> (Development Bank)	TOR	Terms of Reference
LPCD	Litres per Capita per Day	TSR	Transactions structure report
MDG	Millennium Development Goal	UEMOA	<i>Union Economique Monétaire Ouest Africaine</i>
MERPMEDER	<i>Ministère de l'Energie, des Recherches Pétrolières et Minières, de l'Eau et du Développement des Energies Renouvelables</i>	WBG	World Bank Group
MoF	Ministry of Finance	WP	Volume of water produced
MOHP	Manually-Operated Hand Pump	WSP	Water and Sanitation Program
MWE	Ministry of Water and Energy	WSS	Water Supply Services
NGO	Non-Governmental Organisation	WUA	Water User Association

Table of contents

Foreword.....	ii
Acknowledgements.....	iii
Executive summary.....	iv
Abbreviations and acronyms.....	vi
I. Introduction.....	1
1.1 Background and case study objective.....	1
1.2 Case study structure.....	1
II. Context for PSP in rural water services in Benin.....	3
2.1 Benin's socio-economic background.....	3
2.2 The state of water and sanitation services.....	3
2.3 Administrative set-up: the decentralisation process.....	3
2.4 Legal and institutional frameworks for water services.....	5
2.4.1 Legal framework.....	5
2.4.2 Institutional roles and responsibilities.....	5
2.5 Rural water sector policies.....	6
2.6 Supporting the professionalization of rural water services.....	7
2.6.1 Achievements under PADEAR.....	8
2.6.2 The adoption of a programmatic approach in the 2000s.....	8
2.6.3 "Initiative Eau": 2010 diagnostic and new management models for PWS.....	9
2.7 Options for PWS professional management.....	10
2.7.1 Main features of the <i>affermage</i> contracts.....	10
2.7.2 Early successes: the rapid spread of <i>affermage</i> contracts.....	11
2.7.3 Identifying the limits of the professional management models.....	12
III. Strengthening the PPP model for rural water services in Benin.....	15
3.1 Overview of the approach.....	15
3.2 Key components for strengthening the PPP model.....	15
3.3 Key activities to support the public sector.....	18
3.4 Key activities to support the private sector.....	20
3.5 Mobilizing public funding and facilitating access to private finance.....	20
IV. Subsidized concession contracts: how did it work?.....	23
4.1 Preparing the transaction: site identification and due diligence.....	23
4.1.1 Pre-identification of pilot sites.....	23
4.1.1 Technical due diligence and investment plans.....	24
4.1.2 Institutional and legal due diligence.....	25
4.1.3 Financial due diligence.....	27
4.2 Contract design: the proposed "subsidized concession" model.....	28
4.3 Designing the tender procedure.....	30
4.4 Conducting the transaction.....	33
4.5 Early results following contract signing.....	34
4.5.1 Works progress.....	34
4.5.2 Managing the demand for household connections.....	34

V. Key lessons	36
VI. Recommendations for scaling-up	40
6.1 The potential scope for a scale-up	40
6.2 Potential activities under the scale-up.....	41
6.2.1 Technical assistance or software component	41
6.2.2 Hardware investments.....	43
6.3 Options for a project financing framework	43
6.4 The main risks for the scale-up.....	44

Annexes

Annex A: Glossary of key terms	45
Annex B: Municipal responsibilities following decentralization	46
Annex C: Key dates.....	49
Annex D: Key materials and tools developed by the project.....	52

List of Boxes

Box 1: CePEPE: a key actor in private sector development.....	8
Box 2: PPEA 2's work for strengthening municipalities' institutional capacity	15
Box 3: mWater: What is it and how does it work?	19
Box 4: mWater: A difficult shift, especially for POs	21
Box 5: Key differences between the subsidized concession and an OBA model.....	31

List of Figures

Figure 1: Drinking Water Trends in Benin (1990-2012).....	4
Figure 2: Financial flows under the bipartite affermage contract	11
Figure 3: Total number of PWS against number of PWS under affermage	12
Figure 4: Overview of WSP's inclusive technical assistance: main components.....	17
Figure 5: Timeline for designing and letting the subsidized concessions.....	23
Figure 6: Site selection: 10 PWS in three municipalities: Gogounou, Sakété and Zogbodomey.....	25
Figure 7: Financial flows under the concession contract in the first two years of the contract.....	32
Figure 8: Extension and connection works in Makpohou (Sakété) in February 2015.....	35
Figure 9: How FADeC works.....	47

List of Tables

Table 1: National guidelines for water infrastructure in rural areas	5
Table 2: Project financing	21
Table 3: PWS selected for pilot testing the PPP model	25
Table 4: The three investments options submitted to GoB and cost estimates	26
Table 5: Winning bidders and their financial contributions.....	34
Table 6: Activities for strengthening the PPP model in rural areas and potential challenges in the scaling-up phase	37

I. Introduction

1.1 Background and case study objective

Over the past decade, the Government of Benin (GoB) has made great strides to professionalize the management of piped water systems (PWS) in rural areas and small towns, including through Public-Private Partnership (PPP) contracts. Today, 269 out of 473 PWS, delivering water services to an estimated 1.7 million people (28% of the population) across the country, are under *affermage*-type contracts binding decentralized municipalities with private operators (POs). In 2010, a diagnostic study commissioned by the GoB revealed a number of challenges faced by POs and municipalities involved in *affermage* contracts. The study highlighted the weak capacities of stakeholders involved (both on the private and public side), the limited funds available for carrying out asset renewal and service expansion as well as an imbalance in risks and responsibilities in the contracts.

Following the GoB's request, the Water and Sanitation Program (WSP) initiated a pilot project seeking to implement innovative approaches to effectively engage the domestic private sector in the management of PWS. The program was implemented in partnership with the International Finance Corporation (IFC) and the Dutch Embassy in Benin. It benefited from close collaboration with the Ministry of Water and Energy (*Ministère de l'Énergie, de la Recherche Pétrolière, de l'Eau et du Développement de l'Énergie Renouvelable Développement des Énergies Renouvelables* or MERPMEDER) and the municipalities.

The GoB, led reforms to introduce a new contractual arrangement between POs and decentralized municipalities: a concession contract entailing investment obligations for the POs and a public subsidy to cover parts of the investments. In the present case study, this new contractual structure is referred to as a "subsidized concession". Four 8-year subsidized concession contracts for 10 PWS in three municipalities with three different private operators were signed between August 2014 and September 2014. It is estimated that the four transactions will generate a total investment of USD1 million, of

which USD 277,000 will come from domestic private sources for the 10 sites and create at least 1,071 new connections within two years of implementation. In total, an estimated 48,500 people should gain improved access to water services through these contracts, surpassing original expectations.

The objective of the present case study is to extract lessons from these pilots and the reforms implemented by the GoB for improving the sustainability of rural water services. These lessons are relevant for stakeholders involved in Benin rural water supply as well as for an international audience seeking to improve the delivery of water services in rural areas and small towns in other countries.

1.2 Case study structure

This case study is structured as follows:

- **Section 2** presents the context for private sector participation (PSP) in water services in Benin, including the status of water and sanitation services, the recent decentralization efforts as well as the legal and policy framework for water and sanitation. This section sets out the gradual progress towards the professionalized management of PWS, the key feature of the *affermage* model that was introduced by the GoB and presents the findings from the diagnostic study carried out in 2010;
- **Section 3** presents an overview of the technical assistance to the sector, what are the main components involved in strengthening the PPP model for rural water services and highlights how the technical assistance responded to the challenges faced by the sector;
- **Section 4** focuses on the design and implementation the subsidized concession contracts, from site selection for pilot-testing to contract award attribution and early contract implementation;
- **Section 5** extracts the main lessons from the experience for developing a PPP model for small towns and rural areas; and

- **Section 6** formulates recommendations to key stakeholders in Benin, particularly for scaling-up and ensuring the sustainability of professionalized rural water services.

In addition,

- **Annex A** contains an assignment glossary of the key terms used in this case study;
- **Annex B** presents the municipal responsibilities and organization following decentralization;
- **Annex C** sets out key dates for the reforms and the transaction structure activities;
- **Annex D** contains an annotated list of key materials and tools developed as part of this project.

II. Context for PSP in rural water services in Benin

This section presents the overall context for PSP in the rural water sector in Benin. It starts with a rapid overview of Benin's socio-economic background, highlighting the critical importance of small towns. The section then examines the current status of water and sanitation services in the country: water service coverage has remarkably improved in recent years. This means that the country has now entered into a critical zone, in which ensuring the sustainability of investments becomes crucial. This calls for the professionalization of service delivery, particularly in small towns.

2.1 Benin's socio-economic background

Benin is a small West African country with a population of 10 million. It shares borders with Nigeria to the East, Togo to the West, and Burkina Faso and Niger to the North. While Porto Novo is the administrative capital of the country, Cotonou (on the Atlantic coast) is the country's largest city and a vital regional trade hub.

Despite economic growth, per-capita income levels remain low (at USD 805 per capita and USD 1,500 in purchasing power parity terms as of 2013). Benin's economy is largely dependent on agriculture and cotton production in particular. In recent years, the improvement of regional trade through the Port of Cotonou contributed to improving economic growth. According to World Bank estimates (2014), real GDP grew by 5.4 % in 2012 and 5.6 % in 2013, up sharply from a previous 5-year average of 3.68 %. Growth remained strong in 2014 at 5.5 %. Despite economic growth, about 50.9% of the population lives below the poverty line according to the international standard of USD1.25 per day (World Bank 2014).

The majority of Benin's population is rural. An estimated 57% of the population lives in rural areas, although the annual growth of the rural population is slowly declining, standing at 2% today. Urban growth stands at 4% and is in line with the average rate of accelerated urban growth in Sub-Saharan Africa (SSA). A major source of such urban growth takes place in rural growth centres and

semi-urban areas. These small towns or "*Centres Semi-Urbains*" (localities with population from 2,000 to more than 10,000) are of major strategic importance to Benin's socio-economic development, representing 35% of GDP and approximately 30% of the country population. These small towns need improved services in order to continue to support their growth.

2.2 The state of water and sanitation services

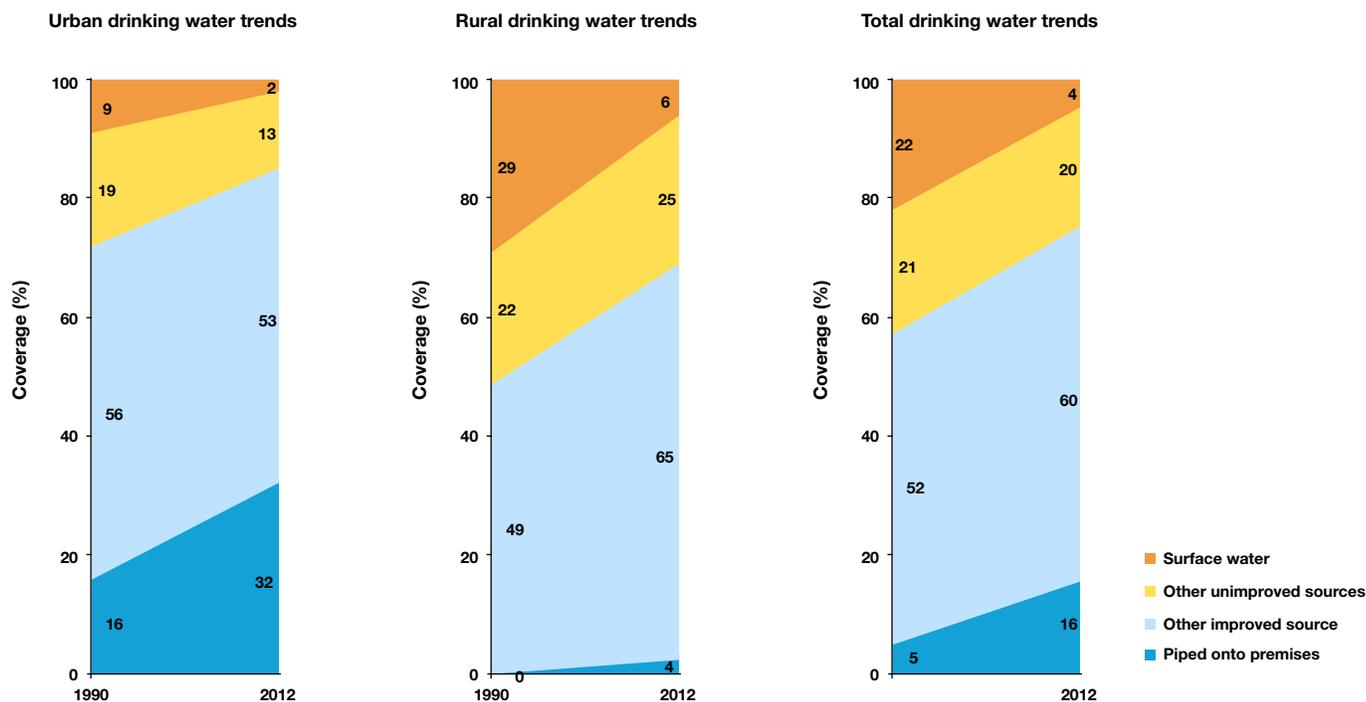
According to JMP statistics Benin is on track to meet the MDG target for water by the end of 2015. By 2012, 76% of Benin's population had improved access to drinking water against 57% in 1990. In urban areas, access to improved drinking water increased from 72% in 1990 to 85% in 2012. Rural areas also experienced significant improvement with a rise from 49% to 65%. These achievements are the result of sustained investments from the GoB and development partners and improved planning for the sector. According to JMP figures, however, the rate of access to piped water into the premises remains low, with only 4% in rural areas by 2012, whereas it stood at 12% in urban areas. This means that consumption per capita are likely to remain at relatively low levels and that Benin still has a long way to go to achieve sustained universal access to safe water supplies, based on what is likely to be adopted as part of the Sustainable Development Goals.

Access to improved sanitation remains dramatically low over the country, however. Access to improved sanitation only rose from 5% in 1990 to 14% in 2012. The needs are particularly significant in rural areas. Between 2000 and 2012, access to improved sanitation in rural areas increased by only 2%, standing today at 5%. In urban areas, 25% of the population had access to improved sanitation in 2012.

2.3 Administrative set-up: the decentralisation process

In 1999, Benin initiated a decentralization and devolution process, which led to the country's current administrative organization. Municipalities ("communes") were established as legal entities with financial autonomy. This

FIGURE 1: DRINKING WATER TRENDS IN BENIN (1990-2012)



Source: (WHO, UNICEF and JMP 2014)

new set-up became a reality in 2002 as the first municipal elections were held and elected mayors took office for the first time.

The country is now divided into 77 municipalities, including Cotonou. These municipalities fall under 12 “départements” or regions. Municipalities are divided into “arrondissements”, which are themselves divided into villages for rural areas and “quartier de villes” for urban areas. Unlike municipalities, “départements” are not legal entities and do not have financial autonomy. *Départements* are headed by “*Préfets*”, who represent the central government’s authority and are appointed by and accountable to the Ministry of Territorial Administration. *Préfets* oversee and monitor municipalities’ activities compliance with the legal framework: their role is to provide “technical assistance and advice” and to validate the decisions taken by the municipalities.

Following decentralization, municipalities were assigned functions that were previously the responsibility of the regional administrations representing the central government. Municipalities are now responsible for ensuring water and sanitation services delivery to their populations. They are “*maitres d’ouvrage*”, i.e. they became the owners of water supply assets within their communes and are the contracting authorities in charge of planning, designing and overseeing all works on those assets.

Decentralization also had implications on municipal finance. Municipalities have their own budget, which is voted annually by the elected municipal council. Sources of fund include local revenues from taxes, based on rates fixed by the municipalities within the ceiling imposed by the Ministry of Finance (MoF). Municipalities’ budgets are supplemented by transfers from the central government through a specific fund called the *Fonds d’Appui au Développement des Municipalities* (FADeC). FADeC channels two types of funds: general funds (*FADeC non affecté*) feeding into the municipal budget for operating

expenses and investments and “allocated” funds (*FADeC affecté*) specifically allocated to a specific sector or an activity. Development partners can channel funds directly to municipalities for specific activities via the allocated budget line. More details on FADeC and municipal organization are included in Annex A.

2.4 Legal and institutional frameworks for water services

2.4.1 Legal framework

The main legal act for the water sector is the Water Resources Management Law, referred to as the “Code de l’Eau”, which was adopted in 2010 (Loi n° 2010-44). The law sets the fees or tax due to responsible authorities in application of the principle “user-payer”. The fees are the financial contribution of commercial users calculated on the basis of the volume of water abstracted (or used or mobilized). According to the law, these fees or tax should be used for financing water sector activities. This law also makes reference to the organization of water services but does not spell out in detail the roles and responsibilities of the different actors for water supply and sanitation services with respect to policy-making, regulation and service provision. The definition of roles and responsibilities therefore is based on several pieces of legislation, including the Water Resources Management law and the decentralization law.

Other relevant legal acts include the Creation of Basin Committees Act (adopted in September 2011), which defines the framework for planning and managing water resources. The Drinking Water Quality Act (dated February 2001) defines drinking water standards.

2.4.2 Institutional roles and responsibilities

Central level

Responsibilities for the provision of water services have been assigned to different entities in urban and rural areas of Benin. The parastatal utility *Société Nationale des Eaux du Bénin* (SONEB) is in charge of providing drinking water in urban and peri-urban areas of more than 20,000 people. SONEB is present in 69 cities over 77 municipalities. The utility provides water services to an estimated 2,354,000 people, through 197,000 metered household connections. According to SONEB, only 19,000 people have access to water through standpipes managed by SONEB.

In rural and semi-urban areas of less than 20,000, the provision of water (and sanitation) services is the responsibility of municipalities. According to national guidelines for local planning, piped water systems (PWS) should be constructed for agglomerations of 2,000 and over. Table 1 below presents the guidelines for water supply installations adopted by the *Direction Générale de l’Eau* (DG-Eau).

TABLE 1: NATIONAL GUIDELINES FOR WATER INFRASTRUCTURE IN RURAL AREAS

Type of installation	Population size
Modern water point: modern wells (PM) or manually-operated handpumps (MOH)	< 250
Standpipe	< 500
Autonomous water station (“Poste d’eau Autonome”)	< 1000
PWS	2000 and over

(*DG-Eau 2010*)

At central level, responsibility for rural and small town services sits within the Ministry of Energy, Petrol Research, Water and Renewable Energy Development (“Ministère de l’Energie, de la Recherche Pétrolière, de l’Eau et du Développement des Energies Renouvelables” or MERPMEDER) through the DG-Eau.

Through its Directorate of Drinking Water Supply, DG-Eau is responsible for proposing water policy, informing national strategies for water services and overseeing their implementation at municipalities level. DG-Eau is also responsible for monitoring the water sector. The main monitoring tool is an integrated database (*Base de Données Intégrée* or BDI), shared with the municipalities, which gathers data on water resources and infrastructure. DG-Eau also provides technical assistance to the municipalities to help them carry out their responsibilities for water and sanitation.

In 2013, a regulation unit was created within DG-Eau, with responsibility for regulating the rural water sector. The scope of these regulatory functions is yet to be fully defined as discussed in section 3.3.

DG-Eau’s regional offices are the “Services de l’Eau”

(S-Eau). These were established in the 1990s to identify the needs for water infrastructure works and oversee construction. As municipalities became responsible for this function in 2003, S-Eau's roles shifted to that of technical assistance to municipalities. S-Eau verifies that the design and construction of water systems comply with technical and legal standards. Their assistance is demand-led: municipalities can ask for their advisory services for implementing their water supply program, from tender documents preparation, tender evaluation and contracts elaboration. In principle, S-Eau is mandated to ensure asset knowledge transfer to municipalities. In practice, however, this transfer is limited by the poor state of knowledge on the sector's asset base.

Other relevant ministries with respect to water services include:

- The Ministry of Health, which is in charge of overseeing water quality;
- The Ministry of Finance, which is in charge of regulating public procurement and monitoring central government subsidies to municipalities;
- The Ministry of Decentralization and Local Governance, which supports municipalities in ensuring compliance with the laws;
- The Ministry of Development, which coordinates central government activities.

Local government level

Municipalities are in charge of planning investments, contracting works and ensuring the operation of water systems. In order to identify the needs and communities' demands, municipalities can be supported by "social intermediaries" (*intermédiaires sociaux*). These social intermediaries are usually municipalities' own staff, although an external NGO can be recruited to perform the task.

Municipalities are in charge of setting tariffs as well as fees and charges (*redevances*) paid by private operators (POs) for operating PWS. Tariffs are calculated based on a methodology provided by DG-Eau, generally higher in rural areas and small towns than in urban and peri-urban areas.

2.5 Rural water sector policies

The rural water sector, which includes semi-urban areas, is currently governed by one main strategy document prepared in 2005 and the National Water Policy adopted in 2009. Since the first strategy for the rural water sector elaborated in 1992, the GoB has experimented with several approaches for carrying out investments and supporting the delivery of rural water services.

Until the early 2000s, the central government mostly focused on hardware investments, i.e. the construction of hand pumps and PWS, in its drive to achieve the Millennium Development Goals (MDGs). Community management was the main model and Water User Associations (WUAs) were created to manage those systems. From 2005, the sector strategy shifted to a greater attention on how the investments could be sustained and to professionalized management.

The 1992 National Strategy. In 1992, a National Strategy was drafted to implement the PADEAR (*Projet d'Assistance au Développement du secteur de l'alimentation en Eau potable et de l'Assainissement en milieu Rural*) program (see section 2.6.1).

The 1992 Strategy focused on demand-led planning so that water systems construction would respond to clearly identified needs within beneficiary communities. The strategy requested communities to make a financial contribution towards capital investments. The idea was to create a sense of community ownership, so as to ensure better management of the assets. The strategy also called for bringing in the private sector, but mainly for construction and the provision of spare parts. Following from the strategy, the DG-Eau established regional offices (the S-Eau) to identify and respond to demand for water systems. The approach, which is still in place in many parts of the country, started to show its limits by the mid-2000s.

The 2005 National Strategy for Rural Water Supply and the National Water Policy. In 2005, a National Strategy for Rural Water Supply was adopted in order to reflect the administrative reforms that made municipalities responsible for water and sanitation. The strategy clarified institutional responsibilities for water services and financing sources for water systems construction.

The objective of this new strategy was to accelerate



Sustaining coverage and improved access in rural and small towns.

progress towards achieving the water MDG while ensuring that investments are sustainable. The strategy places cost recovery and private sector participation (PSP) as fundamental elements for the management of water systems: it called for delegated management of water services in order to ensure sustainability.

However, the Strategy retained a central role for WUAs in the management of water services, stating that “in the case of PWS and stand-pipes, the mayor will delegate the management to a WUA, which will then delegate to professionals under contracts (management, lease-*affermage* or concession contracts)”. As will be shown later in section 2.7.3, an inadequate definition of the role of the WUAs in the contractual arrangements slightly hampered the professionalization of water services and the establishment of contractual arrangements between municipalities and private operators. This prominent place of WUAs in the management of water services was partly explained by the fact that communities had partly contributed to the construction of water systems. However, as the municipalities are ultimately the asset-owners, the role of the WUAs was later changed to representing consumers instead of sharing oversight of the assets with the municipalities.

The need for greater PSP was reflected in the 2009

National Water Policy. The policy states that, “the role of the private sector should be strengthened by increasing its responsibility in the delegated management of water infrastructure/systems (*ouvrages hydrauliques*) in rural areas and PWS in semi-urban areas in accordance with the 2005 Rural Water Strategy”.

The 2009 Policy emphasised the need for monitoring water infrastructure and its management. Municipalities ensure the monitoring and regulation of water services at the local level, with the main objective to ensure the viability and sustainability of PWS. Municipalities are tasked with ensuring compliance of service providers with the guidelines in place for pricing and tariffs revision. In principle, S-Eau provides assistance to municipalities for these monitoring tasks.

2.6 Supporting the professionalization of rural water services

The GoB has been working together with development partners since the early 1990s to improve and later on professionalize the management rural water supply services so as to ensure sustainability. The strategy for the rural water sector was initially implemented under a large donor program called PADEAR. In 2004, as the GoB adopted a programmatic approach for the sector,

the “Initiative Eau” program emerged. Initiative Eau is a program specifically targeting the improvement of water services in semi-urban areas of 2,000 people or more. This section reviews the initiatives that supported the sector prior to 2010, with a particular focus on how they contributed to the professionalization of water services.

2.6.1 Achievements under PADEAR

Rural and semi-urban water services have been key focus areas for the GoB since the early 1990s. Between 1994 and 2004, the strategy for the rural water sector was implemented through the PADEAR program, which stands for *Projet d’Assistance au Développement du secteur de l’alimentation en Eau potable et de l’Assainissement en milieu Rural*. PADEAR was a program for the entire water rural sector (including rural water supply, sanitation and water resources management). Initially funded by DANIDA and KfW, the rural water component of the program later received funding from the Belgian cooperation and the *Agence Française de Développement*. Overall, an estimated FCFA 65 billion (USD 114 million) were mobilized for the construction of 6,000 hydraulic installations, including hand pumps, wells and PWS throughout the country. Approximately 130 PWS were constructed under this program.

PADEAR was a demand-led program that initiated a shift from the community-based management model to a professionalized approach. The program included interventions for increasing PSP, not only for building rural water infrastructure (such as borehole drilling) but also for managing the systems, and for improving the quality of services provided by private operators. PADEAR put in place a training program in coordination with the *Centre de Promotion et d’Encadrement des Petites et Moyennes Entreprises* (CePEPE) (Box 1). The program included Business Development Support (BDS) activities and training specifically focused on managing PWS.

BOX 1: CEPEPE – A KEY ACTOR IN PRIVATE SECTOR DEVELOPMENT

CePEPE was formed in 1989 with support from the World Bank as business development support (BDS) service provider for small and medium size enterprises (SMEs). Following full privatization in 2005, CePEPE has established itself as a key resource for developing entrepreneurship and supporting SMEs with developing their business. CePEPE offers a set of services including training on business management and consultancy services to help private actors respond to requests for tenders. In addition, the CePEPE provides guarantees via the Fonds National de Garantie et d’Assistance aux Petites et Moyennes Entreprises (FONAGA) to help SMEs access commercial loans. This guarantee is provided based on a framework agreement between CePEPE and the enterprise, which allows CePEPE to closely monitor the SME’s operations and financial situation. FONAGA’s guarantee covers up to 50% of the commercial loan contracted.

CePEPE has developed strong links with the rural water sector over the years and played an important role in professionalizing the sector. Under PADEAR, CePEPE trained about 60 POs, including those involved in works construction as well as those managing water services. CePEPE’s expertise has also been called upon under PPEA and, through the WSP-led project, to provide additional BDS services to POs.

For more information: <http://www.cepepe.org/>

2.6.2 The adoption of a programmatic approach in the 2000s

In the 2000s, the Poverty Reduction Strategy Paper (PRSP) made reforms in the rural water sector a key indicator for sustaining donor support to the government’s budget. These reforms, oriented towards reaching the MDG, included four main components:

- Implementing a sector-wide programmatic approach;
- Improving budget planning, execution, and monitoring through a medium-term program budget;

- Increasing access to a reliable, affordable, and sustainable provision of water service; and
- Improving the governance and management practices for PWS through a local public-private partnership (PPP) arrangement.

These reforms led to the adoption of a programmatic approach implemented through the *Budget Programme par Objectifs* (BPO). The BPO is a planning instrument setting clear targets and indicators for the sector, aligned with the country's national development strategies. The approach contributed to improving communication and coordination among development partners as well as funding, based on harmonized donor objectives.

With increased funding and better planning for the sector, investments rose significantly: “In 2004, for the first time ever, Benin constructed more than 1,200 water points against a target of 700, and more than 2,000 in 2008. More than 500,000 people gained access to safe water in 2008, against fewer than 100,000 in 2001—an outstanding performance in scaling up investment, since over the previous two decades no more than 500 water points were constructed annually” (Prevost, Bea and Leroy-Themeze 2009).

The implementation of the reforms supported by the World Bank therefore accelerated hardware investments. As water systems spread over the country, it became crucial to consider how they could be managed sustainably, particularly in the case of PWS. It is in this context that in 2004, the Initiative Eau program emerged in order to support the sustainable management of PWS.

2.6.3 “Initiative Eau”: 2010 diagnostic and new management models for PWS

Initiative Eau specifically targeted semi-urban areas of 2,000 people or more. An estimated 3 million people lived in these semi-urban areas, deemed too small to be served by SONEB. The initiative was developed in order to manage water services in the context of increasing population growth. Initiative Eau was co-financed by AFD, DANIDA, the Dutch Embassy, KfW, the European Commission and WSP via a “Common Pot” (dedicated fund basket) feeding directly into the BPO. Its aims were to:

- Develop a policy for sustainable management of PWS;
- Rehabilitate and extend PWS and increase network density; and
- Carry an audit of the sector and channel technical assistance to municipalities and the private sector.

The diagnostic carried out by Initiative Eau in 2010 on PWS' management highlighted the issues related to WUAs' involvement in the management of water services, as described below.

The diagnostic highlighted the discrepancy between the actual management model in place for PWS in the country and the municipalities' new responsibilities under decentralization. The dominant model was based on WUAs having the responsibility for contracting the management of PWS to private operators. Municipalities, now asset-owners, were excluded from this model. Furthermore, the diagnostic found that in reality “the overwhelming majority of WUA directly manage PWS and that delegated management had been tested only in a few rare cases in the country.” (Cellule Initiative Eau 2006).

The diagnostic found a series of factors contributing to PWS malfunctions, including:

- A systematic lack of arrangements for maintenance contract,
- Significant lack of skills and professionalism of some stakeholders;
- Lack of rigor in the financial management; and
- Lack of regular technical and financial audits from S-Eau.

Malfunctions were related to the low profitability of managing PWS and poor financial management, particularly for enabling asset repair and renewal:

- Only 16% of PWS were profitable, partly due to low water consumption levels. Water sale were too low to cover operating costs, as PWS were often built in low-density areas or where populations had access to competing sources of water. However, the diagnostic also found that some PWS could become more profitable if extensions were made so that the PWS would serve a larger population and if awareness campaigns were carried out to sensitize population to the benefits of consuming water from PWS.

- Only 27% of PWS had made sufficient financial provision for asset renewal.

These findings were presented at a national workshop gathering municipalities, private operators and WUs as well as representatives from the DG-Eau. Based on these findings, the Initiative Eau called for improving the management of PWS through increased professionalization of stakeholders and a greater involvement from the municipalities.

To identify the best management options for rural Benin, the Initiative Eau also carried out a review of experiences in other countries (Senegal, Mauritania, Ghana, Niger, Mali and Madagascar). Although this review found that delegating the management of PWS to POs was still uncommon, it helped identify key facts and practices related to improved PWS management, including:

- Developing private connections is key to consolidate the financial position of the water service providers, as consumption from private connections is generally higher than consumption from stand-pipes;
- The lack of a permanent training platform for stakeholders hinders the sustainability of the knowledge gained in managing PWS;
- Financial sustainability should be a fundamental criterion when making investment decisions so as to lay the foundations of delegated management.

2.7 Options for PWS professional management

In response to Initiative Eau findings, the DG-Eau recommended four options to municipalities for managing PWS. These options were:

- Delegating the management of PWS to POs through bipartite *affermage* contracts signed by the municipality and a PO (referred to in Benin as a “*fermier*”);
- Signing tripartite contracts, whereby both the municipality and the WUA enter into an *affermage* contract with a PO;
- Partly delegating responsibilities to a PO, whereby the PO is responsible for water production while the WUA retains responsibility for distribution; or
- Delegating to WUAs, which is the traditional community-based management model.

For the DG-Eau, the PPP model, or the *affermage* model, was the favoured option as rural water PPP was a key trigger to World Bank budget support (see section 2.7.2.). DG-Eau designed an *affermage* contract-type for municipalities and POs and promoted the bipartite and tripartite models across the country. This promotion started with a pilot project in one PWS. The *affermage* model rapidly spread across the country, reaching 269 as of end 2014, from two in 2007.

The POs that signed the contracts are generally SMEs working in the water supply sector, sometimes in addition to the construction sector. The most active SMEs selected by the municipalities and working as water operators in Benin so far seem to be small consulting firms with experience and local knowledge of the water sector. These SMEs see the development of public private partnerships as an opportunity to develop their business and boost their profit. Although they have limited capital, they can at least have a small office for representation, a motorbike and some office equipment. Most of the SMEs are registered companies and pay taxes. SMEs are well aware of the government’s policy and strategy for developing public private partnerships and are starting to organize themselves with a view to raising the service standards. An umbrella association of private enterprises providing water services (*Association des Fermiers du Benin*, AFEB) was created with the objective to lobby in order to better organize this emerging group of enterprises and to speak with a common voice, particularly with respect to sector regulation issues.

2.7.1 Main features of the *affermage* contracts

In an *affermage* contract, the municipality retains ownership of the assets, while a PO is responsible for operating the PWS, in accordance with the contract’s specifications. The PO receives revenues from the sale of water on the basis of tariffs agreed upon with the municipality and is responsible for operations and maintenance (O&M) related expenses.

From tariff revenues, the PO pays to the municipality two types of fees and charges (redevances):

- The “*redevance communale*”, which can be referred to as a municipal fee. This is a fee paid to the municipality to cover the costs of service monitoring. This fee is transferred to the municipality’s budget and can potentially be used for other purposes.

- The “*redevance de renouvellement*”, which can be referred to as a capital maintenance and investment charge and is transferred to a separate account, the renewal and extension fund managed by the municipality.

The amount of fees and charges to be paid is calculated based on the volume of water produced, and not distributed. According to municipalities, this incentivises PO to minimize water losses. The tariff (T) amount is fixed by the contract. Fees and charges paid by the PO (FC) are calculated based on a percentage rate that includes a percentage for the capital maintenance and investment charge and a percentage for the municipal charge (in principle allocated to contract monitoring activities) which is applied to the volume of water produced. The municipalities set the rates for the fees and charges. In a tripartite *affermage* contract, in addition to fees and charges paid to the municipality, the PO has to pay a fee to WUAs who are involved in overseeing water service.

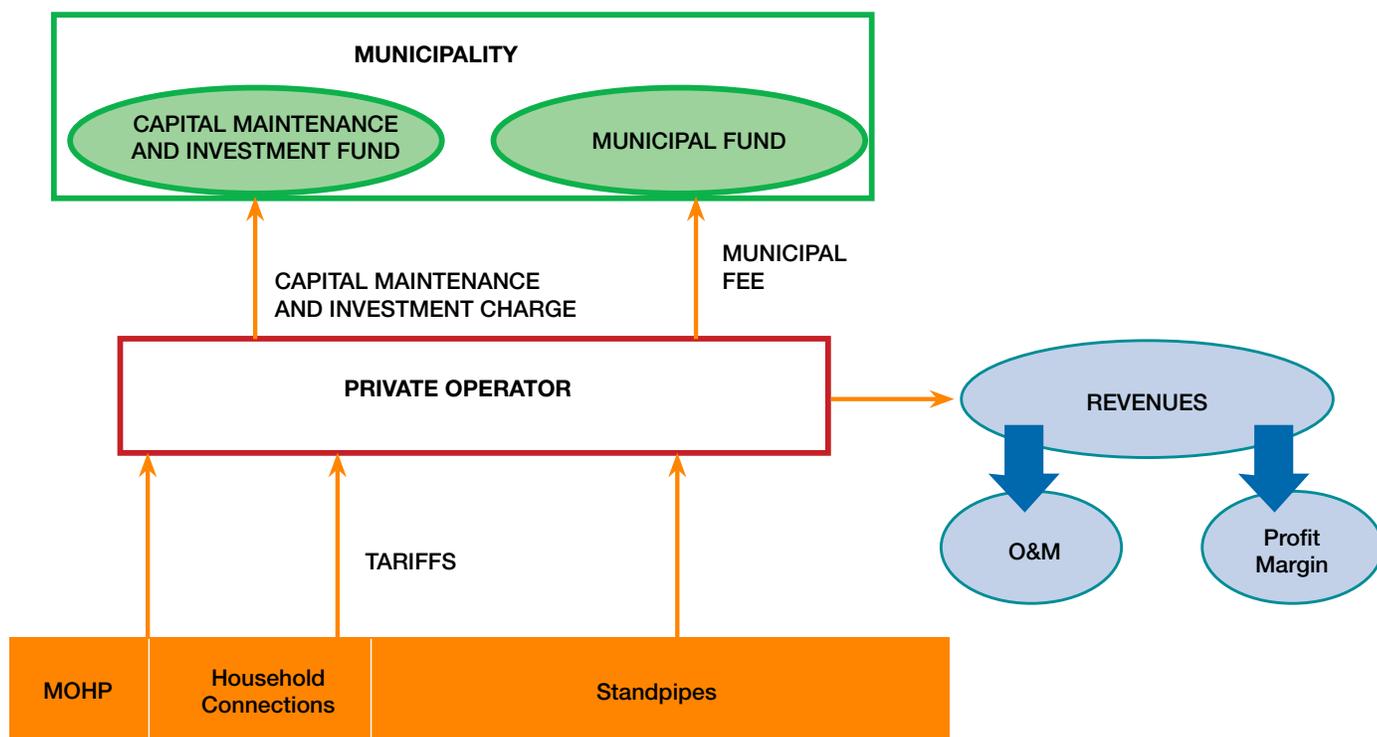
As presented in Figure 2 below, municipalities are responsible for investing in asset renewal from the fees perceived. They are also tasked to regulate POs’ services, by setting tariffs and ensuring that the tariffs charged to their customers are those agreed in the contract, that assets are properly maintained and that fees and charges are paid according to the volume of water produced. The PO is required to produce monthly operations reports, stating the volume of water produced, sales and expenses incurred.

2.7.2 Early successes: the rapid spread of *affermage* contracts

In 2007, Ikpilè was the first PWS for which management was delegated through an *affermage* contract. The municipality of Adja-Ouere chose the tripartite contract following consultations with the communal council, the WUA and S-Eau.

In 2007, as the first *affermage* contracts were signed, municipalities were under no obligation to launch a competitive tender procedure. Under D-Eau’s directives,

FIGURE 2: FINANCIAL FLOWS UNDER THE BIPARTITE AFFERMAGE CONTRACT



municipalities could choose to sole-source their POs.¹ At that time, *affermage* did not fall within the scope of public procurement rules. It is only when the Public Procurement National Code was developed in 2009 that municipalities were under the legal obligation to tender the contract.

The GoB made rapid progress in assisting municipalities with introducing *affermage* contracts. By 2010, 157 AEV were under *affermage* contracts, representing 47% of the 340 PWS that had been built at the time (Fichtner 2010). Such fast-paced progress was partly fuelled by the fact that in 2007 the World Bank budget support under the PSRC5 included the target of introducing PPP management model for 15% of PWS in the country, which represented 38 PWS in 2008.

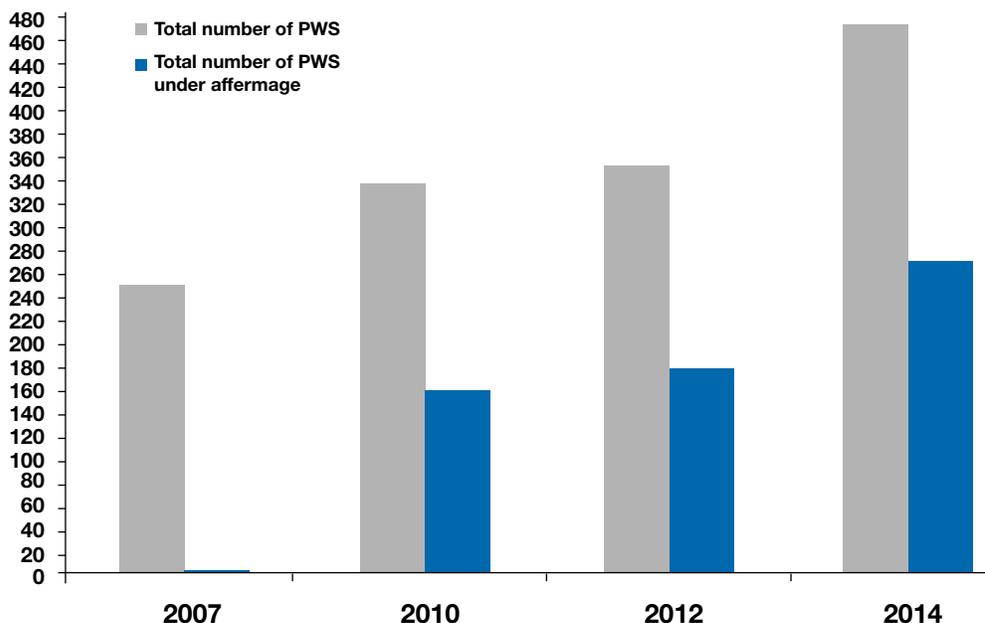
The introduction of *affermage* contracts continued at pace in the following years. In 2012, the management of an estimated 51% of AEV had been delegated through *affermage* contracts. In 2014, 57% of all AEV were reported to be under *affermage* contracts, as shown on Figure 3 below.

2.7.3 Identifying the limits of the professional management models

Despite this rapid growth, many stakeholders (particularly for the POs) are of the view that the *affermage* model has met its limits. Many of the POs had to manage PWS that needed to be rehabilitated in order to be profitable and municipalities were rarely able to mobilize these initial funds. A recurrent issue for POs is the breach of contract by the municipalities, for unspecified reasons, despite the small investment that POs had made to maintain PWS.

In 2010, GoB decided to carry out a review of the sector to evaluate the delegated management models in place, including the *affermage* contracts. This evaluation was carried out on the basis of a sample of 20 PWS across the country. Among the 20 PWS, eight were managed through an *affermage* contract, seven were under tripartite arrangements and two were partly delegated to a PO (for production) and partly to a WUA (for distribution). Only three were managed solely by WUAs.

FIGURE 3: TOTAL NUMBER OF PWS AGAINST NUMBER OF PWS UNDER AFFERMAGE



Source: (Fichtner 2010), (WSP 2012), (PPEA2 and DG Eau 2014)

¹ (DG-Eau Cellule Initiative Eau 2007)

The diagnostic considered and assessed all areas of PWS' management, including:

- Tender procedures and methods for PO selection;
- Contracts implementation, including technical, financial and business management;
- Profitability of PWS under *affermage*; and
- Contracts implementation monitoring.

The results from the evaluation were clear: despite the significant progress that the delegated management models represented in terms of professionalizing the sector, in practice, the management of PWS was facing serious challenges, including inadequate tendering, POs' weak technical capacity and lack of monitoring. This conclusion related as much to delegated management via *affermage* contracts as to the other three forms of delegated management. The diagnostic identified five key bottlenecks for the implementation of PPP under current conditions, as presented below.

Bottleneck 1. Tendering and contract design

In many municipalities, the calls for tenders for managing PWS had been unsuccessful and calls had to be launched several times before getting any type of response. There were two main reasons for this situation:

- A lack of professionals who were technically able to take on the responsibility of managing PWS;
- The fact that municipalities were unable to prepare adequate tender documents and propose attractive contracts due to their inexperience and lack of technical knowledge.

One critical issue was the absence of technical documentation, including PWS network plans, which meant that asset inventories prior to contract signing were inaccurate. Other critical issues related to fee rates and the deposit amount, which were often deemed to be too high and acted as a deterrent for POs. The DG-Eau had provided the software ANTEA to municipalities for calculating the tariffs and charges. However, municipalities did not fully master its use and it often proposed arbitrary fees and charges.

In addition, contracts were generally too short ranging from one to three years (renewable). Such short contracts deterred POs from investing in asset maintenance.

The tender procedure was hindered by an overall lack of oversight, which meant that political interference was common practice. The study notes: "After the bids were evaluated and the preferred bidder has been identified [by the Municipal Public Procurement Commission], the Mayor has to endorse the choice of the Commission. This choice is sometimes influenced by subjective considerations, which are motivated by political or family links. As an example, in some municipalities and for some tenders, it is not uncommon to observe that the bidder who came third following the Commission's evaluation is retained as the successful bidder".

Bottleneck 2. Contract implementation issues

The evaluation observed that, in many cases, the POs did not abide by their contractual obligations. For example, breakdowns went on for hours or even days, fees were unpaid, water was inadequately treated, etc. At the same time, municipalities were not able to ensure adequate monitoring of contractual obligations and could not receive assistance from the S-Eau for this task. This was due to the following factors:

- A lack of uniformity in the reporting tools used by POs: although DG-Eau did provide a standard form for monthly operational reports to be submitted by the POs, few POs were actually using these reports. POs staff were using different reporting tools for internal management. This created a lack of transparency in POs' activities;
- The fact that the existing integrated database (accessible to municipalities, S-Eau and DG-Eau) was not being updated: this was also due to the difficulties in transferring the data from POs to the S-Eau;
- Unclear allocation of responsibilities for carrying out water quality analysis.

Bottleneck 3. POs weak technical capacities

The diagnostic reported a number of issues related to POs' lack of technical knowledge and business skills. A typical PO operates a small structure made of the following staff:

- Water sellers at the standpipes, operators (*exploitants*), typically from the village where the PWS is located, who are in charge of operating the pumps, maintaining the generator, signalling breakdowns and overseeing water sellers at the standpipes;

- Managers overseeing the operators;
- The Director (potentially assisted by an accountant).

A critical issue was that POs were often appointed without receiving any training. This meant that many did not have the technical skills to adequately operate PWS, including carrying out routine maintenance (e.g. cleaning the generator). In some cases, they worked without contracts and were paid on the basis on the volume of water sold. This precarious situation encouraged fraudulent activities. In addition, managers often lacked the skills required for keeping track of financial operations, including for collecting revenues from water sellers at the stand-pipes. This also contributed to fraudulent behaviour at the standpipes being left unnoticed.

The diagnostic study concluded that not enough activities were taking place to support the professional development of the POs.

Bottleneck 4. Limited financing capacity

The limited financing capacity of all actors, and of the POs in particular, was identified as a key issue in the diagnostic report. The situation was critical as many *affermage* contracts were initiated for PWS that required extensive rehabilitation in order to become technically optimal.

In addition, it was found that network extensions and service improvements, could help increase revenues through by increasing the number of individual connections. It was observed that consumption averaged 4 litres per person per day, which represents a low level of service and does not allow distributing fixed costs over a sufficiently high volume of water service provided to reduce unit costs. One potential way to increase consumption (to

levels that are more in line with adequate consumption levels to maintain basic levels of hygiene) is to provide household connections, either within the house or in the yard. However, POs were often not able to make these investments from their own funds, while the municipalities could not mobilize the required funds.

The diagnostic study therefore recommended that access to finance, via commercial banks, should be made available, noting that related risks would be limited provided that POs would be able to track and control revenues and charges from their operations.

Bottleneck 5. Unfavourable social environment

Finally, the study pointed out that some social factors were contributing to making contract implementation difficult. Some communities did not accept the new delegated management models and in some regions of the country, users were unwilling to pay for water services.

The diagnostic resulted in a number of recommendations to the GoB:

- Improve the contracting process (from contract design to tender and PO's selection);
- Improve the regulatory framework and POs' efficiency;
- Facilitate access to permanent platforms to build the capacity of the POs;
- Strengthen financial capacities (e.g. via access to commercial funds); and
- Facilitate an enabling social environment.

The results of this study laid out some important realities and allowed the sector to adjust its approach and look for ways of improving the PO model for service delivery in rural and semi-urban areas.

III. Strengthening the PPP model for rural water services in Benin

3.1 Overview of the approach

Based on the findings from the diagnostic study, the GoB made a request to WSP for technical assistance for strengthening the PPP model for rural water services in Benin. Strengthening of the PPP model was to be achieved through three main activities: the provision of Business Development Support (BDS) to the private sector, the establishment of a PPP Financing Facility and Capacity Building for Public and Private Sectors. One key element to ensure the strengthening of the PPP model was to build capacities: to design attractive contracts and tender these contracts in a transparent manner (on the public side), to manage the services, technically and financially (on the private side) and to submit proposals for bankable projects (on the private side).

The support provided by WSP complemented other development partners' efforts in the sector in a coordinated manner. For example, the Dutch-funded *Programme Pluri-Annuel Eau et Assainissement* (PPEA) continued to provide assistance to the DG-Eau for building a conducive social environment. PPEA was also contributing to building municipalities' institutional capacity for implementing their function as asset-owners, as detailed in Box 2. There was an opportunity, therefore, for WSP to provide support to municipalities that were already fully equipped with a functional Public Procurement Commission, so as to focus on designing the adequate contractual arrangements in partnership with these municipalities and to accompany them in the tender process.

3.2 Key components for strengthening the PPP model

In order to strengthen professionalization of rural water services for sustainability, one main focus became the design of an innovative PPP contract form that could overcome the weaknesses identified with existing management models for water services in rural areas and small towns. The objective was to let these new forms of contract in at least two localities, so as to test the feasibility and usefulness of the model. Because of the nature of the transactions being facilitated, WSP technical assistance was

BOX 2: PPEA 2'S WORK FOR STRENGTHENING MUNICIPALITIES' INSTITUTIONAL CAPACITY

PPEA is a Dutch Embassy funded program that has been running since 2007. In its first phase (2007-2012), PPEA's rural water component focused on improving public finance management for the sector and supported municipalities in planning and overseeing works construction and managing water services. The program channels funds to the DG-Eau and municipalities via the national treasury.

Working in close collaboration with DG-Eau, PPEA contributed to building S-Eau's capacity for their new responsibilities towards municipalities. The program facilitated skills and knowledge transfer from the central level to the newly decentralized municipalities. It also financed social intermediation activities aiming at identifying populations' needs.

In its second phase, initiated in 2013 and running until 2016, PPEA II has similar objectives, but with tighter control over central government and municipalities' use of funds. Part of the program budget is allocated to the GoB, based on results achieved. The FCFA 43.7 billion program (which includes FCFA 9.7 billion contribution from the EU) provides technical assistance to DG-Eau and S-Eau for planning sector activities and building municipalities' capacity for public procurement, public finance management, quality assurance, monitoring and evaluation and water services regulation.

combined with support from the IFC's transaction advisory team. The model that was put forward is one of subsidized concession for groups of PWS, i.e. based on "clusters".

The concession model emerged as an alternative form of contractual arrangement to the *affermage* because the due diligence process identified important investment needs for rehabilitation works as well as for extending the network. In existing systems, the levels of consumption were too low to enable a viable rate of return on investments.



Empower local government capacity for planning, contracting works by leading the tendering processes, and ensuring the operation of water systems.

It was deemed that additional investments in providing individual connections would a) meet demand in rural areas for this level of service, and b) would increase consumption and thereby revenues from water sales for the operators, which would then be able to recoup the costs of their initial investments.

The concession model was prioritized as it allows the operator to be responsible for carrying out the investments, thus carrying out greater risks but also retaining greater control over the schedule and the technical characteristics for such investments: as such, the operator can be more demand-responsive. However, given the existing low levels of demand and the need for network extensions, it was estimated that the concessionaires could not cover all investment costs and would therefore need to receive a subsidy. The fact that the subsidy is paid based on results (i.e. once the connections have been made) reduces the risk for the donor that the subsidy would be mis-spent. The organization of a competition for the concession contracts based on the amount of subsidy requested also allows reducing the total amount of subsidies disbursed.

Clustering of PWS was proposed to enable enlarging the scope of the concession contract, which makes it more attractive for POs (by creating economies of scope) as well as for commercial banks that are to finance some of

their activities. Commercial banks would likely be more interested in a larger loan rather than smaller ones (although they could also make a large loan for several small contracts, so this assumption is only partially verified).

Up-stream and in parallel to these transaction-focused activities, there was an effort to strengthen sector stakeholders, both on the private and on the public side. On the one hand, WSP worked to strengthen the public sector so that they would gain a better understanding of existing assets and monitor service levels. This was done through the introduction of a mobile to web application, mWater, which was used to conduct an asset inventory for a total of 150 PWS throughout the country. The project also provided training and capacity building to public sector actors and supported the creation of a regulatory unit within DG-Eau, which can be seen as the embryo for a future water services regulator in the country. On the private sector side, the training private sector operators on professionalized approaches to rural water service management was provided by WSP, in general terms as well as in the specific context of the introduction of the new PPP model and in the use of the mWater tool for the production of operation management reports. As a way of strengthening the PO's over time, the AFEB (*Association des Fermiers de l'Eau du Bénin*) was established.

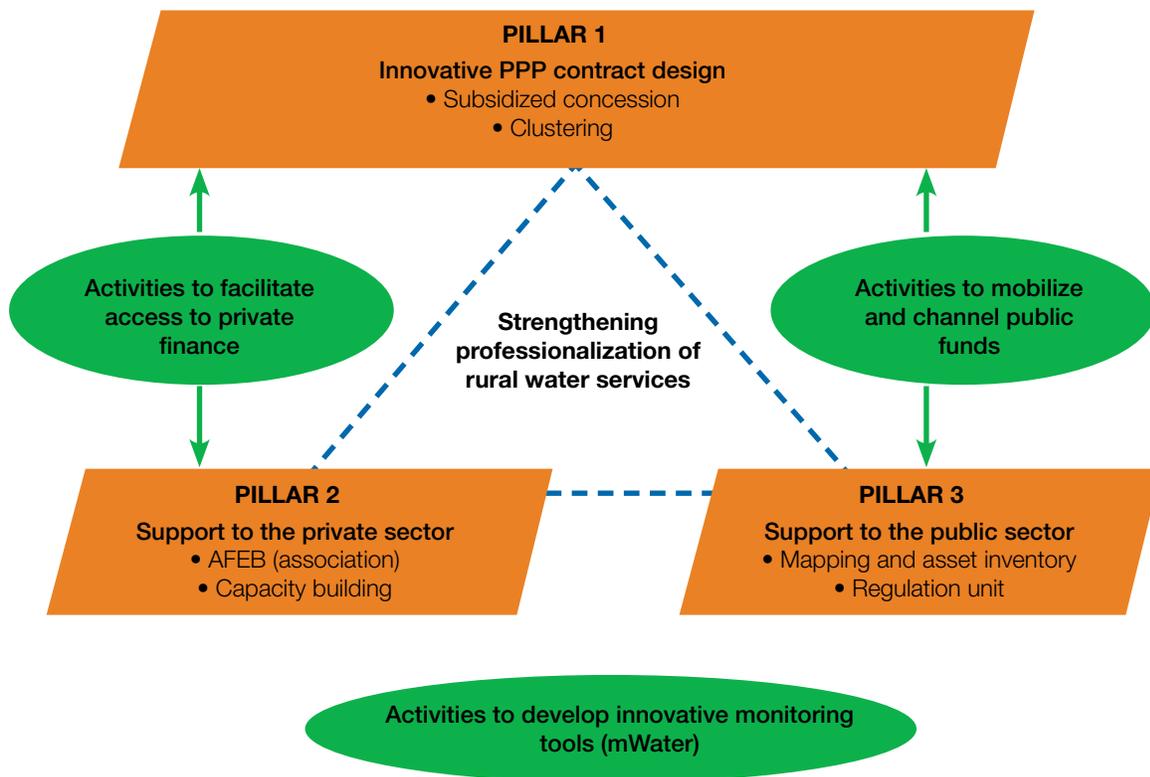
Another key component for PPP strengthening was to identify and secure sources of funding for the sector. There was reasonable success in identifying public sources of funding for the subsidised concessions, even though it was not able to mobilise as much funding as originally envisaged in the concept note and had to scale down investment ambitions as a result. This is discussed in more detail in Section 3.4.1, which presents how the project mobilised public funds and access to finance was facilitated. Interestingly, however, the POs have yet to access the commercial funding facilities. In addition, initial plans to set up a financing facility for eligible private operators were not pursued further, at least during the pilot stage.

Figure 4 presents graphically the main interlocked components for strengthening the professionalization of water services in small towns in Benin. Three main pillars were deployed to achieve this central goal: Pillar 1:

Innovative PPP Contract design; Pillar 2: Support to the Public Sector and Pillar 3: Support to the Private Sector. In addition, a series of activities were deployed to support the three main pillars and achieve the overall goal: ((i) Activities to facilitate access to private finance; (ii) Activities to mobilize and channel public subsidy funds through fiscal transfer from central to local government budget using the country public finance procedures; and (iii) Activities to develop innovative monitoring tools, such as mWater.

The implementation of the reforms for rural water services spanned over four years, from 2010 (when the diagnostic study was carried out) until September 2014 (when the new PPP contracts were signed). A considerable amount of work was invested up-stream by WSP and its partner IFC, even prior to the formal start of the technical assistance, in order to prepare the stakeholders, to finalise the components of the technical assistance and secure partnerships, such as with the Dutch Embassy. The design of the enhanced PPP

FIGURE 4: MAIN PILLARS AND ACTIVITIES FOR STRENGTHENING THE PROFESSIONALIZATION OF RURAL WATER SERVICES



Source: Authors.

model spanned over one year, from early 2013 to until 2014 as IFC undertook a thorough due diligence to assess the technical, financial and legal conditions of rural water supplies in selected sites. The sector witnessed a peak of activities between April 2014 (when the Prequalification Notice calling for Expressions of Interest was published) and September 2014 when (the four transactions were finalized). A full schedule of these activities is presented in Annex C.

3.3 Key activities to support the public sector

As mentioned above, an important part of the effort to strengthen the professionalization of service delivery, supported by WSP, focused on the public sector.

Introduction and roll-out of mWater as a monitoring tool

A key issue at project inception was to determine the approach for improving the monitoring framework for rural water supply. Two main options were considered. On the one hand, the STEFI model (Suivi Technique et Financier) was considered, an approach to support the professionalization of rural water services through technical and financial monitoring that was initially developed in Mali (and later on in Tchad and Niger) and had generated efficiency gains at the level of the private operators, including with higher network productivity, reduced water losses, better life expectancy of small piped schemes, and lowered tariffs due to improved efficiency savings. On the other hand, a new mobile phone technology was considered. This mobile phone technology, developed by Manobi, a Senegalese operator, is referred to as “mWater”. It is used in Senegal, Niger, Mali as well as in Benin.

The sector opted for the mobile phone technology, which seemed to provide solutions to several challenges in the sector. mWater facilitates the monitoring of POs activities through a shared data platform accessible by POs, municipalities and S-Eau/DG-Eau. mWater also enables harmonising reporting tools so as to enable stronger monitoring at local (municipality) and central levels (S-Eau/DG-Eau). More details on the mWater technologies is provided in Box 3.

Improving asset knowledge: inventory and mapping via mWater

An asset inventory and mapping for a total of 150 PWS in the country, representing 32% of PWS, using the mWater technology was conducted with the technical assistance of WSP. mWater offers asset inventory and network cartography services, which were crucially needed by municipalities. mWater provides PWS technical and financial management features to the POs. In a pilot phase running from February 2012 to June 2013, 51 PWS were geo-referenced and mapped out. The asset inventory and mapping was scaled up in June 2014 and a further 100 PWS are expected to be geo-referenced by April 2015. This mapping is expected to benefit 45 municipalities in total. The added value of using mWater is that the tool registers all assets with their depreciation value so as to enable the anticipation of major rehabilitation works and investments. During the asset inventory pilot phase, WSP financed the yearly subscription to mWater monitoring services for 13 municipalities around the country. Coaching sessions were organized (which POs attended) and mobile phones were handed out to operators.

In December 2014, as part of the scaling-up of mWater’s use, WSP organized a seminar gathering mayors in order to create buy-in and ownership so that mWater could become an integrated part of water services monitoring. Should municipalities decide to adopt the tool, part of the municipal fee which is to be used for monitoring can be used to finance these services.

Regulation unit created within the DG-Eau

In September 2013, based on WSP’s advice, DG-Eau issued an internal memo creating a Regulation Unit within the DG-Eau. The primary objectives of this unit are as follows:

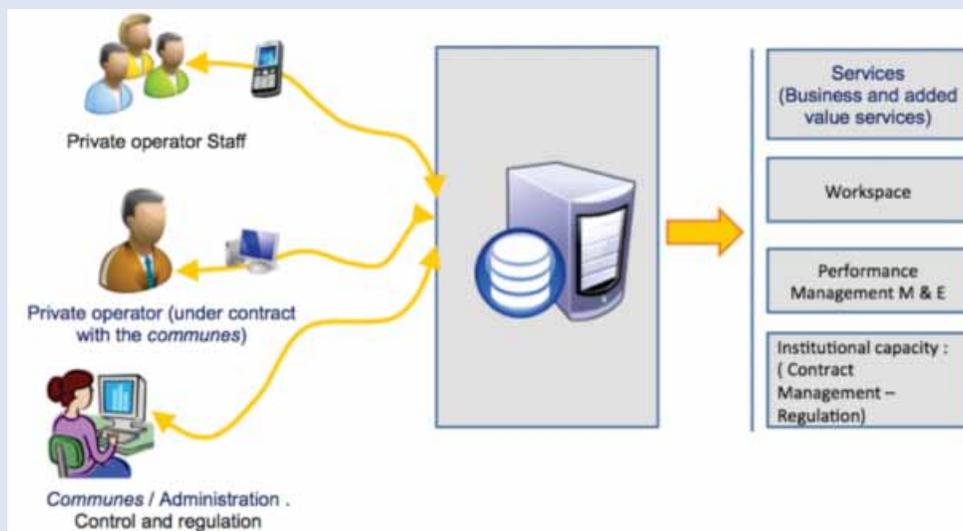
- Reinforce the knowledge of rural water supplies infrastructure, and particularly PWS;
- Monitor the sustainable management of rural infrastructure, and PWS in particular;
- Enforce compliance with standards;
- Support S-Eau in their assistance to communes in implementing the delegation of rural water services, particularly in relation to PWS;
- Monitor PSP in the professionalized management of PWS.

BOX 3: mWATER: WHAT IS IT AND HOW DOES IT WORK?

mWater is a “mobile-to-web” technology that can be used for three different type of services:

- Asset inventory and mapping (from pipes inventory to user mapping);
- Water services mobile management for optimizing operations’ efficiency;
- Monitoring water services, via a web platform accessible to asset owners (the municipalities) and other authorized parties (e.g. central government).

mWater services can be contracted by different types of users: municipalities and central government seeking to improve their assets’ knowledge (so as to enable sound investment decisions) or POs looking to improve the management of PWS, particularly through increased responsiveness to maintenance needs and regulatory authorities.



In order to be functional on a PWS, mWater requires that the system be geo-referenced. The system also automatically registers the amount of bulk water that is produced. POs’ staff enter operations data in the system using their mobile phones (crucial data relate to meter reading and the maintenance work carried out). This data is instantly accessible to the management via the web platform. The same data is also visible to other authorized parties.

Further, mWater enables the generation of the activity reports that POs have to be submit to the municipalities on a monthly basis. These reports can be generated “with a simple click” if the data is entered correctly and regularly, and include calculation of the monthly fees and charges due by the PO to the municipality. The municipalities can verify the amount submitted based on their knowledge of the amount of water that has been produced.

This technology comes with a business to business cost model agreed with the stakeholders during the pilot phase supported by WSP: the asset inventory (network mapping and water points referencing) cost FCFA 400,000 (USD 800) per PWS and FCFA 100,000 (USD 200) per PWS for subscribing to the mobile phone configured for monitoring and management services including training on using the technology as well as the mobile phones that will be used by POs’ staff on the ground. POs contribute with base fees of FCFA 10,000 (USD 20) and variable audit fees per PWS each month for accessing the mobile management, user assistance and coaching services.

However, an organisational structure and a detailed agenda for this regulatory unit still needed to be elaborated as of the time of this publication.

3.4 Key activities to support the private sector

In addition to the public sector, the private sector side required support as well. This support was provided by WSP through indirect support for the establishment of the AFEB and via training activities, as detailed below.

Support for the establishment of the Association des Fermiers du Bénin (AFEB)

POs were encouraged to form the Association des Fermiers du Bénin (AFEB). This type of association exists in other Sub-Saharan Africa countries, as in Mozambique or in Uganda, to voice POs' needs and concerns. Following a learning visit for POs to Mozambique (organized by WSP), a number of them decided to emulate these regional examples and form AFEB to represent their interests.

AFEB was set up in 2011 with small funding support obtained via the CePEPE, which has some funding for supporting private operators in the water sector. Such an association can contribute to strengthening the sector in many ways, including:

- AFEB can act as a focal point for channeling soft support to POs, in the form of training or knowledge transfer;
- AFEB can play an advocacy role for all private water operators professionals so as to voice their concerns and give them a representation in the policy debate;
- AFEB can offer technical solutions to POs such as for the supply of spare parts in bulk and storage.

As of February 2015, AFEB had 24 members (representing about 29% of POs) who paid their annual membership. AFEB has an executive board, whose members include a President, a Vice-Président, a secretary and an accountant). WSP has been providing limited technical assistance to AFEB over the years.

Training of POs

Training to prepare POs for their potential new responsibilities started much before the start of the transaction-focused activities. POs received training

support to improve their knowledge and management capacity of PWS. Trainings and seminars were also organized to explain the project's bidding requirements.

A training package was developed between WSP and AFEB to address identified PO's needs for training. Training was provided by three institutions: Hydroconseil (based in France), CePEPE (based in Benin) and Diversity Management Consulting (based in Cameroon). While the operational management course aimed at improving POs' operations efficiency (e.g. controlling water losses, maintenance routine, etc.), the business management course included accounting, marketing and financial planning modules, focusing on the requirements of a "bankable" project. The Business Edge training, designed by IFC and provided by Diversity Management Consulting, addressed key issues around leadership, such as delegating tasks, leading a team and directing a firm with authority.

The training sessions were all organized by AFEB (at a fee) and were rolled out at national level. The 10-day training sessions were organised in Parakou in July 2013 (in the North of the country) and in Cotonou (in the South) in September 2013. These sessions were organised between July and September 2013. Altogether, the training attracted 25 individuals from 17 POs in Parakou and 50 individuals from 40 different POs in Cotonou. In total, representatives of 50 POs received training.

Promoting the use of mWater to generate efficiency gains for POs

As highlighted in Box 3, mWater can be used by POs to make operations efficiency gains. mWater offers a range of management services, including for billing, mobile payment, system breakdown signal, business planning, etc. However, despite sustained effort to spread the use of mWater among POs and municipalities, mWater remains a marginal tool for all stakeholders, as discussed in Box 4.

3.5 Mobilizing public funding and facilitating access to private finance

A key commitment from the project upstream (and condition for its success) was to mobilize funding for associated hardware investments, to finance the rehabilitation of existing systems and extensions. From

BOX 4: mWATER: A DIFFICULT SHIFT, ESPECIALLY FOR POS

Despite this sustained effort to commit municipalities and POs to the use of mWater, by early 2015, the tool was not central to several of the POs interviewed in the context of this case study. POs gave a number of reasons for this relative lack of interest, including the following:

- Weak phone signals that does not allow POs to send the data instantly on site as requested by the system;
- Poor customer services on behalf of Manobi;
- The FCFA 10,000 (USD 20) monthly cost per PWS for accessing the platform.

It is not unlikely that one major reason for this lack of interest is a resistance to transparent management on the part of the POs. By agreeing on using mWater, POs accept to make all their activities transparent to municipalities and other authorized parties, a situation which they are not used to.

Similarly, although municipalities recognized the benefits the tool generates, none of the municipalities were using the tool to renew their subscription. It has to be noted that different donors have been presenting Benin’s municipalities with different PWS management tools. The Dutch Embassy for example has been equipping some municipalities with the AkvoFlow tool for making an inventory of all water points. GIZ provided a management software that enables anticipating and budgeting for heavy repairs. This “overcrowded” situation may be contributing to municipalities’ relative lack of interest for mWater. Finally, although municipal services may be aware of the particular advantages of using mWater (in comparison with other services), they need to find the budget for it and therefore need to obtain the municipal council’s agreement for carrying out such investments.

the start of the project, it was envisaged that funding would come from two main sources: donor funds to fund the bulk of the investments in rehabilitation and new extensions and private sources, either from consumer tariffs, POs’ own investments or via credit mobilized through domestic commercial banks. It appears however that the project did not seek particularly to mobilize funding from the domestic government sources, which is something that would need to be actively considered in the context of a scaling-up phase.

Mobilizing donor funding

WSP identified partners that could bring in public funding with them, to complement funding brought in via WSP funders for technical assistance. WSP had secured the participation of IFC, which brought funding alongside its transaction advisory expertise. WSP partnered with, the Global Partnership on Output-Based Aid (GPOBA), a global partnership program housed in the World Bank which funds hardware investments on an output-basis (mostly for pilot projects). GPOBA had indicated that it could provide between 1.5 and 3 million USD for hardware investment. WSP also secured a USD 1 million contribution from the Dutch Embassy.

Donor funding that eventually came through was lower than what had been initially envisaged, which means that investments funded through the pilot were less extensive than they could have been had all funding been provided. IFC mobilized USD 1.1 million for the transaction structure activities and contribution to training POs. The Dutch Embassy maintained its involvement and funded the USD 1 million requested for subsidizing the works. However, GPOBA withdrew from the project. Table 2 summarizes the actual financing for the technical and financial assistance of strengthening the PPP model in Benin between 2010 and September 2014.

TABLE 2: PROJECT FINANCING

	Purpose	Amount
WSP	TA to GoB	USD 1 million
IFC	TA to GoB	USD 1.08 million
Dutch Embassy	Subsidy to POs for infrastructure works	USD 1 million
Total		USD 3.08 million



Competitive tender incentivized the Private Operators' financial contribution to the works (rehabilitation and expansion of the existing asset).

Facilitating access to private sector finance

In parallel, WSP and IFC reached out to two large commercial banks in order to facilitate access to finance for POs: Ecobank and Bank of Africa. This was done based on the assumption that the POs would not be able to fund the investments up-front in rehabilitating networks and funding network extensions. Such an assumption has

not been fully vindicated however, as the POs have already started work, as described in Section 4.5 but have yet to take on any loans with the commercial banks.

These banks were targeted because they have branches all over the country and could be accessible for all candidates. The banks were formally approached in writing. Both banks answered promptly and expressed their interest in being a partner in the project. However, as the activities progressed, only Ecobank showed strong commitment.

Ecobank had been involved with other development partners, such as USAID, in a health project and with SNV for financing sanitation microfinance activities. However, Ecobank had never been engaged with the rural water sector before. According to Ecobank, it is the involvement of the World Bank Group that made the rural water sector attractive for Ecobank. In particular, IFC's due diligence work provided assurances that the financial aspects of the contracts had been thoroughly assessed. Ecobank is also in contact with K-Rep Bank, which had collaborated with WSP in a previous project in Kenya that had received funding from GPOBA.

The Commercial Bank is expected to support POs who need commercial funds via two distinct lines of credit: one line of credit for pre-financing the subsidized works and one line for the works that are financed from the POs through commercial loans. As such, despite the subsidy, there are some risks for the bank associated with providing commercial loans to POs. WSP envisaged that POs could contract a guarantee from the FONAGA, the guarantee fund managed by CePEPE (see Box 1, on page 8). Despite its lack of familiarity with the rural water sector, Ecobank indicated strong willingness to support POs and to be a core partner in the potential scaling-up phase. Linking POs to commercial banks incentivizes them to adopt some commercial rigor in the management of PWS.

The need for a potential financing facility that would be accessible by eligible private operators and managed by one or two commercial banks selected on a competitive basis has not been fully confirmed. The volumes of investments required by POs remain too low right now to justify the establishment of such a facility.

IV. Subsidized concession contracts: how did it work?

This section focuses on a core component of making the contracts work, which consisted of designing innovative PPP contracts that responded to the realities of the situation in Benin and strengthened sustainability of service provision. The subsidized concession model was designed and implemented over the course of two years with WSP technical assistance, from the identification of PWS suitable for piloting the model in February 2012 to signing four contracts between late August and September 2014.

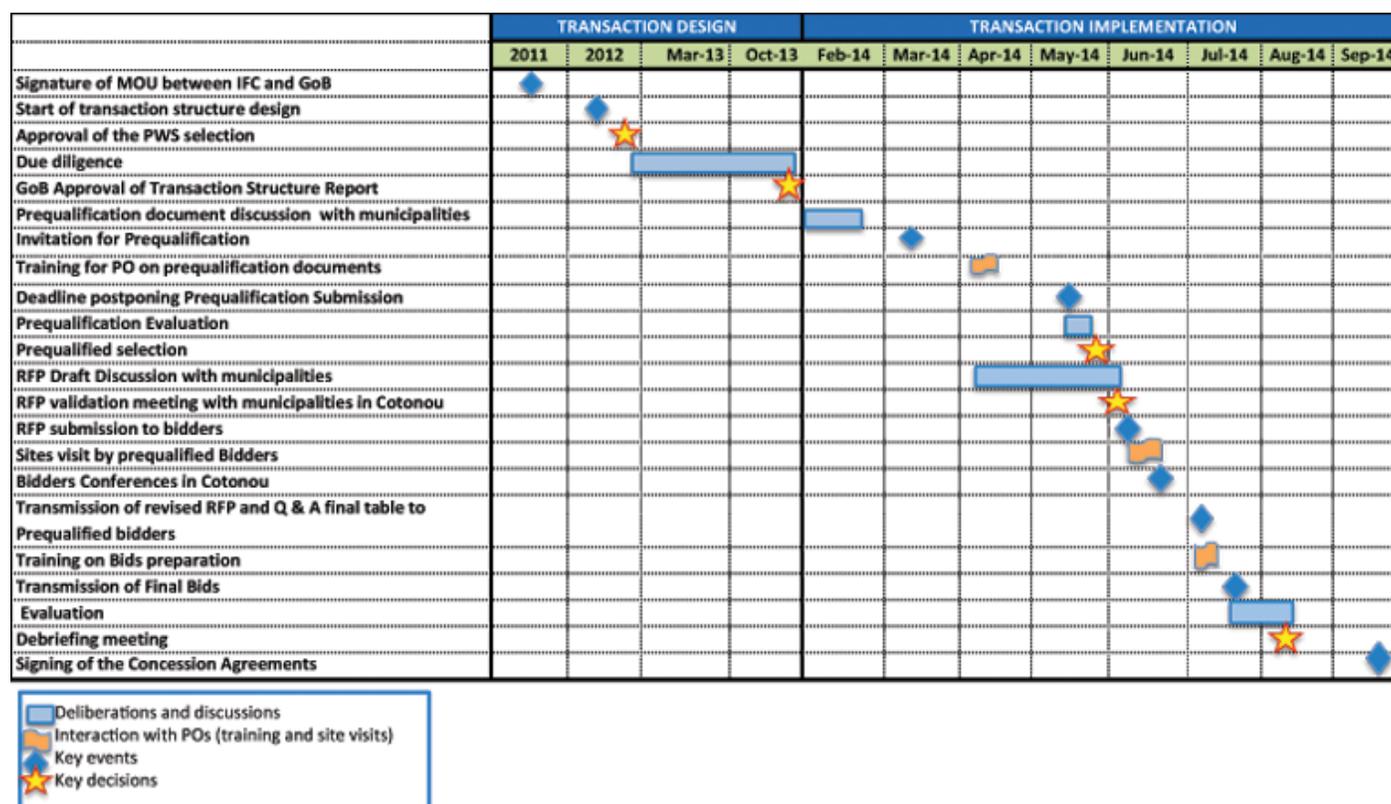
Key steps for the transaction are shown on Figure 5 below. In July 2012, the GoB formed a Project Steering Committee bringing together officials from various ministries (water, finance and economic development,) to monitor the implementation of the project. This was to ensure coordination and facilitate decision-

making, particularly with respect to the transaction. The establishment of the Steering Committee reflected the engagement of the government, which had contributed USD 50,000 for IFC services. The committee assessed and provided feedback on three key steps for the transaction: PWS selection for pilot-testing, approval of the due diligence reports and approval of the transaction structure (including clustering options).

4.1 Preparing the transaction: site identification and due diligence

The sector benefited from IFC's expertise as transaction advisor to propose contractual arrangements that could at least partially address the gaps left by the *affermage* model, especially with regards to investments needs for rehabilitation and network extension.

FIGURE 5: TIMELINE FOR DESIGNING AND LETTING THE SUBSIDIZED CONCESSIONS



The challenges for designing the contract were threefold: technical, legal and financial. The new contractual arrangements had to:

- Enable poor populations to have better access to affordable water services through network extension and rehabilitation. Although Benin had already made significant progress in achieving MDGs, many rural districts within a municipality still do not have adequate access to water services. As a result, women have to walk long distances to reach the nearest standpipe. It is those living in remote areas that WSP/IFC's approach intended to benefit in particular;
- Fall within the scope of Benin's public procurement rules and be compatible with the country's institutional arrangements; and
- Be financially viable for POs so as to allow them to earn a reasonable return on equity.

IFC undertook a due diligence process to start identifying the most suitable contractual form to meet those criteria and to identify the sites where this contractual approach could be piloted.

4.1.1 Pre-identification of pilot sites

The 10 sites for pilot-testing the improved PPP model were selected from an initial list of 51 pre-identified sites for which technical information had initially been collected through m-Water and for which an institutional evaluation had been carried out. The process ran smoothly and occurred under the supervision of the piloting committee headed by the Ministry of Water. The Committee was involved at each stage of the process:

- Initial selection of 51 sites (PWS and surrounding areas)
- Developing and finalizing the five selection criteria
- Selection of 21 sites for carrying out sites visits
- Final selection of 10 sites and approval from the pilot committee

The initial selection of the 51 sites was based on a number of criteria: they had to be managed through an affermage contract and municipalities' mayors had to be committed to improving the contractual arrangements. This identification was based on an extensive review of current water service management arrangements and institutional

readiness conducted by WSP. Municipalities also had to have experience with public procurement, with a somewhat functional Public Procurement Commission. Another consideration was to choose sites that could be grouped into clusters under single contracts.

A sub-set of 21 sites was selected out of the 51 sites for which data had been collected through the m-Water tool based on five criteria:

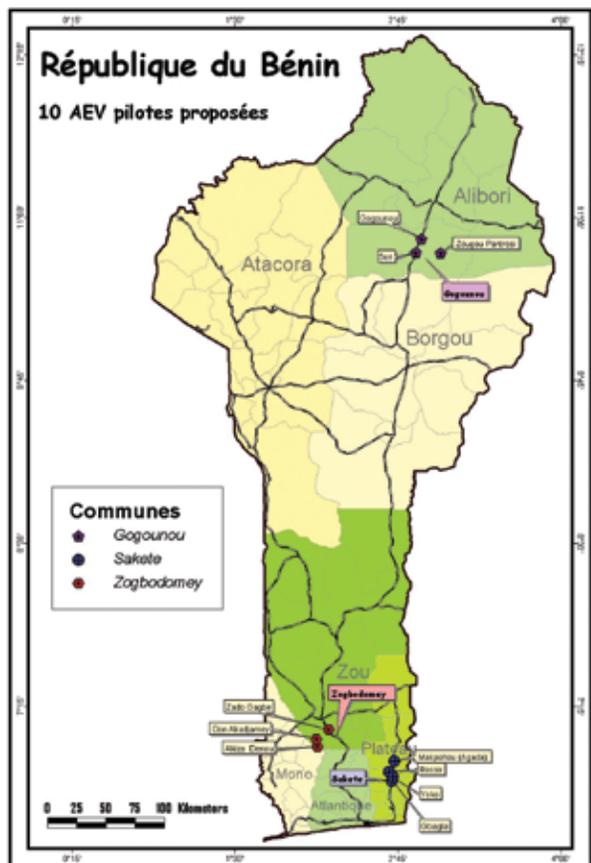
- **Availability of water resources:** because network extensions had to be made, it was essential to ensure that sufficient water resources would be available;
- **Geographic location:** it was deemed essential to test the approach in different geographical contexts and therefore to select sites in distinct geographical locations;
- **End date of the on-going affermage contracts:** that end date had to more or less coincide with the start of the tender procedure so as to avoid having to terminate existing contracts early;²
- **PWS potential for generating sufficient revenues in the long run:** selected PWS needed to offer a minimum level of profitability and an interesting development potential for the POs; and
- **The possibility to cluster some PWS into single contracts,** particularly in order to increase profitability and make the contracts attractive to commercial banks for providing funding.

Site visits were conducted in the 21 pre-selected PWS, with the objectives to assess the sites' hydrological conditions, the presence of competing water sources (wells or private boreholes), network extension potential and, finally, PWS potential profitability, which was also established through communities' willingness to pay.

Following this study, a total of 10 PWS in three municipalities were proposed for selection. As can be seen on the map below (Figure 6), these 10 PWS belong to three municipalities situated in three different parts of the country.

² In the end, it did not take place in that way because the contracts took longer to be structured, which means that the contracts had to be terminated.

FIGURE 6: SITE SELECTION: 10 PWS IN THREE MUNICIPALITIES : GOGOUNOU, SAKÉTÉ AND ZOGBODOMEY



4.1.2 Technical due diligence and investment plans

The objective of the technical due diligence was to identify the technical feasibility of an enhanced PPP model. It assessed water resources availability (in quantity and quality), PWS technical parts, PWS management model, environmental and social aspects as well as the water consumption pattern (present and future). As presented in Table 3, the average volume of water consumed varied greatly from a PWS to another, including within a same municipality. One main finding of the study was that the water consumption average on the 10 sites identified was 4.1 litres per capita per day (lcpd), which is way below the optimal consumption recommended by the World Health Organisation (WHO) of 20 lcpd.³ This low consumption is due to the prevalence of standpipes (rather than household connections), which limits households’ water consumption. Low consumption was also found to be hindering the financial viability of PWS management as sales of water were too low to enable the recovery of investments and securing enough funds to carry out the necessary maintenance and rehabilitation works. Based on this finding it appeared crucial to design network extension and densification with the objective to increase the volume of water sales, including via an increase in household connections. The technical study identified the CAPEX and OPEX requirements for investing in the rehabilitation and

TABLE 3: PWS SELECTED FOR PILOT TESTING THE PPP MODEL

Municipality	PWS	Pre-existing affermage contract	Tariffs (FCFA/m ³)	Fees and charges (%)	Average lcpd
Gogounou	Gogounou	tripartite	600	35	3.0
Gogounou	Sori	tripartite	600	35	2.7
Gogounou	Zougou Pantrossi	bipartite	600	36.3	4.6
Sakété	Gbagla	bipartite	550	25.9	2.1
Sakété	Illasso	tripartite	550	27.3	3.4
Sakété	Makpohou	bipartite	550	27.3	4.6
Sakété	Yoko	tripartite	550	25.9	2.7
Zogbodomey	Akiza Denou	bipartite	420	19	6.9
Zogbodomey	Don Akadjamey	bipartite	420	19	10
Zogbodomey	Zado Gagbe	bipartite	420	19	1.2
Average lcpd					4.1

Source: (Fichtner 2013)

³ This optimal consumption takes into account drinking water needs as well as the needs related to basic personal hygiene and food hygiene needs.

densification of the PWS networks as well as providing household connections. Household surveys established whether there was demand for household connections and the minimum number of connections that could be anticipated with the network's extension.

The technical due diligence gathered data on current tariff and fees as well as on willingness to pay. In the three municipalities, volumetric tariffs varied between FCFA 420/m³ (USD 0.71) and FCFA 600/m³ (USD 1.02), as per the existing contractual arrangements. The capital maintenance and investment charges paid by POs varied between FCFA 60 and FCFA 90 (per m³ produced), while municipal fees varied from FCFA 20 to FCFA 78 (per m³ produced), depending on the percentage applied to tariffs. In one municipality, the combined fees and charges paid by the PO to the municipality reached 35% of the tariffs. These meetings were completed by surveys conducted in each site to consult with 30 to 50 households so as to identify whether there was demand for water and whether populations were willing to pay.

Willingness to pay studies showed that in the concerned areas extending the coverage of individual connections to 60% of the users would be enough to saturate the market. The investment plan targets this rate of access by 2017. The studies also indicated that households are only able to pay FCFA 20,000 to FCFA 50,000. With an average saving rate of 11,000 to 17,000 per month it would take at least 6-22 months for a household to be able to pay for the cost of a standard connection (120,000 to

250,000 FCFA). In the subsidized concession model, new subscribers are expected to contribute only 20,000 FCFA (representing 2 to 4 months of saving) towards to cost of the individual connection, the difference being subsidized by external funding.

Based on the elements gathered from the due diligence, prepared a two-year investment plans for each selected site on the basis of three different options presented to the GoB:

- Option 1 included only network and infrastructure rehabilitation;
- Option 2 included reinforcing the existing network and installing household connections (HC);
- Option3 included reinforcing the existing network and carrying out extensions towards populations situated far from the existing primary network.

Options 2 and 3 were by far the most expensive options, as presented in Table 4 below. Based on government objectives, commercial viability and the marginal difference of investment required between Option 2 and Option 3, Scenario 3 was finally selected. This option was chosen as it enabled reaching the highest coverage rates of the three and also leveraging the public funding over larger numbers of people served.

The Government had to be convinced to transfer subsidies to POs but they then accepted the model given the fact that it enabled carrying out network extensions. To convince the GoB to approve the subsidized concession

TABLE 4: THE THREE INVESTMENTS OPTIONS SUBMITTED TO GOB AND COST ESTIMATES

	Option 1 Rehabilitation		Option 2 Rehabilitation, reinforcement of main pipe		Option 3 Rehabilitation, reinforcement of main pipe, extension and individual connections	
	Cost	Current HC	Cost	Additional HC	Cost	Additional HC
Gogounou	56,683	73	193,524	330	210,668	356
Sakété	25,682	20	163,024	357	232,415	471
Zogbodomey	5,792	16	83,438	244	83,438	244
Total in FCFA '000	88,157		439,986		526,521	
Total HC		109		931		1,071
Total (USD)	185,486		925,748		1,107,820	

Source: Contracts and POs' proposals. Exchange rates are those from October 2013

model IFC and WSP developed an economic analysis demonstrating the economic gains from adopting the model. The analysis established that the project would generate over FCFA 178 million in net economic benefits. The benefits were calculated on the basis of health costs, potential productivity gains and the increase in fees and charges received from the PO.

4.1.3 Institutional and legal due diligence

In parallel, an institutional and legal due diligence process was conducted in order to identify the key institutions with responsibility for water services in rural areas and to identify what contractual forms would be possible given Benin’s legal framework and public procurement rules in particular.

The key guiding questions for the legal analysis were:

- What PPP model is compatible with Benin’s legal framework?
- What are the key issues in the *affermage* contracts hampering contracts’ implementation?
- What are the conditions for legal termination of ongoing *affermage* contracts?

An assessment of the country’s legal framework for water services confirmed that concession contracts were possible within the country’s legislative framework. The legal analysis also found that the new concession model would have to include mechanisms to avoid some of the difficulties encountered in *affermage* contracts.

The most problematic element found in the model *affermage* contract proposed by DG-Eau was that contracting parties’ obligations were unclear, particularly with respect to major rehabilitation (“grosses réparations”). *Affermage* contracts make POs responsible for O&M whereas municipalities are expected to carry out major rehabilitation investments. However, they do not specify what a “major rehabilitation” is, leaving too much room for interpretation on this crucial issue.

This resulted in recurrent conflicts between POs and municipalities.

The legal analysis highlighted the lack of a distinction between “owned assets” (*bien propres*) and “returnable assets” (*biens de retour*), a situation that stopped some POs from carrying any investment. For example, one *affermage* contract stated that “infrastructure and equipment financed by the PO from its own funds will become municipal property” once the contract ends. Despite such a risk, some POs do invest: in Gogounou for example, the PO had installed water meters bought from its own funds under the *affermage* contract.

In addition, looking at the tender procedure, which had been used in the selected 10 sites, the legal expert found that it did not conform to the recommendations of the DG-Eau. Furthermore, even the DG-Eau recommendations did not abide by the regulation implicated by West African Economic and Monetary Union (*Union Monétaire Ouest Africaine* or UEMOA), to which Benin belonged. Any review of the contractual arrangements would have to review the tendering process.

The role of WUAs was also found to be unclear, especially in tripartite contracts. In practice WUAs were found to be informal groups, with no trace of meetings’ minutes. Finally, the legal analysis also identified the procedure for terminating ongoing contracts in sites where the pilot PPP model would be introduced. One issue was that municipalities would have to return to POs their deposits. Overall, however, as municipalities were keen to pilot the model, all terminations were made

4.1.4 Financial due diligence

The financial analysis examined POs accounting and fiscal framework (i.e. all charges related to the PWS operations) and established PWS financial performance over two years (2011 and 2012). This performance was established on the basis of POs’ activity reports that had been submitted to municipalities. These, however, were not subject to independent verification by municipalities and were sometimes inaccurate according to Mazars.

The main conclusions from the financial analysis were the following:

- POs would not be able to fund the required investments required themselves, due to the low profitability of managing PWS under current conditions. This is partly due, for some PWS, to high fees and charges paid by the POs to the municipalities (sometimes reaching 35% of the tariff);
- The current situation of the capital maintenance and investment funds showed that municipalities did not have sufficient funds to carry out major rehabilitations;
- The profitability of each PWS varied greatly, including within municipalities: this was due to variable asset conditions, the presence of alternative water sources and different population densities;
- POs' maintenance costs increase with inflation, whereas there was no mechanism for revising tariffs within their existing contracts;
- There was a strong need to impose tighter regulation, so as to oversee POs' activities but also to assist municipalities with setting tariffs and lease fees that would give PO reasonable profitability.

4.2 Contract design: the proposed “subsidised concession” model

Based on the findings from the due diligence process, IFC proposed a model of “subsidised concession” contract, assigning responsibilities to the POs to partially fund and to carry out investments. The main characteristics of the proposed contracts are set out below.

Clustering

The 10 PWS were clustered in four contracts:

- Cluster 1: Gogounou, Sori and Zougou Pantrossi (in the municipality of Gogounou)
- Cluster 2: Gbagla and Yoko (in the municipality of Sakété)
- Cluster 3: Makpohou and Illasso (in the municipality of Sakété)
- Cluster 4: Akiza Denou, Don Akadjamey and Zado Gagbe (in the municipality of Zogbodomey).

The four PWS in Sakété were tendered in two clusters of similar investment needs in order to reduce the risks involved in the same PO bearing all the investment responsibilities.

Clustering, which had not been done before for PWS in Benin, presents several advantages, such as:

- Reducing transaction costs for the public side (including for tendering the contracts as well as overseeing their implementation);
- Including within the cluster PWS that are less profitable so that they could be delegated to the private sector;
- Harmonising operations, tariffs and performance monitoring;
- Making the transaction appealing to the POs who are attracted by bigger water sale volumes; and
- Attracting commercial banks by proposing larger transactions and thereby reducing transaction costs for arranging financing.

The concession geographic scope includes all other water infrastructure, including hand pumps and autonomous water points (point d'eau autonomes). The PO is in charge of ensuring water services at all these water points, despite the fact that the control of the sales of water at hand pumps is difficult to trace since there are no meters installed.

Contract duration

IFC initially proposed a 10-year contract. However, due to municipalities' reticence to enter into such a long agreement (especially given that the model had not been previously tested in Benin), the contract length was reduced to 8 years. This contract length is a strong departure from the existing practice, as the standard contract length for the *affermage* contracts was between 1 to 3 years. This duration also spans over several political mandate at municipal level.

Allocation of risks and responsibilities

As per a standard concession contract, the PO is in charge of carrying out investments and to recover the costs of these investments through tariffs. Major rehabilitation works that may occur during the contract time frame but that are not included in the contract are municipalities' responsibilities. The concession contracts therefore transfer a greater share of the risks to POs than under an *affermage* contract, including those risks related to possible works delays, an unforeseen increase of works costs or poor designs. Because they are bearing greater risks, POs are incentivized to optimize their investments, to adopt a demand-led approach and to foster a customer-oriented approach in order to increase revenues from tariffs.

For operations, the POs' responsibilities (and associated risks) are the same as for the *affermage* contract, although responsibilities are better defined. POs are in charge of providing water services and bear all the risks associated with operating PWS, including those related to demand for water services. The PO is in charge of O&M and agrees with the municipality the responsibilities related to major rehabilitation works.

Filling the legal gaps

The proposed contract also addresses the legal gaps left by the *affermage* contract.

The concession contract includes a clause on “returnable assets” (biens de retour) and “owned assets” (biens propres). This recognizes that some investments carried out by POs from their own funds will have to be returned to them when the contract ends. It also specifies which assets belong to the municipality. The list of returnable and owned assets is finalized based on an asset inventory carried out before contract signing.

In addition, the concession contract clarifies issues related to capital maintenance and investments (renouvellement) and “major rehabilitation” (grosses réparations). The contract includes a clause on the use of the capital maintenance fund, specifying that the fund should be used to replace the generator and the pump and fund other “major rehabilitation” works. The contract makes it mandatory to include as an Annex the list of works falling under major rehabilitation and capital maintenance in order to clarify municipalities' responsibilities. This list is drawn based on an agreement between contracting parties prior to contract signing. In the four contracts that were signed, “major rehabilitation” includes replacing the generators and associated pumps as well as some extensions and pipe replacements. The contract also specifies that municipalities are responsible for carrying out water quality controls from within the capital maintenance fund.

The contract defines operations and maintenance standards. This concerns in particular:

- Service quality: the PO must ensure a 24x7 supply of water to HC, in sufficient quantity. Water kiosks' opening hours should be established in consultation with the municipality and users;

- Maintenance standards for the generator, water tower, pipes network, valves, taps and water meters, as well as for controlling pipes' water losses.

The contract also introduces performance incentives, in the form of penalties imposed if the PO does not abide to its contractual obligations. The PO is expected to pay a financial compensation if works obligations are not realised within the contractual time frame. This penalty amounts to 1/1000 of the works costs as per contract. The contract also introduces a penalty if water supply is interrupted for more than 72 hours. This penalty is equivalent to 10% of estimated revenues from tariffs within the interruption period. Penalties are also due if water losses (equivalent to the difference between water produced and water distributed) exceed 5%. Finally, the PO is subject to penalties for non-respect of information obligations. If within one year of contract's end, the PO does not share technical documents (including infrastructure plans/ *plans des ouvrages*), the municipality is entitled to ask for the performance bond (*garantie de bonne exécution*). The PO is also held to present timely activities reports: for each week of delay, a penalty equivalent to revenues from 50m³ is applied.

Financing rehabilitation, reinforcement and extension obligations

All contracts specify that works have to be carried out within the first two years of implementation. The contracts include specific investment objectives, including assets to be rehabilitated, number of HC to be made, extension and densification targets. However, as POs are deemed not to be in a position to finance all the required investments, POs are eligible to receive a subsidy *after* they have carried out the investments. The POs were nevertheless expected to carry out some of the investments from their own funds.

This means that the POs have to pre-finance two types of expenses:

- Some pre-financing is expected to be recovered via subsidies (within weeks or months of carrying out the investments);
- Some pre-financing is expected to be recovered via tariffs (within the duration of the concession contract).

In the transaction structure report (TSR) submitted to GoB, IFC estimated that the subsidy level would have to amount to around 90% of the investments. Based on the estimated costs established by Fichtner, they estimated that this would represent a total subsidy amount of at least USD 793,587 over the 10 sites. This estimation was done based on the following key assumptions:

- Tariffs could not be increased, due to political constraints and the already wide gap between tariffs in urban and rural areas: the average tariffs set by SONEB is FCFA 458, while tariffs in place in the beneficiary municipalities are at an average of FCFA 510;
- POs would seek to achieve a rate of return on equity of at least 16%, based on borrowing costs and alternative investment opportunities.

The Dutch Embassy, which was already funding PPEAII (see Box 2), provided funding for hardware investments for the programme, confident that WSP was addressing the key bottlenecks in the sector.

The subsidy was allocated to network densification and extension and financing household connections. According to the contracts, POs have to offer household connections at a subsidized rate of FCFA 20,000 instead of the standard price of FCFA 100,000. A subsidy therefore needed to cover the difference between the actual cost of making a connection and the subsidized price. The subsidy provided by the Dutch was also allocated to carrying out the network extension that will enable connecting new customers.

The subsidy is disbursed by the municipality to the PO, based on results achieved, via the municipal budget, as per the FADeC circuit (see Annex B). Although by the time the transaction was structured, it was clear that GPOBA would not be a funding partner, the project retained some of the features of a results-based financing mechanism as set out in Box 5.

PO's remuneration

Despite increasing the investment and level of service, the concession contracts retained the same tariffs levels in place in the different municipalities. The financial model assumed that investments are spread over a larger

volume of consumption due to the additional household connections, which would enable a 16% internal rate of return on investment for POs. In order to boost demand for household connections, the concession contracts specifies a number of household connections that should be offered by the POs at the subsidized rate of FCFA 20,000 (instead of the normal cost of FCFA 100,000). The difference is funded by public funds (subsidies) based on whether POs met their targets. The model anticipates that consumption will gradually increase from the present average of 4.1 to an average of 10 lpcd over the concession period. In addition POs will have a larger revenues base as they operate several clusters under one concession contract. The key assumption was that tariffs could not be increased for political reasons, as tariffs in rural areas are already higher than those applied by SONEB.

The fees and charges paid by the PO also retain the same rates, except for municipalities which previously adopted a tripartite affermage: the fees and charges paid by the PO decrease in the concession since they would not pay any fee to the WUAs.

The financial flows under the concession model in the first two years of the contract are presented in Figure 7. Following these two years, the model will remain similar, without the subsidy.

4.3 Designing the tender procedure

As previously mentioned, sector reviews carried out in 2010, and then again in 2013, found that municipalities were not following the tender procedure in place in UEMOA. Conformity with UEMOA's norms imposes a two-stage procedure, with a pre-qualification and qualification stages, for delegating public services. Other than conformity with norms that are in place, this procedure presents a number of advantages particularly suitable in the context of the proposed concession model, as presented the following sections.

WSP and IFC assisted municipalities with following adequate tender procedures and prepare all necessary tender documentation. Technical assistance was also provided to build POs' capacity for responding to the new tender format. This was done through training as well as the establishment of linkages with commercial banks.

BOX 5: KEY DIFFERENCES BETWEEN THE SUBSIDIZED CONCESSION AND AN OBA MODEL

OBA is a type of Results-Based Financing instrument that has been put forward by the Global Partnership on Output Based Aid (GPOBA). OBA ties the disbursement of public funding (in the form of subsidies) to the achievement of pre-specified results that directly support the poor to access basic services. OBA subsidies cover a funding gap when poor or excluded households cannot afford such services. Service delivery is contracted out to a service provider, which can be a private enterprise, a public utility or a non-governmental organization. The disbursement of funds to this service provider is tied to the independent verification of outputs achieved, which is carried out by an independent verification agent (IVA).

Although the subsidized concession contract structure proposed in Benin aims to improve water access to some of the poorest in rural areas, it differs in some key areas from an OBA funding model, as implemented by GPOBA:

- **Limited pro-poor targeting:** there is no explicit mechanism to ensure that these improvements actually reach the poorest. More specifically, although the contract defines a target for the number of HC to be made, it leaves room for the PO to choose the type of customers that will be targeted for these HCs. Indeed, the contract only “indicates” where reinforcement and extension should be made – the PO and the municipalities can agree during implementation to provide extensions towards different areas.
- **No independent verification of outputs.** In the subsidized concession model, the municipalities carry out the verification of the expected outputs – in other words there is not IVA, which would ensure that the poorest have been targeted.

What are the advantages and disadvantages of the proposed model in comparison with OBA?

OBA implies an expensive verification mechanism and can induce complexities in the disbursement of funds to the POs. The original concept note for the project had estimated that some USD 1 million would be needed for the IVA. The project as approved by the GoB did not include any funds for verification, as municipalities themselves would have to do it. This keeps monitoring costs down but also creates a risk of dispute between the parties over the amount of subsidies that can effectively be paid.

One key issue, however, is to ensure that subsidized HC are offered to the poorest (and not those who could afford an unsubsidized rate). In the present contractual set-up, only strong monitoring of PO’s activities, with clear guidelines for allocating the subsidy, and municipalities’ commitment to serving the poorest can ensure that the project reaches the neediest.

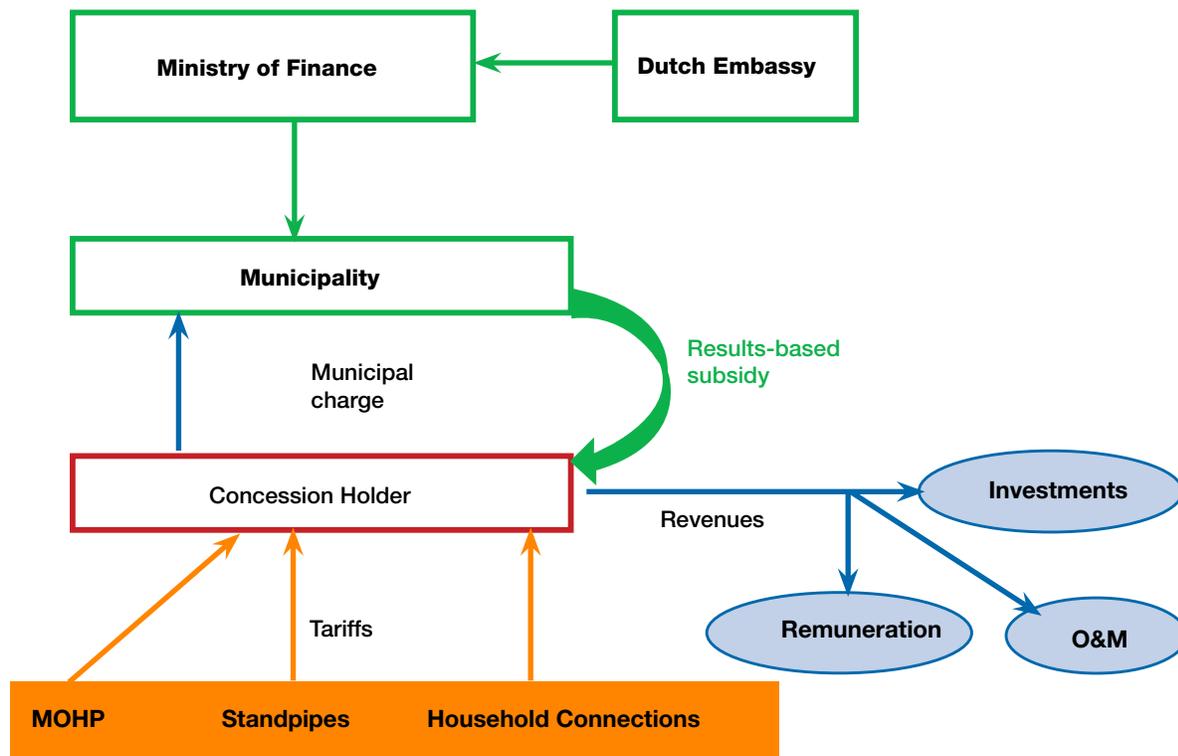
WSP included a post-transaction phase involving the services of a CePEPE for monitoring these key aspects of contract implementation.

Screening candidates through a prequalification stage

Introducing a prequalification stage enabled screening potential candidates and retaining those who can meet the technical and financial requirements to enter into concession contracts. Interested candidates had to purchase the prequalification file at the price of FCFA 50,000 (USD 82) and had 45 days to submit their Expression of Interest from the notice publication date. The prequalification notices briefly describe the main responsibilities of the PO and specified the bidder’s profile. Particular requirements included:

- Experience in PWS construction and rehabilitation;
- A minimum of three years experience in managing PWS; and
- An annual turnover of more than FCFA 50 million (USD 82,000): such financial capacity was justified by the fact that POs had to be able to pre-finance the investments and were expected to contribute from their own funds a minimum of 10% of overall costs.

FIGURE 7: FINANCIAL FLOWS UNDER THE CONCESSION CONTRACT IN THE FIRST TWO YEARS OF THE CONTRACT



In order for POs to be able to meet these requirements, the prequalification encouraged joint ventures to be formed. This was crucial for many POs who did not have both the construction and management experience and did not have a turnover of more than FCFA 50 million (USD 82,000) as standalone candidates. The notice also specified that instead of reaching this turnover requirement (as evidenced through financial statements), candidates could pledge assets of at least FCFA 25 million in value (USD 41,000).

Qualification stage: finalize the contracts and increase competition among POs

Bidders’ technical and financial proposals were submitted during the qualification phase, based on requirements described in the tender package. The tender package (*dossier d’appel d’offres*) was only handed out to selected bidders from the prequalification phase. It contained, among other information on requirements, clarifications on the tender process, and the technical and financial proposals forms.

Selection criteria

All bidders were entitled to bid for one or several contracts, but bidders could not win in different municipalities. As the project was a pilot, the GoB wanted to see the model tested in several areas and by different operators. POs who bid for several contracts were therefore asked to rank their bids in order of preference for different sites. In the event that a bidder would be preferred bidder for two contracts in two different municipalities, they would be allocated the contract that they had identified as their first priority.

The request for proposals (RfP) contained a detailed methodology for preparing the financial proposal. The RfP detailed the nature of the works to be carried out without specifying their costs. It was left to the POs to propose a detailed costing of the works (based on unit costs) and to indicate how much subsidies they would request for carrying out the works. The RfP indicated that candidates must finance at least 10% of the works and that the winning bid would be awarded to

the PO requesting the lowest level of subsidies. This bidding method enhances value for money on CAPEX and incentivizes POs to invest. It allows to eliminate candidates bidding too low (and therefore unrealistically) and increases competitiveness among bidders who have to consider investment plans carefully and propose the contribution they are willing to make.

4.4 Conducting the transaction

In March 2014, the municipalities published the prequalification notices in national papers and made announcements on the radio. All three municipalities did this in a coordinated manner so as to be able to progress the transactions in parallel. Despite these announcements, the municipalities had received no Expressions of Interest only one week before the end of the prequalification phase. One potential reason for this is that the POs did not understand the prequalification requirements: many thought that the requirement to have a FCFA 50 million turnover (USD 80,000) or above meant that they could not bid for the contracts. In response to this situation, a clarification seminar was organised to explain that POs could submit EOI in joint ventures or with subcontractors.

Following the clarification seminar, the three municipalities received a total of 25 EOIs. Of these, eight were selected for the qualification stage, based on whether they met the legal, technical and financial requirements.

By June 2014, prequalified candidates received the tender documents. The deadline for submitting the proposal was 21st July, approximation 5 weeks after qualification start date. Shortly after POs received the tender package, clarification sessions were organised to respond to bidders' enquiries. A two-day training seminar was held in Bohicon to explain all key documents from the tender package and ensure that POs include in their bids all costs that could be anticipated during the network rehabilitation and extension. Site visits were organised to discuss the investments plans and inspect the current state of assets.

CePEPE was mobilized for assisting POs with preparing their proposals. Only one candidate made use of these services, however. For several other candidates, this support was unnecessary. Others were wary of the fact that if all

would use the same BDS provider, information would be shared around.

The bidding evaluations started in early August 2014. IFC assisted the municipalities for all key stages of the evaluation process and external witnesses were invited to attend the bid opening. Final decisions on contracts award were made on the 14th August 2014 at a meeting gathering the GoB, municipalities and WSP/IFC in Cotonou. A detailed timetable of the prequalification and qualification phases is presented in Annex C.

As a result of the deliberations, three POs (two of them in joint venture) were awarded the four contracts, as presented in Table 5. One particular area that necessitated deliberations was that the CoGeFI-led joint venture had also bid for one of the cluster in Sakété and came first in the bid evaluation in that cluster. However, as CoGeFi had also won in Gogounou, municipalities had to choose which cluster the joint venture should be awarded. The decision was made on the basis of the CoGeFi's preference order and the grouping was awarded the cluster for Gogounou, which was deemed attractive as it has the highest number of household connections.

POs' contributions reached an average of 27% of overall works costs, exceeding expectations from the TSR.⁴ One PO even proposed to finance 40% of the CAPEX from its own funds, even though this only happened in one case. The overall subsidy requested by the POs was FCFA 368,441,735 (equivalent to USD 759,442 as of August 2014) when the TSR anticipated a GoB contribution of FCFA 475.7 million, representing 90% of anticipated works costs. The total works cost as budgeted in the proposals amounted to FCFA 502 million, whereas the TSR estimated construction costs amounting to FCFA 526 million.

These contracts are expected to benefit the estimated 40,766 people living within the coverage area. Within the 8-year contracts, some 48,000 will benefit from improved services. At least 1,071 additional household connections are expected to be realized in the first two years of the contracts.

⁴ The TSR estimates a total construction cost of about FCFA 526 million and that POs at least will contribute 10%.

TABLE 5: WINNING BIDDERS AND THEIR FINANCIAL CONTRIBUTIONS

Municipality	Cluster 1 Gogonou	Cluster 2 Sakété	Cluster 3 Sakété	Cluster 4 Zogbodomey
Winning bidder	CoGeFi-Bathys Consult-Climatel	Ogo-Olouwa Kitan	Ogo-Olouwa Kitan	Delcos-Canal Eau
Estimated works cost (FCFA)	156,575,009	185, 575,000	62,349,000	98,230,000
Requested subsidies (FCFA)	101,773,755	157, 738,750	49, 879,200	58,938,000
Bidder's contribution (%)	35%	15%	20%	40%
Minimum additional household connections	356	293	178	244

Note: In bold we highlight the lead PO in the joint venture.

4.5 Early results following contract signing Infrastructure development

4.5.1 Infrastructure development

By September 2014, all contracts were signed. Sites were transferred between October 2014 in Zogbodomey, November 2014 for Sakété and and January 2015 for Gogounou. Although all municipalities complained that they had to send reminders to the POs for presenting a work plan and starting works, two POs had started carrying out investments in rehabilitation and extensions by February 2015. All POs had also started identifying households that would be interested in applying for subsidized connections.

By February 2015, Ogo-Olouwa-Kitan, Sakété's concession-holder, had already realized several extensions and connected several new households (as well as a medical clinic) (Figure 8). In Zogbodomey, the concession holder had invested in a new generator, as per the concession contract. In Gogounou, works had not yet started, due to the delay incurred in the site transfer. Gogounou has the highest number of HC (among the three municipalities that entered in concession contracts) and therefore the site transfer was more complex.

4.5.2 Managing the demand for household connections

One key issue that emerged rapidly following contract signing is that demand for subsidized household connections is higher than originally anticipated. In Akadjamey in Zogbodomey, 113 households had registered for a household connection, when the target was to reach only 25 households. This high demand is linked to the fact that households only have to pay FCFA 20,000 for a connection, as opposed to the unsubsidized cost of FCFA 100,000.

In Gogounou, the PO contracted an NGO for carrying out demand promotion and collecting the connection fee (FCFA 20,000), with an advance on consumption of FCFA 20,000 to cover the non-repayment risks. In principle, the initiative of hiring a NGO for stimulating demand should be welcomed. However, it seemed that the PO was receiving the connection fee prior to agreeing with the municipality on the list of households who will receive the subsidized connection. This initiative entails the risk that subsidies are provided to households who may have been able to afford the unsubsidized rate and may potentially generate conflicts with the municipality.



Moving people to further up service ladder from an already improved service using private sector (Extension and connection works in Makpohou (Sakété) in February 2015.

As demand is high and consumption is likely to increase for many households, POs are anticipating strategies for managing the non-repayment risk and adapting the bill collection methods. Some POs are considering introducing bi-weekly collections (as opposed to monthly collections) so that households do not accumulate bills they will not be able or willing to pay. However, adopting this new collection schedule will involve a reorganization of the POs’ operations structure. Currently, the collection method consists in collecting the fees house by house (generally by the operators travelling by bike). This method will not be easily implemented when the PWS will have 172 new connections, as in Gogounou. CoGeFi, the concession holder in Gogounou, is therefore considering opening an office in Gogounou (the company operates several PWS but is based in Cotonou).

POs are also considering strategies to accompany their new customers in this transformation of their consumption habit. POs generally anticipate that households, who have been used to paying at the standpipe for a visible amount of water, will need an adaptation period to “water at home” and that some will not be able to repay their first bills. In Zogbodomey, the PO is working with the municipality’s water and sanitation services to carry out sensitization campaigns on the sound management of water consumption, Others as in Gogounou have hired the services of an NGO for preparing communities to this new consumption model.

The introduction of the subsidized concession, which has household connections at the heart of its business model, entails a significant transformation of the profession of private water service providers. POs will need to adapt their operational organization to this business model.

V. Key lessons

The pilot project has successfully demonstrated that letting concessions to mobilize domestic POs to invest in water supply services in rural areas is possible, even in remote and dispersed areas. The present section extracts the main lessons from the experience for developing a PPP model for small towns and rural areas

The implementation of the pilots built on the achievements of previous sector reforms and on a careful assessment of the weaknesses of such reforms.

Prior to the project, the reforms initiated by the GoB to professionalize rural water services since 2007 had enabled the rapid development of POs, operating under different types of PPP contracts. In particular, the number of PWS managed through an *affermage* contract went from 1 in 2007 PO operating under *affermage* contract to 269 (57% of the total number of PWS) in 2014. As of February 2015, there were an estimated 77 “official” POs in operation throughout Benin, most of which were fairly small enterprises. This demonstrated that it is indeed possible to “build” a private water supply sector virtually from scratch in a short period of time (8 years).

Such a remarkable achievement was made possible thanks to a concerted sector-wide approach, with the following key elements:

- Institutional reforms, with an effective transfer of responsibilities for water supply services to the decentralized levels of government and the creation of support structures at the central level, both in terms of providing technical assistance through S-Eau (in charge of providing technical assistance to the municipalities) and funding (through the FADeC, a general funding mechanism for the municipalities that can act as a channel for ear-marked investment funding for certain sectors, including for water supply).

- Comprehensive training programs were delivered to both public sector actors (particularly to municipalities, to strengthen their monitoring roles) and private sector actors (on business and technical management);
- Throughout the reforms, the GoB and key donor partners’ approaches were well-aligned. Donors, and particularly the World Bank, provided incentives to the government to focus on water sector reforms (such as through the PSRC budget funding conditionality linked to the professionalization of the rural water sector).

A key component of the project was the development of an alternative to the *affermage* contract, the subsidized concession contract. This new contractual form sought to address the shortcomings of the *affermage* contracts. Four concession contracts were let out for the management of 10 PWS during the pilot. Although it’s too early to say whether the subsidized concession model has had a positive impact on the ground, all actors agree to say that the proposed PPP contract adequately attempts to respond to the challenges of the sector.

The activities that led to the implementation of the subsidized concessions contracts correctly responded to areas of weakness in the earlier reforms and attempted to fill the gaps. Activities were aimed at building capacity of both the public and private sectors. A monitoring tool (mWater), which can be used by both parties, was developed and rolled out. Funding was mobilized from both the public and the private sector. Table 6 presents the main activities implemented for reforming the management of PWS in rural and small towns, showing how they responded to the weaknesses in the sector. The following table also presents the challenges that could be encountered during the scaling-up phase of the approach. This analysis provides the basis for recommendations for the next phase presented in Section 6.

TABLE 6: ACTIVITIES FOR STRENGTHENING THE PPP MODEL IN RURAL AREAS AND POTENTIAL CHALLENGES IN THE SCALING-UP PHASE

Components	Weaknesses of existing PPP	Activities to strengthen the PPP model	Related challenges for scaling-up
Defining contract forms that encourage sustainability	<p>Limits of the bipartite <i>affermage</i> contract:</p> <ul style="list-style-type: none"> POs have no responsibilities for investments Municipalities do not invest The service area (one PWS) is too small and not attractive for raising commercial funds <p>Role of WUAs inadequately defined in the tripartite <i>affermage</i> contract</p>	<ul style="list-style-type: none"> Designed and pilot-tested the “subsidized concession” model, as an alternative to <i>affermage</i>, with a more realistic allocation of risks and responsibilities: <ul style="list-style-type: none"> A subsidy is channeled to support investments in rehabilitation, extension and household connections The contract requires POs to mobilize their own funds Clustering of several PWS allows some economies of scale Access to commercial banks is facilitated via clustering and contacts established with domestic banks 	<ul style="list-style-type: none"> The model is likely to require fine-tuning: to adjust tariffs over time, to improve the targeting of household connections subsidies and improve overall monitoring Replicating the subsidized concession model will likely be feasible only in municipalities that meet pre-requisites; <ul style="list-style-type: none"> Municipalities need to demonstrate a knowledge of their assets, commitment to reforms in the tender procedure and ability to manage contract with POs Commercially viable environment: users have to demonstrate willingness to pay and ability to increase their daily consumption The model requires the mobilization of public funds for the subsidy: <ul style="list-style-type: none"> Where will the public funds come from? Could a sector level funding mechanism be envisaged? Clustering was done at a very small scale: market-based clustering should be encouraged and bidders should be allowed to compete on several markets
Supporting the development of the private sector	<ul style="list-style-type: none"> Small POs, inadequate technical and management skills 	<ul style="list-style-type: none"> Assistance to the establishment of AFEB Use of mWater for improving operations’ efficiency Training on operational management, business skills and preparation of bankable projects 	<ul style="list-style-type: none"> Sustainability of AFEB as a focal point for reaching to the private sector: what is the association’s business model? The use of mWater is marginal among POs: <ul style="list-style-type: none"> Is mWater a viable tool? What mechanisms can be put in place to incentivize POs to use the tool?
Supporting the public sector for monitoring and regulation	<ul style="list-style-type: none"> Limited knowledge of the asset stock Municipalities are unable to fulfill their monitoring responsibilities 	<ul style="list-style-type: none"> Mapping and asset inventory with mWater for 150 PWS Promotion of the use of mWater for monitoring by municipalities Establishment of a regulatory unit within the DG-Eau 	<ul style="list-style-type: none"> There is a need to put in place a national benchmarking system The regulatory unit is still embryonic: it needs to define its program of work and build its capacity to implement it In the long-run, a full-blown regulatory authority may be needed but this will require legal changes

The subsidised concession contract, which was developed through the project, is a credible alternative to the affermage contract and has the potential to be rolled out in the scaling-up phase.

The subsidised concession carefully allocates the risks between the POs and the public sector actors, including the municipalities. The PO is responsible for carrying out investments, but a public subsidy covers most of the investment requirements. The public subsidy is particularly necessary in context where tariffs increase could not be envisaged; although one could argue that tariff increases should be considered in more detail in the future scale-up so as to minimise the need for subsidies. Neither the concession nor the affermage contracts have clear mechanisms to adjust tariffs to reflect changes in cost structures, and such tariff adjustments are expected to be “discussed” between the parties as the need arises. This introduces significant uncertainty for the POs (and the municipalities to a lesser extent) and could give rise to conflicts going forward.

To limit the risk of non-performance, the public subsidy is disbursed based on results. This safeguards against the misuse of public funds and reinforces coordination between POs and the municipalities, so that works can be planned with an agreement on the expected outputs. Works are planned in phases with subsidy disbursement triggers. Such a mechanism can only function in a context where municipalities have clear budget lines, budget is allocated regularly, and parts of this budget is specifically earmarked to a sector or to a specific activity (which is what can be done via the FADeC).

To increase profitability of the contracts, POs are expected to build household connections as these have higher per capita consumptions than standpipes and generate higher revenues. So far, demand for subsidized household connections has exceeded expectations, indicating that there is a strong pent-up demand for such connections in small towns and rural areas. However, the subsidy is clearly having a (distorting) influence on such demand and it is not clear at this stage what volumes will be consumed through such connections and whether or not those new customers will be able to afford their bills going forward. POs should be encouraged to promote non-subsidised connections as well and the targeting criteria for subsidised connections should be tightened.

Strengthening the private sector has proved critical to ensure the implementation of the transactions.

Support to the establishment of a national association of private operators greatly helped the GoB to better understand the private sector’s needs. The approach to the private sector was demand-led, leaving POs to organize themselves into an association and to identify the key areas where POs needed to be supported.

The support to POs was substantial during the contracts’ preparation and the entire transaction process. The participation of POs to the tendering process was the result of a sustained assistance going beyond “the standard” procedure. In addition to clarification sessions on bidding requirements (which is standard), the project provided training so that POs were able to present pre-qualification documents and proposals in the requested format and could form a better idea of what they were getting involved. One objective of these activities was to ensure that POs were aware of all risks and responsibilities that the contracts entail, so as to reduce the risk of contract failure downstream.

The design of the financing set-up for the subsidized concession was based included access to finance for POs from commercial sources. This was based on the assumption that POs would need assistance to invest. So far, this hypothesis has not been vindicated.

The project lined up domestic commercial banks that are interested in financing POs in the rural water supply. Despite common assumptions that access to finance is a key hurdle for such operators, which prevents them from investing in the systems, the POs have so far initiated the investments from their own funds without accessing such financing facilities. This may be due to the fact that such POs have other activities that generate sufficient cash-flows. This also suggests that, if POs are given the responsibility to invest and they see the benefits of doing so, access to finance may not be as significant an issue as originally envisaged.

The sector improved the framework for monitoring and regulating water services in rural areas. However more work in this area is likely to be needed during the scaling-up phase. A robust contract monitoring framework needs to be put in place from the onset of the subsidized concession contracts.

The asset inventory of 150 PWS that has been carried out through mWater is expected to benefit 45 municipalities, by providing them with a sound basis for identifying their needs and planning investments and asset renewal. The asset inventory has proven very useful for site identification and carrying out the technical due diligence for preparing the transactions. All municipalities will need to be trained to use such a tool for keeping track of their water assets, irrespective of whether or not they are considering letting a concession (as they will need to know the state of the assets even if they are responsible for investing themselves).

The introduction of mWater as a monitoring tool has been less successful however. Although particularly efficient, mWater did not generate buy-in, especially among POs. In the case of municipalities, most municipal technical services in charge of overseeing contracts with POs see the benefit of the tool. However, the mayors and municipal council are not necessarily willing to approve funding for subscribing to mWater. As for POs, incentive mechanisms should be put in place to encourage the use of the tool. Ways to reduce the costs of using the tool (by expanding its use to other types of municipal infrastructure) should also be explored.

It appears critical to set-up a strong monitoring framework of the subsidized concessions. The specific objectives of this monitoring are:

- To ensure that POs are planning investments in the timeframe specified in the contract and in a schedule that will satisfying the borrowing terms;
- To ensure that POs are meeting all requirements with regards to sustainable and efficient services.

In addition, if it is envisaged to improve the targeting of subsidised household connections, then monitoring should be designed so as to allow such targeting. The list of household connections to be made should be agreed between the municipalities and the POs, in coordination with the communities. The primary criteria for selecting the beneficiaries should be their social and financial situation. In order to avoid any politicization of the beneficiaries' selection process, the selection panel should exclude the participation of elected members. To increase sales volumes, the POs should also promote non-subsidized household connections.

Finally, the sector greatly benefited from careful on-the-ground stewardship from the TA team, combined with specialized skills to address key aspects of the transaction design.

Buy-in and engagement from stakeholders were made possible by the presence on the ground a TA team with excellent knowledge of the sector and the ability to address key issues as part of a long-term strategy. This knowledge and strategy enabled:

- Identifying whether the conditions in the country were ripe for introducing the reforms;
- Identifying the crucial components of the project;
- Developing strong relationships with municipalities to accompany them in the reform process;
- Reaching out to the private sector in order to identify, with the POs, what their needs were and developing a training program to address such needs.

VI. Recommendations for scaling-up

The present section sets out recommendations for scaling-up the approach for introducing the subsidized concession. These initial recommendations could be developed further in subsequent discussions on reforms.

6.1 The potential scope for a scale-up

Overall scope

The scale-up should be focused on deepening and strengthening the professionalization of rural water and sanitation services so as to ensure sustainability and expanded coverage, in line with the upcoming Sustainable Development Goals.

Geographical scope

- All municipalities in Benin should potentially be eligible for follow-up assistance, both in terms of technical assistance and hardware investments. However, this assistance should be demand-led, which means that the type of assistance municipalities receive would depend on their institutional and organizational capacity and interest for receiving different types of assistance.
- There are currently 473 PWS in the whole country, of which 269 are under *affermage* contracts, while the other 204 are either managed by WUAs or directly by the municipality. It is likely that in the next months, more PWS will be tendered for *affermage* (as indicated by 50 of Benin 77 mayors' commitment to implement *affermage* contracts over all PWS) whilst WUA-management is likely to gradually disappear.
- Municipalities should be supported to carry out an asset mapping and inventory for all existing PWS in the country. Such an exercise should be carried out through a mobile-to-web tool that is jointly agreed upon by all stakeholders, as discussed below.
- All PWS should be considered for the scale-up and not only those that are currently managed through *affermage* contracts, given that municipalities might be interested in applying a subsidized concession model for PWS that are currently not under *affermage*. However a past experience with *affermage* contracts could be a plus.
- Municipalities should be well-trained about the different PO contracting models and enabled to

choose between those models. If they decide to go for a subsidised concession, they should be able to apply for funding to the “financing mechanism” (to be established) and obtain access to funding if they meet the eligibility criteria, which are discussed further down.

- Clear criteria for defining whether municipalities are eligible for receiving funding for the subsidised concession model should be set out. Lessons from the pilot project have shown that concession contracts are not necessarily applicable to all PWS or municipalities and that therefore clear criteria should be developed and applied.

Clustering

- Existing POs should be consulted about the scale of the market that they would consider attractive from their point of view. The market for private management of PWS has evolved very rapidly over the last 8 years and it is therefore critical to understand where they currently stand in terms of ambitions for business development and financing potential. One key lesson from the pilot project is that the POs have been able to invest more than what was expected.
- More ambitious clustering than what was included in the pilot project should be considered: clusters could potentially include all PWS in a given municipality or across several municipalities. Such clustering can be fostered in several ways:
 - On the one hand, “market-led” clustering, whereby a single operator can win multiple contracts should be allowed (i.e. there should not be any rule stating that any operator cannot win contracts in multiple locations) and in fact explicitly encouraged. This is likely to lead to “market consolidation” which is already taking place for the *affermage* contracts and much needed in Benin, as the market probably cannot support 70 viable operators. Scaling-up of the most robust operators will allow them to build technical competencies and increase their access to capital (both from their own resources and through commercial loans). This could also generate employment. However, such market consolidation

should be carefully monitored so as to limit the exercise of market power by POs. If one PO starts winning all contracts, for example, such a situation could be investigated to ensure that there was no wrong-doing.

- o On the other hand, incentives could be given to municipalities that wish to group together in order to let out larger contracts. For example, this could be done by making subsidies available only above a certain threshold in terms of the target number of new household connections. Such threshold could gradually be increased to encourage letting out larger contracts to POs and enable economies of scope and accumulation of technical expertise.

Clustering, whether large or small, entails carrying out a due diligence to assert the technical feasibility of tendering PWS in clusters, identify whether there is scope for extending the network and increasing the number of household connections, and assess the financial viability of the contracts that will be tendered. This due diligence could be based on the methodology developed and implemented during the pilots. Municipalities should be assisted for carrying out such studies.

Capacity of eligible Municipalities

- In terms of capacity, municipalities will be assessed and selected based on: (i) Asset knowledge, (ii) Adequate resources (and technical capacity) for managing water services (iii) Existing municipal procurement committee, (iv) Experience of regular payments of fees and charges by POs in case of existing farm-out contracts (*affermage*).
- Where these capacities are weaker, the scaling-up will include activities to strengthen municipalities' capacity to manage water services and enter into PPP.

Sector scope

The scale-up should consider sanitation and hygiene as well as water supply. This will be particularly important for small-towns where access to greater quantities of water is provided thanks to household connections. In such circumstances, adequate solutions to deal with wastewater must urgently be found, so as to reduce the potential health risks. The scale-up should therefore explore the extent to which the private sector can play a role in the delivery of improved sanitation services across the entire value chain of sanitation

services, i.e. ranging from collection (of wastewater or faecal sludge), to transport, treatment and safe disposal /reuse. For example, professional operators could get involved in the promotion and installation of improved sanitation facilities and, in semi-urban areas, in the emptying and treatment of faecal sludge and wastewater. Prior to entering this area, it would be necessary to conduct a study to assess the extent to which such services are currently delivered, by whom (public or private), to which level and to identify how professionalization of service delivery could improve the quality and sustainability of such services.

6.2 Potential activities under the scale-up

The scale-up should continue to fund both hardware investments and “soft” components such as technical assistance, since the latter has proved critical to ensure the success of the reforms.

6.2.1 Technical assistance or software component

The government and its development partners should work collaboratively to identify respective areas of focus for this technical assistance. Technical assistance is likely to be needed for the following activities:

- **Conduct an asset inventory and mapping for all PWS in the country** – using the “nationally-accepted” monitoring tool. These asset inventories should form the basis for asset renewal plans in all cases.
- **Coordinate around the use of mobile-to-web applications and identify the most appropriate that can later be rolled out.** There has been a proliferation of such systems in recent years. It would be essential to conduct an impartial review of the costs and benefits of the different mobile-to-web options that have been used in Benin and to formulate recommendations as to which system should be rolled out nation-wide, so as to facilitate the task of collating data at national level for monitoring. Each system does slightly different things: this review should identify the main features that are needed and recommend whether a modified version of existing systems could address all such needs or whether further development is needed. If payment for the system is limiting its use, it would also be necessary to examine alternative charging modalities.
- **Facilitate on-going learning from the pilot experience (with the four concessions), so as to feedback lessons into the design of the new contracts.** Such learning should be based on a robust monitoring and evaluation

framework, based on an initial baseline of water access by income groups. If such baseline is not yet available, it should be compiled as part of the post-transaction support in the existing project so as to enable full learning from the lessons of the pilot. In particular, learning is needed on the impact of water consumption increase on households and on the POs' activities. The baseline and subsequent data collection should seek to answer questions as follows: will households be able to pay for their consumption? How are POs managing the increase in the number of customers? Have they introduced changes in the bill collection method? Did they have to hire new staff for carrying out the payment collection?

- **A culture of learning and experimentation in the sector should be encouraged, so as to ensure that it is institutionalised and not only donor funded.** The regulatory body could play a critical role in this area, but other sector institutions such as AFEB, the private training institution CEPEPE or the National Association of Benin Municipalities (ANCB) should be supported in such for contributing to capitalizing on the lessons gained from the reforms in the sector. Such learning should be accumulated at the level of DG-Eau and particularly within the regulatory unit, but also shared with other sector stakeholders through a coordinating structure. Such learning culture should encourage experimentation and learning loops.
- **Support DG-Eau for the development of an updated sector strategy.** DG-Eau should be supported with the preparation of an updated sector strategy that would incorporate the subsidised concession contract and the new forms of *affermage* contract, as well as the approach to rolling out these contractual forms. In addition, the DG-Eau should be supported to prepare model contracts that are updated on a regular basis. The objective of this exercise would be to facilitate the task of municipalities when they want to let out a contract, so as to bring down transaction costs. The model contracts would provide only a basis for municipalities so that they can then tailor them to their specific needs (preferably with the assistance of “local” transaction advisors). This is something that the Association of French Mayors has done in France, for example, which has helped small municipalities with limited experience to let out contracts. Regular updates, based on learning from best practice or from

difficulties encountered can be fed into these model contracts. This can also improve predictability for the private operators, who can get used to the “standard contract” rather than having to understand a new contract form every time. Such model contracts should be prepared for various forms of delegation (including the improved *affermage* model and the concession), together with a guide to help municipalities select the most appropriate contract and tailor it to their own circumstances.

- **DG-Eau should continue its support to municipalities in the procurement of private services for the management of PWS.** In this respect the revision of the tender documentation (in line with UEMOA⁵ Uniform Act on Contract Law) that was carried out in February 2015 is welcomed.
- **Strengthen the regulatory framework.** Much remains to be done for the sector regulatory framework to be effective. In the short-term a number of actions should be taken such as:
 - o Spelling out the functions of the new Regulation Unit;
 - o Determining its optimal staffing structure;
 - o Identifying the tools that can be used to facilitate the implementation of its tasks;
 - o Assigning a budget to enable the unit to function properly.

The regulatory unit, as currently set up within the DG-Eau, can already achieve a lot to regulate services provided by POs in rural and small towns. This can be done through issuing guidelines to municipalities, as these are ultimately in charge of regulating the services and through benchmarking service indicators collected at local level. Guidelines that are likely to be needed would include guidelines on tariff adjustment mechanisms and on the definition and tracking of minimum and guaranteed service levels. Simple benchmarking systems will need to be developed (based on agreement on a set of “golden indicators” and weights assigned to such golden indicators) so as to be in a position to compare POs' performance in a transparent manner. Such indicators should combine service level indicators with performance indicators (e.g. cost-recovery indicators). The regulatory unit can then become a major vector for channelling technical assistance to the municipalities and

⁵ Organisation pour l'Harmonisation en Afrique du Droit des Affaires (OHADA).

help them monitor services and better carry out their regulatory functions.

In the medium to long term, in order to strengthen the legal basis of the regulatory framework, a Regulatory Authority should be established by a legal act. This Regulatory Authority could also take on responsibilities for regulating water and sewerage tariffs in the urban areas where SONEB is providing services.

- **Clarify the role of Consumers Association (ACEP).** As the rural water sector progressively generalized the professionalized management of PWS, with the involvement of the private sector, the role of water user associations (WUAs) is also gradually evolving and turning into Consumer Associations. In many PWS sites, WUAs' are also involved in community mobilization and in the subsidized concessions in awareness activities on the advantages of individual connections. The WUAs have now been transformed into consumer's voice, but their roles still need to be better defined. A national debate on the role of ACEP has been initiated in recent months. The ACEP's role should include some local-level monitoring tasks, helping to deal with customer complaints and acting as a forum to discuss and agree any proposed changes to customer service levels and tariffs.
- **Conduct a communication campaign to educate population on a variety of issues,** including the need to consume higher volumes of water (for personal hygiene) but also with key messages related to sanitation and personal hygiene. Water consumption levels are currently very low: this might be a consequence of the lack of household connections. However, changing habits take time and will not "just happen" as more people get household connections. In addition, this should include strong emphasis on sanitation promotion, possibly through adapted versions of CLTS campaigns, as access to improved sanitation is significantly lagging behind access to water at present.

6.2.2 Hardware investments

"Hardware" (or CAPEX) investments should still be funded largely through public funds, which means that funding will need to be made available particularly for network rehabilitation and extensions, water treatment facilities (where needed) and decentralised wastewater/faecal sludge treatment facilities. Such hardware should

be funded through a mix of resources, including donor support but also increasingly through tariffs and domestic resource mobilisation from taxes raised at the national or at the local level. Additional discussion of how the hardware component for the project could be funded is discussed below.

6.3 Options for a project financing framework

Scaling-up the approach will require substantial public funds, which are limited. Based on the public subsidies that will be disbursed for 10 pilot PWS, if the model were to be applied to all remaining 463 PWS of the country, this would require (roughly) FCFA 17 billion (equivalent to USD 34 million) for hardware subsidies only.

One option is to establish a financing facility that would launch successive "funding rounds" to provide funding to the municipalities for CAPEX and potentially capacity-building support. We would recommend a national financing facility for the sector be set up. This could be part of the national fund allocated to local governments, the FADeC, or could be a stand-alone "Water Sector Development Fund". Such a fund would initiate a series of funding rounds (potentially with different criteria, so as to facilitate experimentation) to provide subsidy funding mainly for the hardware components. The municipalities that want to bid out a subsidised concession model would need to meet a minimum number of criteria (such as having done an asset inventory and having prepared an asset development and management plan; availability of management reports for the PWS if it has been in place for some times; proofs of regular payment of fees and charges by the private operator; the presence of a water specialist in the municipality; the existence of an effective procurement committee, etc.). This fund should consider channelling CAPEX funding to both municipalities (if they are responsible for investments and let out management to a PO via an *affermage*) and to POs directly (in the event of a concession). The rules for channelling funds would differ and could be marginally more beneficial for concessions if the idea is to encourage the concession model.

One key issue, however, is to ensure that subsidized household connections (HC) are offered to the poorest (and not those who could afford an unsubsidized rate). In the present contractual set-up, only strong monitoring of

PO's activities, with clear guidelines for allocating the subsidy, and municipalities' commitment to serving the poorest can ensure that the project reaches the neediest. This is an issue given the high level of demand for subsidised connections, which indicates that people are willing to take on household connections even in small towns and that therefore, available subsidy amounts may be used up quickly. If operators cannot meet this demand, this might affect their reputation so this is a substantial risk for the operators and for the public sector, which does not have unlimited resources.

To alleviate such issues, it would be useful to ensure that available subsidy funding is used in a more targeted manner. This could be done in the following ways:

- Subsidies paid per connection for poor customers could include a portion for the extension costs for the entire system: subsidy payment could still be based on results for connecting poor customers but the subsidy per connection would cover extension costs for all customers. POs are also incentivised to connect “non-poor” households but at a price that is closer to actual connection costs (or slightly subsidised if that is seen as a key way to increase connections)
- Stricter “pro-poor” targeting criteria for subsidised connections should be defined. Based on international best practice, different systems can be used for improving pro-poor targeting. Lists can be drawn up together with community representatives and the municipality based on pre-defined criteria (this is an area where the ACEP mentioned above could potentially play a role). Criteria that could be used to draw up these lists (or as an alternative) could be the quality of the building material, i.e. those who currently have a house built with local materials could benefit from the higher level of subsidies, whereas those with constructions “*en dur*” (with solid material) would only benefit from a lower level of subsidy or none at all. Other criteria could be closely aligned with Benin's social safety net programmes if they exist.
- Third-party verification mechanisms (potentially limited to “spot-checks” rather than verifying each new connection) should be introduced to ensure that such criteria are applied and that connections that are claimed by the PO have effectively been made and are still functioning. A robust verification would come with a cost, however, and may introduce cumbersome procedures that can delay the disbursement of funds to the PO.

Two sources of funding should be more actively tapped into for the scaling up: tariffs (which would need to increase at least in line with production cost increases and would need to increase comparatively more for the richer consumers)) and domestic taxes, both at national and local levels. At present, there is a risk of over-relying of external donor funding when available domestic funding should be more actively mobilised.

6.4 The main risks for the scale-up

A number of key risks have been identified for the scale-up

- The municipalities that have taken part in the pilot are well-managed and deemed to have promising markets (i.e. they were the “low-hanging fruits”), which means that concession contracts in “less affluent” municipalities would be less viable. This could be addressed through either transferring higher levels of subsidies or requesting less contribution from the private sector, which amounts to the same result. It could also be envisaged that PWS in less attractive municipalities are clustered with PWS in more affluent ones.
- Demand for subsidised connections may widely exceed available funds for subsidies. This should be proactively managed so that the POs are not deemed responsible for a “fund shortage”. As mentioned above, this issue could be addressed through tighter eligibility criteria for subsidised connections.
- The WSP and IFC played a very important hand-holding role in the pilot, strengthening the capacity and acting as helpful transaction advisors. The involvement of IFC is unlikely to be replicated as such a level in the scale-up and therefore communes may be left on their own for the bidding process. However an external expertise could be called up for building local stakeholders' capacity to carry out the necessary due diligence and for structuring viable transactions. The World Bank Group could play a crucial role in developing of a “local consultancy” culture, whereby consultants provide advice to municipalities on contracting water services and monitor contracts' implementation. Local private consultants, AFEB or ANCB could channel this support to municipalities and the private sector on the long run.

Annex A – Glossary of key terms

Redevances: fees and charges paid by the PO

Redevance communale: municipal fee – paid to the municipality to cover the costs of service monitoring. This fee is transferred to the municipality’s budget and can be potentially be used for other purposes.

Redevance de renouvellement: capital maintenance and investment charge that feeds into a separate fund for renewal and extension

Branchement particulier: household connection

Communes: municipalities

Pompe à motricité humaine: manually-operated handpumps

Borne fontaine: standpipe

Exploitants: operators of the PWS

Annex B – Municipal responsibilities following decentralization

This Annex describes municipal organization following decentralization, including the main municipal bodies responsible for procurement. It also presents the specific budget line (FADeC) that feeds from central government into municipalities' budget. The subsidy for the subsidized concession under the WSP-led technical assistance project is channeled via this fund.

B.1 Municipalities' organisation

Municipalities are administered by a communal council with elected members. Members of the communal council elect the Mayor, who is the executive arm of the Council, and his assistants. Among other duties, mayors are in charge of:

- Preparing and executing communal development plans (e.g. infrastructure construction);

- Preparing the communal budget and making it enforceable through a decree;
- Managing the municipality's revenues;
- Contracting and managing infrastructure works [*passer les marchés pour les travaux communaux et diriger les travaux communaux*]

B.2 Municipalities' financing sources

Being financially autonomous, municipalities have their own budget, which is voted annually by the communal council. Sources of fund include local revenues from taxes, based on rates fixed by the municipalities within the ceiling imposed by the Ministry of Finance (MoF). Municipalities' budgets are supplemented by transfers from the central government through the *Fonds d'Appui au Développement des Municipalities* (FADeC).

BOX B.1 : FADeC: BUDGET LINES TO SUPPORT MUNICIPALITIES (MDGLAAT 2008)

FADeC is a national funding mechanism established in 2008 as part of the decentralization reforms for transferring financial resources to the municipalities. The mechanism was set up to:

- Mobilize resources for developing municipalities and inter-communal structures;
- Transfer additional resources to municipalities so that they can exercise their powers and correct imbalances between municipalities;
- Finance activities to strengthen municipalities' institutions; and
- Harmonize municipalities' financing procedures.

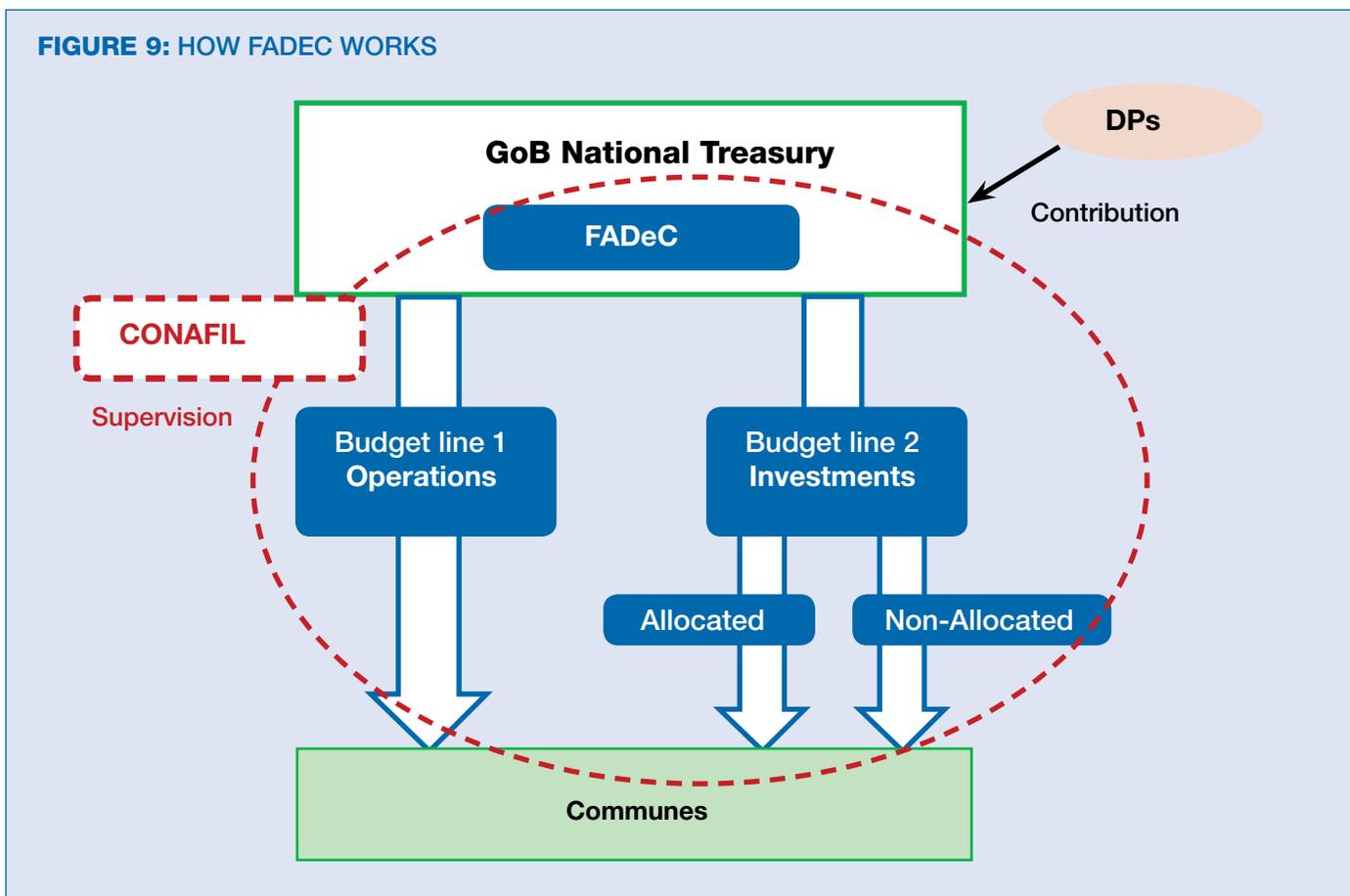
Administered by the National Commission of Local Finance (CONAFIL) under the Ministry of Local Government, FADeC is implemented through the GoB general budget. The GoB feeds two budget lines to support municipalities:

- A budget line to fund operating expenses;
- A budget line to fund capital investments.

Within the budget line to fund investments, part of the budget is specifically allocated to a sector, whereas municipalities are free to use the other component based on their own investment priorities.

As presented below, FADeC feeds directly into the municipalities' funds. Funds are transferred from the national treasury into municipalities' bank account as soon as the Ministry of Local Governments approves the provisional budget proposed by municipalities.

FIGURE 9: HOW FADEC WORKS



B.3 Municipal responsibilities for procurement

The municipalities are responsible for identifying and contracting infrastructure works as well as ensuring that those services are adequately managed. More specifically, municipalities are responsible for ensuring works (and services) feasibility, proposing a provisional budget for these works, providing financing and ensuring compliance with national procurement procedures that are embedded in the “Code National des Marchés Publics” or National Public Procurement Code prepared by the National Directorate of Public Procurement Control (“Direction Nationale de Contrôle des Marchés Publics”). In order to perform these tasks, municipalities can seek assistance from central government’s regional offices (*services déconcentrés*).

Municipalities have to abide by the National Public Code. According to the Code, the procedure for public procurement involves three distinct entities: a Person Responsible for Public Procurement, a Public Procurement Commission and a Public Procurement Control Unit. These bodies’ functions are detailed in .

In recent years, substantial efforts have been made towards building municipalities’ capacity in their new function as asset-owners, particularly for procurement. It is estimated that all municipalities in Benin have in place those three procurement bodies, as this set-up is now a requirement for receiving funds via FADeC. However, transparency and compliance with the National Procurement Code remains problematic in many municipalities, including for procurement relative to water services.

BOX B.2 : PUBLIC PROCUREMENT BODIES AT MUNICIPALITIES LEVEL

The **Person Responsible for Public Procurement (PRPP)** (*“Personne Responsable des Marchés Publics”*) is the person responsible for implementing and overseeing public procurement procedures (from preparation of tender documents to contracts monitoring). In municipalities, mayors are responsible for fulfilling this role.

The **Public Procurement Commission (PPC)** (*“Commission de Passation des Marchés Publics”*) is under the PRPP’s authority. Its responsibilities include:

- Examining tender documents before transmission to Public Procurement Control unit (see below);
- Opening proposals (*dépouillement des offres*). This is a public procedure and can be made in the presence of the bidders;
- Setting-up a sub-commission (*“sous-commission d’analyse”*) for evaluating the bids and proposing a provisional award. Sub-commission members should have the technical competency for evaluating the bids;
- Transmission of the proposals opening report (*rapport de dépouillement*) to the National Directorate of Public Procurement Control.

In municipalities, the Commission should be composed as follows: the PRPP (or a representative), two communal advisors, the accountant (*“le receveur-percepteur”*) and a public procurement specialist. The PRPP can decide to add to the Commission individuals whose competencies are deemed necessary.

The **Public Procurement Control Unit** is responsible for validating the procurement process, including:

- Validating plans and tender documents before launching the call for proposals; and
- Carrying out juridical and technical assessment of tender documents that have been approved by the Commission.

The Control Unit should be composed as follows: a head of unit (*“chef de cellule”*), a specialist in public procurement, a public works engineer, two senior administrative staff and any other individuals with the right competencies.

Source: Loi 2009-02 du 07 Août 2009 portant sur le Code des Marchés Publics et des Délégations de Service Publics en République du Bénin

Annex C – Key dates

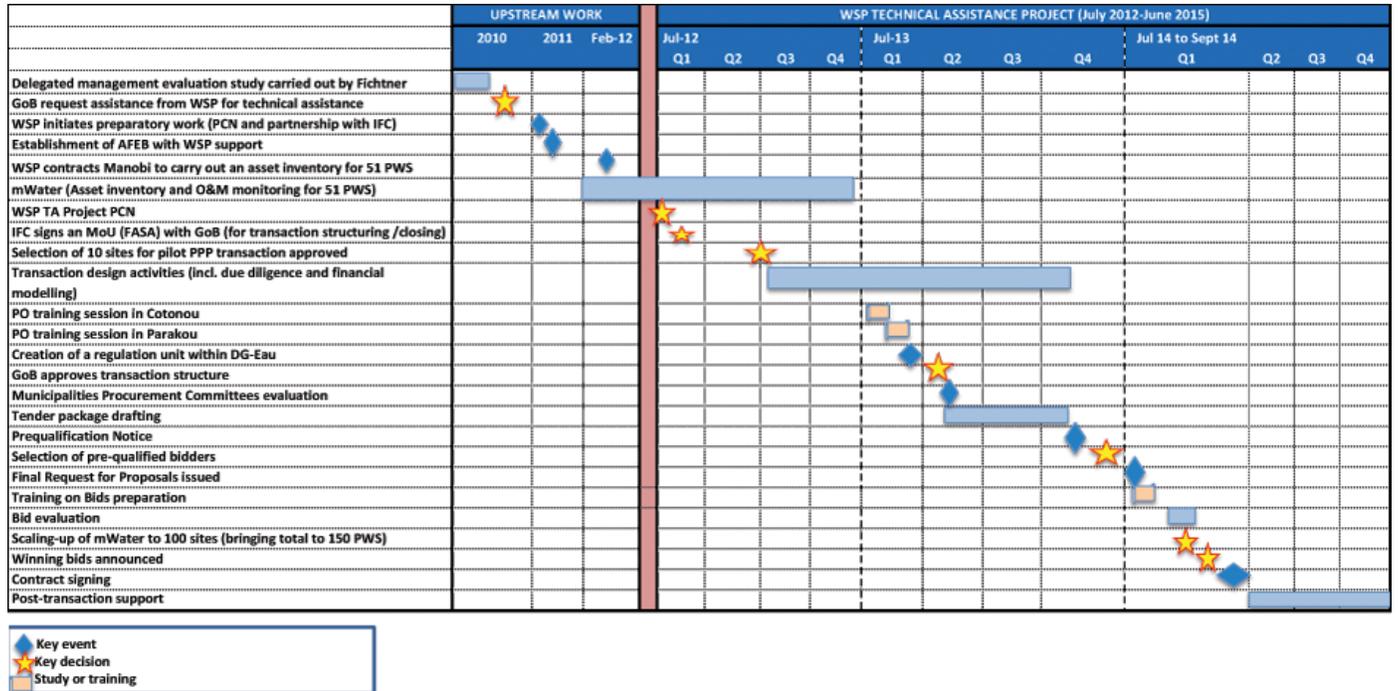
TABLE C. 1: KEY DATES FOR SECTOR REFORMS

Date	Event
1989	CePEPE was formed
1990's	Establishment of S-Eau
1992	Drafting of the National Strategy to implement the Assistance Project for the Development of the Water Supply and Sanitation sector (PADEAR)
1994-2004	PADEAR program
1999	Benin initiated the decentralisation and devolution process
2001	Adoption of the Drinking Water Quality Act
2002	First democratic municipal elections and elected mayors
2004	Development of the “Initiative Eau”
2005	A new Strategy clarifying institutional responsibilities for water services and financing sources for water systems construction
2007	Start of the reforms to professionalize rural water services
2007	Ikpilè is the first PWS with delegated management through an affermage
2007	First phase of PPEA is implemented
2009	Adoption of the National Water Policy
2010	The World Bank Group (WBG) starts supporting the Government of Benin (GoB) in carrying out reforms for improving the management of rural and small town piped water schemes (PWS)
2010	Adoption of the Water Resources Management Law (Loi n° 2010-44)
2010	WSP proposed to the GoB to carry out a review to evaluate the delegated management models in place
2011	Creation of the Basin Committees Act
2011	AFEB established
2012	The Water and Sanitation Program (WSP) initiated a three-year program
2013	Second phase, PPEA II, is implemented
2013	Another sector review is carried out
2014	Benin reaches the MDG target for water for rural and urban areas
June 2015	End of WSP program of support to GoB – ongoing discussions on potential scaling-up

TABLE C. 2: KEY DATES FOR THE TRANSACTION PROCESS

Key Activities	Dates
Prequalification doc discussion with municipalities	6 February 2014 - Zogbodomey
	7 February 2014 - Sakété
	10 February 2014 - Gogounou
Invitation for Prequalification	6 March 2014 - Sakété and Zogbodomey
	14 March 2014 - Gogounou
Prequalification clarification seminar	9-10 -11 April 2014
Deadline postponing Prequalification Submission	21 May 2014
Prequalification Evaluation	21 May 2014 - Sakété
	22 May 2014 - Zogbodomey
	30 May 2014 - Gogounou
RFP Draft Discussion with municipalities	23 April 2014 - Sakété
	24 April 2014 - Gogounou
RFP validation meeting with municipalities - Cotonou	4 June 2014
RFP submission to bidders	6 June 2014
Sites visit by prequalified Bidders	16 June 2014 - Gogounou
	18 June 2014 - Zogbodomey
	19 June 2014 - Sakété
Bidders Conferences in Cotonou	20 June 2014
Transmission of revised RFP and Q & A final table to Prequalified bidders	6 July 2014
Training on Bids preparation	10 and 11 July 2014
Transmission of Final Bids	15 July 2014
Bids submission and Evaluation	4 – 5 - 6 and 8 August 2014
Results validation by the municipalities' control committee	6 – 13 August 2014
Debriefing meeting	14 August 2014
Signing of the Concession Agreements	30 August 2014 – Gogounou
	28 August 2014 - Zogbodomey
	23 September 2014 - Sakété-1
	23 September 2014 - Sakété-2

FIGURE C 1 - OVERVIEW OF THE ACTIVITIES THAT LED TO THE IMPLEMENTATION OF THE SUBSIDIZED CONCESSIONS FROM 2010 TO 2014



Annex D – Key materials and tools developed by the project

The list below includes the main materials and tools that have been developed by the project and could potentially be used as a basis in the context of other similar projects.

1. Modèles de rapports de due diligence (technique, juridique, financier) ;
2. Outils de pré-qualification des candidats pour la mise en concession des AEV
 - a. Dossier de pré-qualification pour la mise en concession des AEV ;
 - b. Procédure d'évaluation des offres de pré-qualification ;
 - c. Fiche de dépôt des dossiers de pré-qualification dans le cadre de la mise en concession ;
 - d. Fiche de présence à l'évaluation des dossiers de pré-qualification dans le cadre de la mise en concession ;
3. Outils de qualification des candidats pour la mise en concession (firm selection award)
 - a. Modèle de lettre de notification de pré-qualification et d'invitation à la participation à l'appel d'offre ;
 - b. Dossier d'appel d'offres pour la mise en concession des AEV ;
 - c. Fiche d'engagement de confidentialité par rapport au dossier d'appel d'offres ;
 - d. Tableau de conformité des offres ;
 - e. Tableau d'évaluation des offres ;
4. Modèle de convention de concession d'exploitation des AEV ;
5. Outils mWater (plan de recollement de certaines AEV) ;
6. Liste indicative des prix unitaires des pièces relatives à la réalisation de l'AEV ;
7. Tableau de durée de vie des pièces, fréquence d'entretien courant et lourd des équipements et prix des consommables d'entretien et de fonctionnement des équipements d'AEV ;
8. Mémorandum d'information sur la mise en concession des 10 sites d'AEV pilotes ;
9. Training materials of private operators (bidding process, business edge).

June 2015

Water and Sanitation Program
The World Bank Group
Avenue Jean-Paul II, Cotonou, Benin.

Phone: +229 2136 3949
E-mail: wspaf@worldbank.org
Web sites: www.worldbank.org/water
www.wsp.org

Design and Layout by Eric Lugaka

