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AFRICA, WASH, AND THE MILLENNIUM DEVELOPMENT GOALS

A Local Systems Case Study of How Senegal Achieved MDG Target 7c

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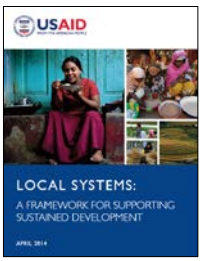
FOREWORD

The world was successful in meeting Millennium Development Goal (MDG) Target 7c for water by 2015, reducing the population without access to improved water systems by half. This success was largely driven by a few high-achieving countries and was not universally achieved by all countries, particularly by poverty-stricken and fragile states. In reflecting on the progress of the MDGs, a key observation made by many agencies is that success in water and sanitation service delivery and hygiene behavior change requires the development of robust local systems. They can operate at all levels from small, rural communities to national programs.



> "Local system refers to those interconnected sets of actors—governments, civil society, the private sector, universities, individual citizens, and others—that jointly produce a particular development outcome."
>
> *—USAID, Local Systems Framework 2014*[1]

Local water, sanitation, and hygiene (WASH) country systems can include a wide range of components that allow it to function and thrive, including policy development; planning; financing, expenditure, and cost-recovery; implementation; service maintenance and management; and monitoring. Having effective country system components can drive a virtuous cycle of achievement. Understanding and adopting effective systems can assist countries in the transition to the era of the Sustainable Development Goals (SDGs) and the specific WASH targets in Goal 6. The USAID Water for Africa through Leadership and Institutional Support (WALIS) project undertook a review of successful countries in Africa to uncover the combination of pathways, processes, policies, and people that improved WASH access and services sufficient to meet its MDG targets at a national scale. The review analyzed four countries in Sub-Saharan Africa—Ethiopia, Rwanda, Senegal, and South Africa. These countries developed country system components, which helped make far-sighted policies, develop excellent plans, adopt effective financing strategies, and build innovative monitoring systems that resulted in evidence-based decisions and helped WASH leaders to lead. The review used the "Appreciative Inquiry" methodology. Appreciative Inquiry is a method that:

- Sets out to discover the elements and factors in an organization or system that enabled it to achieve success in the past.
- Builds on those elements and factors to help the organization or system create a positive future.

The authors of each case study evaluated the outstanding country systems and key driving factors that led to the national government's ability to reach their MDG Target 7c. Each case study breaks down the country's WASH sector into individual system components, based on the USAID Local Systems Framework and the 5Rs (relationships, resources, roles, rules, and results), to capture how each component contributed to the system's success as a whole. The Local Systems Framework will also allow for cross-country comparison and determine if there is one or many critical paths to streamline WASH service improvement. An overarching synthesis learning note to provide cross-country analysis and common themes that can be transferred to achieve SDG success is forthcoming.

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[1] USAID. (2014). *Local systems: A framework for supporting sustained development.*

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ABBREVIATIONS AND ACRONYMS

AfDB	African Development Bank
AMCOW	African Ministers' Council on Water
ASUFOR	Borehole Users' Association (*Association d'usagers de forage*)
CAPEX	Capital Expenditures
CCSPEA	Coordination and Monitoring Unit of Water and Sanitation Programs
CGE Senegal	*Compagnie Générale des Eaux du Sénéga*l
DAS	Sanitation Directorate (*Direction de l'Assainissement*)
DEM	Directorate of Operations and Maintenance (*Direction de l'Exploitation et de la Maintenance*)
DH	Directorate of Water (*Direction de l'Hydraulique*)
GOS	Government of the Republic of Senegal
JMP	Joint Monitoring Programme
M&E	monitoring and evaluation
MDG	Millennium Development Goal
NGO	nongovernmental organization
OFOR	Office of Rural Boreholes (*Office des Forages Ruraux*)
ONAS	National Office of Sanitation in Senegal (*Office National de l'Assainissement du Sénégal*)
PEPAM	Millennium Drinking Water and Sanitation Program (*Programme d'Eau Potable et d'Assainissement du Millénaire*)
PLHA	Local Water and Sanitation Plan (*Plan local d'Hydraulique et d'Assainissement*)
PRSP	Poverty Reduction Strategy Paper
PSE	Senegal Emergent Plan (*Plan Sénégal Emergent*)
REGEFOR	Management Reform of Motorized Rural Boreholes (*Réforme de la Gestion des Forages Ruraux Motorisés*)
SDE	Senegalese Water (*Sénégalaise des Eaux*)
SDG	Sustainable Development Goal
SONEES	Senegalese National Company for Water Management (*Société Nationale d'Exploitation des Eaux du Sénégal*)
SONES	National Water Company of Senegal (*Société Nationale des Eaux du Sénégal*)
UNICEF	United Nations International Children's Emergency Fund
WALIS	Water for Africa through Leadership and Institutional Support Project
WASH	water, sanitation, and hygiene
WHO	World Health Organization
WSSP	Water Supply and Sanitation Project

SUMMARY

Nationally, Senegal met the MDG target for water supply access. It did this by engaging the public and private sectors to effectively invest and report on investments. It focused on larger population centers, less on remote regions of the country. Its achievements set the stage for more equitable and widespread service provision as the country now works to achieve the SDGs, requiring sustainable management of universal access. This case study documents the progression of the sector between 1990 and 2015, and analyzes the impact of local systems created in Senegal to respond to the water and sanitation challenge. It identifies four periods in the development of the sector:

- 1990–1995: Setting the foundation for privatization.
- 1996–1999: The beginning of institutionalized privatization.
- 2000–2004: Refining urban privatization and rural management.
- 2005–2015: Unified frameworks and investment ramp-up.

By 1988, Senegal had established a water ministry in response to the global declaration of the International Drinking Water Supply and Sanitation Decade, promulgated a Water Code,[2] and restructured the Senegalese National Company for Water Management (SONEES [*Société Nationale d'Exploitation des Eaux du Sénégal*]). However, with a severe devaluation of the CFA franc (Senegalese currency) in 1994, Senegal sought to untangle the government and water services from its parastatal to improve efficiency and prepare it for contracted services to private operators. World Bank supported key reforms and a restructured urban water sector with the following key features:

- Establishing separate organizations and management frameworks for sewerage and urban water.
- Launching public-private collaboration under a 10-year service operator contract.
- Incorporating regulation and tariffs into the contract.
- Using a sophisticated financial model to guide investment and service decisions.
- Linking reforms to major external investment in the water sector.

This restructuring was further catalyzed by a critical water shortage in Dakar that led to donors first piloting and then injecting large amounts of capital into the sector via the *Projet Sectoral Eau* in 1995–1996. The water crisis also eventually led to the SONEES being dissolved and separated into three new entities with the mandates to: 1) be a public asset holder and manager; 2) operate and maintain the urban and peri-urban systems; and 3) create a national office of sanitation. To operate and maintain the urban systems, a 10-year *affermage* contract was signed between the Government of the Republic of Senegal (GOS), the asset holder, and the operator.

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[2] African Ministers' Council on Water (AMCOW), World Bank Water Supply and Sanitation Project (WSSP), African Development Bank (AfDB), & United Nations International Children's Emergency Fund (UNICEF). (2011). Water supply and sanitation in Senegal: Turning finance into services for 2015 and beyond. (Note: In 1983, the Water Code was enacted, but some of the decrees that operationalized the code did not get issued until 1989.)

While large contracts framed urban services, rural water services gradually began to move from community-managed boreholes and small systems to delegated managed services under fixed-term operating licenses between borehole operators and the government. In both cases, but primarily urban operated services, contracts were used to ensure quality of service and incorporate incentive targets. This trend continued throughout the rest of the MDG era as the country maintained a commitment to a participatory and decentralized approach in the steering, execution, and monitoring of programs to expand access and ensure rapid response and transparency to water needs. Key to maintaining the trend was the Millennium Drinking Water and Sanitation Program (PEPAM [*Programme d'Eau Potable et d'Assainissement du Millénaire*]); detailed Local Water and Sanitation Plans (PLHAs [*Plans local d'Hydraulique et d'Assainissement*]); and new investors, including USAID and the AfDB.

There is no single institution or factor responsible for Senegal's success. Instead, a confluence of elements allowed the sectors to overcome key challenges and ensure continuous improvement. Taken together, they can be organized into the following seven lessons:

- Lesson 1: Do your homework.
- Lesson 2: Invest in social dialogue.
- Lesson 3: Define roles and responsibilities of all stakeholders.
- Lesson 4: Recognize the importance of political stability.
- Lesson 5: If privatizing, understand the market.
- Lesson 6: Expect and plan for hidden costs.
- Lesson 7: Sophisticated financial modeling eases decision making.

As the GOS continues its pivot toward the next set of goals, Senegal's challenges moving forward are expected to be: 1) localizing the SDGs; 2) building a national agenda; 3) financing the agenda; and 4) validating and maintaining a decade of data. The GOS has put in place the policies, strategies, and systems expected to advance the sectors toward their goals. As guidance to all policies and strategies, Senegal has created a vision and strategic plan aimed at economic emergence by 2035: The Senegal Emergent Plan (PSE [*Plan Sénégal Emergent*]). Water and sanitation stand as one component of the pillar of this plan.

CHAPTER 1: BACKGROUND

INTRODUCTION

WALIS reflects USAID's latest thinking on achieving transformative improvements in access to clean water and improved sanitation. The project supports national and regional institutions and their development partners to improve the capacity of African water sectors to implement policies, strategies, and plans that will deliver sustainable WASH services that are consistent with the SDGs. WALIS, in collaboration with the African Ministers' Council on Water (AMCOW), is conducting a series of case studies in Africa related to local systems for water supply and sanitation.

Senegal has been selected as one of the case studies to learn from the country's progress in water supply and sanitation service development from 1990 through the end of the MDG era in 2015. With the substantial changes heralded by sector reform and further privatization of the urban water sector, further refinement of urban water management has only improved. Many lessons can be learned by Senegal's approach to asset management and operations of its urban systems, as well as the expansion of this approach to the rural water subsector.

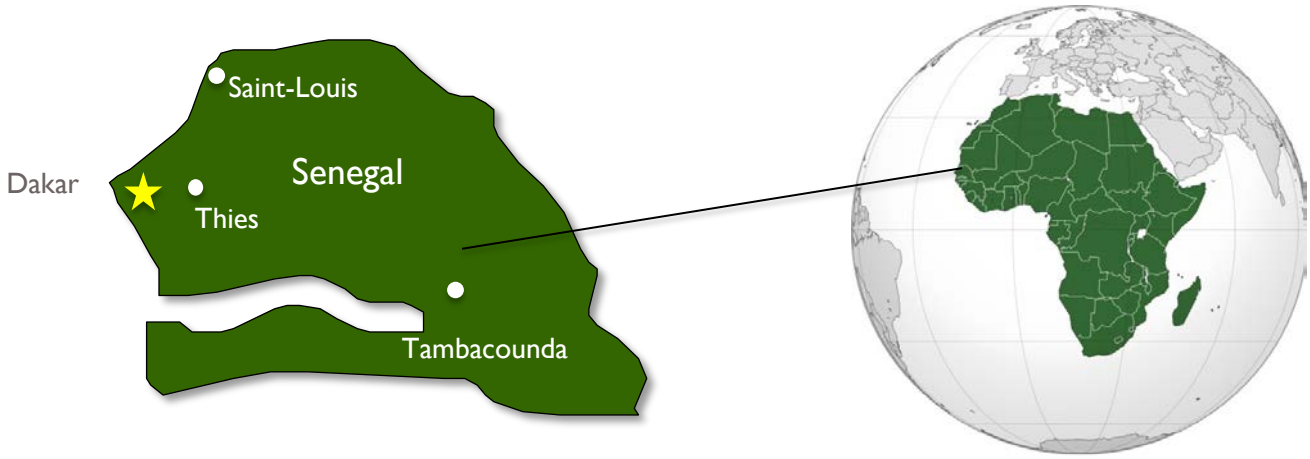
This report shares the lessons learned that contributed to Senegal's achievements and highlights the key challenges and how they were overcome. By describing one country's pathway toward the SDGs, the case study can support Senegal, as well as other African countries, in bringing about the necessary system development to meet the challenging SDG targets.

VALUE OF APPRECIATIVE INQUIRY IN SENEGAL

Utilizing the "Appreciative Inquiry" approach, WALIS examined four countries in Sub-Saharan Africa that developed WASH system components that are sufficient to meet their MDG targets. These components helped countries develop and operationalize far-sighted policies, carefully plan, adopt effective financing strategies, and build innovative monitoring systems that have resulted in evidence-based decisions and helped WASH leaders to lead. This case study is intended to capture the components of the system that enabled Senegal to expand urban and rural water supply access through a combination of major external investment, incremental privatization, rigorous financial modeling, and harmonized monitoring and reporting delivered on a foundation of consensus and social dialogue.

The Senegalese WASH sector was an active participant in the privatization efforts launched globally in the sector in the mid-1990s. The country's urban water supply sector has become a notable success story emerging from many contentious attempts. Multiple countries failed in privatization efforts and fell victim to heavy and visible citizen opposition and governmental rejection. Over two decades, Senegal continually expanded and adapted privatization practice across its urban water sector. The country is currently beginning to adapt lessons and processes from that achievement to the rural WASH sector.

FIGURE 1: SENEGAL MAP



After achieving the MDG target for water supply, the GOS closed its autonomous sectoral coordination mechanism, which was given the mandate and resources to coordinate advancement toward the WASH MDGs. Internalizing it—and several other components previously receiving heavy external support—into governmental operations, the Senegalese WASH sector is in transition. Consequently, the WALIS project's effort to learn from the past and look forward to the options of the future is timely.

As with any effort conducted over multiple decades with significant inputs of expertise and external funding, Senegal's WASH sector achievements have been diligently measured and reported. Reviews of those reports form one aspect of the creation of this case study. They are, however, limited to reporting what was achieved in terms of inputs and outputs. In preparing this document, the authors reviewed those reports, but more importantly held conversations with those who were directly responsible for managing those inputs and delivering the outputs. Through Appreciative Inquiry, the authors asked the sector to reflect on the achievements of the past 20 years and describe how the lessons the sector learned during that time will help the country pivot toward the SDGs. Furthermore, the authors asked how Senegal's lessons could help other Sub-Saharan African countries accelerate access and provision of WASH services for all.

This document is intended to give full credit to those who generated the Senegalese success. This major achievement could not have been completed without diligent and flexible collaboration between those inside and those outside the GOS. There was no model for the Senegalese success, and it is unlikely that it can be repeated in its entirety due to the high levels of investment and expertise it called upon and the unique stability and capacity of the GOS. However, there remains significant merit in relating the challenges that these successful and deeply collaborative partners faced and how they addressed each as guidance to those who face similar challenges.

CASE STUDY METHODOLOGY

Appreciative Inquiry is a research method that:

- Sets out to discover the elements and factors in an organization or system that enabled it to achieve success in the past.
- Builds on those elements and factors to help other organizations or systems create a positive future.

Appreciative Inquiry was used for this review to evaluate country systems and key driving factors that led to the national government's ability to reach MDG Target 7c. Appreciative Inquiry is an approach that allows investigators to move beyond the simple and all-to-common identification of challenges to success or achievement. A much more vital effort, Appreciative Inquiry does not stop at describing the challenges, which is simple to do and not particularly beneficial. Instead, Appreciative Inquiry captures how challenges were met, how messy and complex conditions were addressed, and how lessons from success and failure were adapted into new efforts and management approaches.

RESEARCH QUESTIONS

Any story of national achievement and the system of actors that generated the achievement is multifaceted and potentially complicated if a wide-reaching, multi-sectoral, holistic description is attempted. Yes, all things are connected, but at the operational core of a holistic view are the pathways, processes, policies, and people who advanced each component of the whole. For the effort described in this case study, the authors focused on two primary research questions and four supplemental questions to clearly understand core achievements.

PRIMARY RESEARCH QUESTIONS

- What are the country systems and/or innovations that were most effective in pushing the country toward success during the MDG era?
- What are the self-identified key changes or shifts within the local country system that must be made to achieve SDG Targets 6.1 and 6.2?

SUPPLEMENTAL RESEARCH QUESTIONS

- How did the progress to achieve MDG Target 7c change over time?
- Was there a tipping point or watershed moment during the process?
- What role did technology systems or technological innovation play in the success of the local system?
- What contributing factors or processes can be replicated by other countries to support progress toward SDG 6 targets?

CASE STUDY ORGANIZATION

This case study is organized into five chapters. It does not include information related to sanitation except insofar as it concerned or was related to its achievement of its MDG target for water access. Chapter 1 presents the research methodology used to complete the case study and how the rest of the case study is organized.

Chapter 2 describes the sequence of events and interrelated components (i.e., "the system") that made achievement of the target possible. The chapter is further divided into periods to capture the most salient events that are likely to have contributed to Senegal achieving their MDG target for access to water. At the end of each period, a table captures key challenges and the sector's response to the challenges. Chapter 3 presents the lessons that key actors learned. Chapter 4 contains a description of how the GOS is translating these lessons toward achieving SDG targets. Chapter 5 presents the conclusions drawn from this case study per USAID's Local Systems Framework.

A NOTE REGARDING WASH ACCESS DATA FOR SENEGAL

Throughout the MDG era, there were discrepancies in data and definitions between the GOS and the World Health Organization (WHO)/UNICEF Joint Monitoring Programme (JMP) regarding WASH access. These differences did not generate problems for either party, but they can create confusion in the literature on WASH access.

GOS data was collected and reported by PEPAM. PEPAM figures were based on an annual collection of subnational administrative data and were used for annual planning. PEPAM figures were configured to infrastructure quantities (e.g., the number of boreholes/pumps/systems in place plus the number of new systems built during a reporting year). PEPAM calculations of access/coverage were based on multiplication of customer estimations times the number of infrastructure systems.

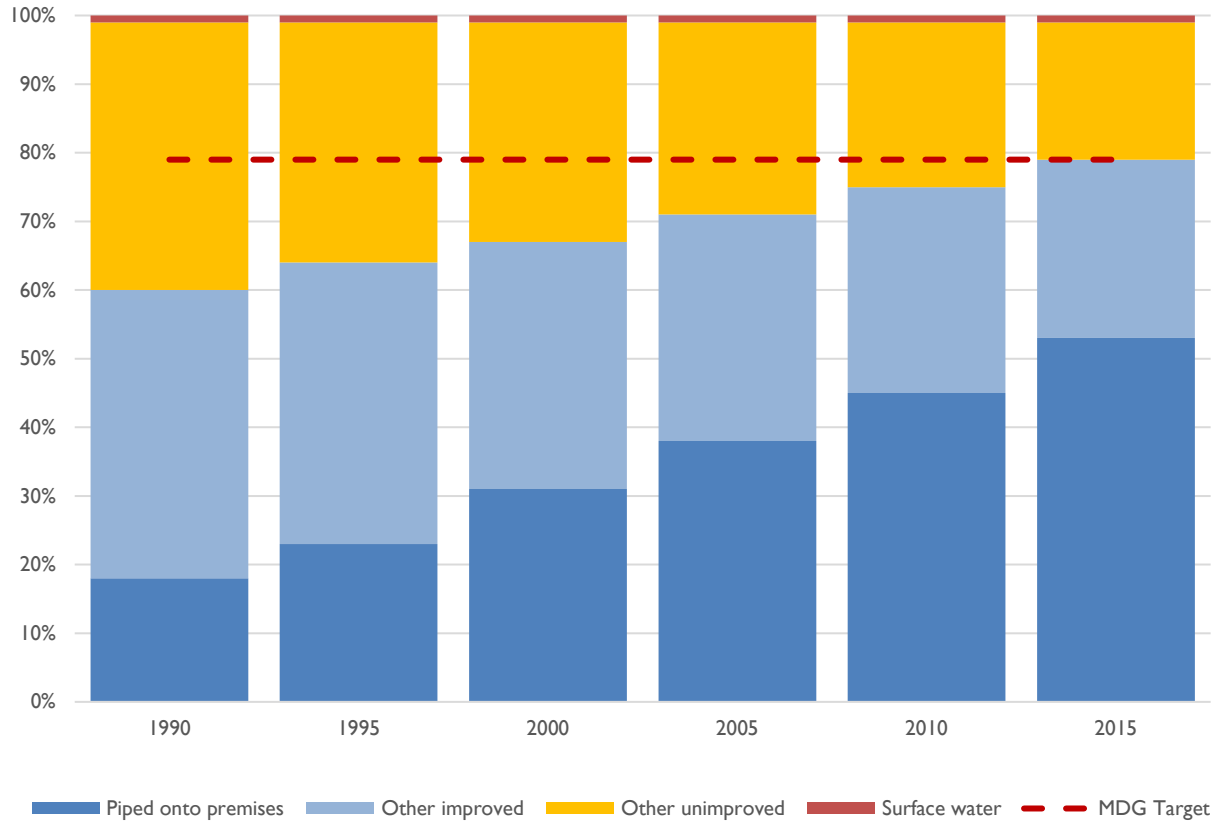
JMP figures were based on two household surveys conducted nationally: The Multi-Indicator Cluster Survey and the Demographic and Health Survey. This approach delivered nationally representative estimates for coverage. JMP data are only collected every five years and are often extrapolated to estimate access coverage in years without a national survey. Therefore, they are less useful for internal, annual governmental planning and prioritization. This case study uses the JMP data and definitions when reporting access data unless otherwise indicated. In 2015, the figures reported by PEPAM and by JMP were very close. Their estimates were within +/- 5 percent of each other.[3]

PERIODIZATION OF WATER AND SANITATION SECTOR PROGRESS IN SENEGAL

This analysis suggests that Senegal's WASH sector has gone through four distinct periods since the establishment of its water ministry in 1988 in response to the global declaration of the International Drinking Water Supply and Sanitation Decade by the United Nations. The dates are indicative, but are framed by the first period just as the CFA franc was significantly devalued in 1994, followed by the start of implementation of the *Project Sectoral Eau* in 1995. The second period was the beginning of institutionalized privatization from 1996 to 1999. Then, a period of refining urban and rural management programs occurred from 2000 to 2004; and thereafter was a period of unified frameworks and investment ramp-up from 2005 until the end of the MDG era in 2015.

[3] Kane, R. (personal communication, 2016). UNICEF.

FIGURE 2: SENEGAL DRINKING WATER TRENDS 1990–2015[4]



[4] WHO/UNICEF. (2015). JMP. (Note: This report was created using the 2015 JMP Country Files, and does not reflect the updates released July 12, 2017.)

CHAPTER 2: MDG ERA IN SENEGAL

Senegal achieved success in surpassing the MDG for water by incrementally improving its investments and establishing a focus a decade before the targets were to be reached. Government and nongovernmental partners accomplished this by building on a foundation of pre-1990 achievements. This foundation created national institutions and a nascent legal structure in the context of structural adjustment agreements signed with the International Monetary Fund. For a majority of citizens, the structural adjustment program tore families apart; left a generation of youth devoid of hope; exacerbated poverty; contributed to drug and alcohol use and abuse, juvenile delinquency, prostitution, and a rise in violence; rural-urban migration; and increased government apathy.[5] This established the overall context for the beginning of the MDG era in Senegal. Institutions were capable, but society was damaged and in need of reform.

Upon independence in 1960, the Senegalese urban water sector was under the private sector management of *Compagnie Générale des Eaux du Sénég*al (CGE Senegal), a subsidiary of multinational CGE France. CGE Senegal operated under a lease contract until it was nationalized in 1971. The resulting state entity, SONEES, focused on water supply and sanitation in urban areas,[6] first as an operator and later for both operations and investment.[7] By 1988, Senegal had established a water ministry in response to the global declaration of the International Drinking Water Supply and Sanitation Decade,[8] promulgated a Water Code, and restructured SONEES as a public service concession,[9] whereby they would develop, operate, and maintain the state's water infrastructure assets while maintaining technical supervision of projects.

To most clearly understand the state of Senegal's water sector in the 1990s, it is helpful to distinguish between financial and technical conditions. Technical standards at SONEES were quite good relative to prevailing conditions in similar African countries. Managers and workers were generally well regarded. SONEES operated competently, but questions remained about the financial sustainability of urban water supply dominated by operations in the capital, Dakar. At that time, the GOS was unwilling to establish cost-reflective tariffs, and SONEES lacked the capacity to collect bills. Public sector customers were particularly negligent in paying accumulated water bills. Then came 1994.

Since 1948, the Senegalese currency, the CFA franc, had been fixed at 50 CFA to 1 French franc. But, in January 1994, it was unilaterally adjusted by France to an exchange rate of 100 CFA to 1 French franc. The devaluation was long predicted, but nevertheless was a shock to Senegalese citizens who saw the prices of household basics, electricity, gas, and transport rise suddenly between 20 and 33 percent.

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5 St. Clair Green, C. (1997). Globalization and survival in the black diaspora.

6 AMCOW, World Bank WSSP, AfDB, & UNICEF. (2011). Water supply and sanitation in Senegal: Turning finance into services for 2015 and beyond.

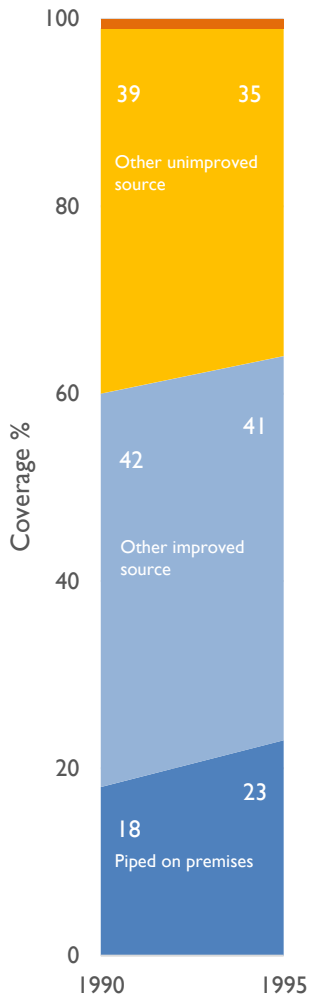
7 Tremolet, S. (2010). Private sector participation in Senegal: A successful "home-grown" strategy?

8 AMCOW, World Bank WSSP, AfDB, & UNICEF. (2011). Water supply and sanitation in Senegal: Turning finance into services for 2015 and beyond.

9 Ibid.

The unfavorable effects of the devaluation, particularly loss of purchasing power, were most keenly felt in urban areas and compounded the negative impacts of the previous decades' structural adjustment program. Within a month, rioting occurred in Dakar, with six policemen lynched by mobs, the university closed as teachers went on strike, and random violence heightened worries about personal safety. In the water supply sector, international donors were only willing to provide financing if a private sector supply operator had the power to improve management and operational efficiency while stabilizing investment management.[10] A Steering Committee composed of the ministers of government entities concerned with water supply and sanitation began analyzing reform options. As Senegal's liquidity crisis worsened, the government sought to end their investment in parastatals, improve their efficiency, and prepare them for privatization by negotiating performance contracts that clarified mutual obligations. However, this initially proved to be ineffective, because the government routinely defaulted on its financing obligations and supervision was poor. By the mid-1990s, these performance contracts had been abandoned, and though there were examples of divestiture, no major public enterprise had been privatized. Reform was urgently needed, and a high-profile and successful privatization transaction was needed.

FIGURE 3: SENEGAL DRINKING WATER TRENDS 1990–1995



Data sourced from the WHO/UNICEF JMP.

1990–1995: SETTING THE FOUNDATION FOR PRIVATIZATION

A World Bank supported investigation by the GOS of water sector privatization experiences in Côte d'Ivoire, Guinea, and the Gambia and supported participation of government specialists in exchanges to these countries. Following an economic contraction of 2.1 percent in 1993 and the 1994 devaluation, the Senegalese economy posted gross domestic product growth of 2.9 percent in 1994 and more than 5 percent the following year.[11] Despite this, SONEES was still unable to pay suppliers for goods and services, and they did not have the funds to make investments to improve operations or conditions. The GOS concluded that significant sector reform was necessary to establish a new system structure that could independently invest in improvement, upkeep, and expansion of the system without GOS financial support.[12] In this context, urban water supply delivery was, through a careful and systematic process, handed back over to private sector management.[13]

[10] Tremolet, S. (2010). Private sector participation in Senegal: A successful "home-grown" strategy?

[11] GOS. (2002). *Poverty Reduction Strategy Paper (PRSP)*.

[12] Jammal, Y., & Jones, L. (2006). *Impact of privatization in Africa: Senegal water*.

[13] Brocklehurst C., & Janssens, J. G. (2004). Innovative contracts, sound relationships: Urban water sector reform in Senegal.

Relying on technical guidance from the World Bank's Water Supply and Sanitation Project (WSSP), the GOS conceptualized and operationalized the new system structure with a clear priority on the urgent and acute needs of urban populations. Key features of the reforms included:

- Establishing separate organizations and management frameworks for sewerage and urban water.
- Launching public-private collaboration under a 10-year *affermage* contract.
- Incorporating regulation and tariffs into the contract.
- Using a sophisticated financial model to guide investment and service decisions.
- Linking reforms to major external investment in the water sector.

TABLE 1: OVERCOMING CHALLENGES WHEN SETTING THE FOUNDATION FOR PRIVATIZATION

KEY CHALLENGES	OVERCOMING THE CHALLENGES
World Bank and the GOS needed to agree on an arrangement of contracts, incentives, and institutions.[14]	• In 1994, the government created a Steering Committee of the ministers of each government agency concerned with water supply and sanitation, including the Ministry of Finance as chair, the Ministry of Hydraulics, the Ministry of Industrial Development, the office of the President, and the office of the Prime Minister. • This committee analyzed reform options against sector weaknesses. • In July 1994, the committee concluded that SONEES should be dissolved, that a State Asset Holding Company should be formed to retain the assets and the right to extract water, and that an operating company should be created to produce and distribute water in urban locations. • The operating company was to be run by a private professional operator that would own at least 51 percent of it. The other 49 percent would be owned by Senegalese investors, former SONEES personnel, and the GOS. • The committee also recommended that tariffs be structured to ensure financial sustainability, and that reform would have a "social dimension," including retention of all SONEES staff.[15]
Initially within the GOS there was substantial opposition to privatization and a failed attempt at privatization in the energy sector. The government needed to explore this new field and create a form of privatization that would allow for learning and adjustment.[16]	• World Bank and the GOS commissioned a series of case studies that compared three countries in the region where the private sector had been brought into the water sector. Fact-finding missions were carried out in April and May 1994, and the lessons were documented in August.[17]
Analysis of financial scenarios was critical to reform planning, but models did not exist and were not used by the GOS.	• With World Bank and AfDB support, a flexible financial model was created that allowed planners to simulate the sector and determine outcomes in a variety of scenarios.

[14] Brocklehurst C., & Janssens, J. G. (2004). Innovative contracts, sound relationships: Urban water sector reform in Senegal.
[15] Ibid.
[16] Ibid.
[17] Ibid.

KEY CHALLENGES	OVERCOMING THE CHALLENGES
	• The financial model was created by Ernst & Young to plan for financial viability and to track the progress of the urban water utility toward it. Financial viability was defined as the financial "equilibrium" of the utility: The point at which the accumulated cash deficit was zero and a sustained cash surplus was generated.[18] • The model, because it was later used in annual tariff analyses, has "proved to be one of the major elements contributing to the success of the reform process."[19]
GOS plans needed to be both ambitious and realistic, so there was a need to synchronize governmental decisions with external funds and priorities of donors.	• World Bank showed flexibility by acknowledging: 1) that "champions" of the reform process within the GOS would not be able to continue if credit was not available; and 2) that it would have been difficult to attract private sector operators if a source of financing for augmentation of supply was not available. • This level of financial risk is one that World Bank is seldom willing to accept, however, such demonstrations of realistic flexibility in support of governmental needs was one of the aspects that led to a successful process.[20]

World Bank, AfDB, and several other donors began to support pilot reforms by funding the *Projet Sectoral Eau Urban* from 1995 through 1996 with the objective of injecting a large amount of funding as a response to a critical water shortage in Dakar. Through a loan from the French Government, private sector operator SAUR was engaged to operate the system, and Ernst & Young was engaged to establish the financial and legal content of contracts. This finalized agreement effectively marked the beginning of the MDG era in Senegal.[21]

Dakar, Senegal

While specific urban reforms were being operationalized, general reforms occurred in the rural water supply sector with the introduction between 1984 and 1998 of a management system based on cost sharing. It was the first step in the government's withdrawal from the installation, operation, and maintenance of rural water supplies, and it was implemented in accordance with commitments made in various structural adjustment programs. From this time forward, rural users would be empowered as a

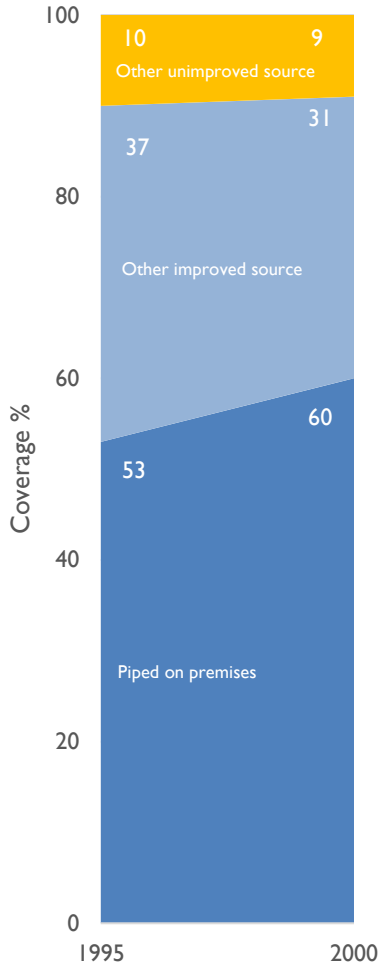
[18] Brocklehurst C., & Janssens, J. G. (2004). Innovative contracts, sound relationships: Urban water sector reform in Senegal.
[19] Ibid.
[20] Ibid.
[21] Tremolet, S. (2010). Private sector participation in Senegal: A successful "home-grown" strategy?

management committee to cover direct operating costs (i.e., fuel/power and personnel/drillers and plumbers) of their system separate from GOS direct involvement.

1996–1999: BEGINNING OF INSTITUTIONALIZED PRIVATIZATION

Dakar's two million inhabitants faced a water shortage estimated at 100,000 cubic meters per day in 1996; a problem compounded by poor drinking water quality, intermittent supply, and low coverage. The objective of the next stage of sector reform was to increase urban water supply through substantial external investment combined with private sector incentives. That year saw significant, controversial governmental reform and contracting of a private operator to manage urban supplies. After staff staged strikes and sit-ins in front of the National Assembly, SONEES was dissolved into three separate entities with individual mandates.

FIGURE 4: URBAN DRINKING WATER TRENDS 1995–2000



Data sourced from the WHO/UNICEF JMP.

URBAN WATER SUPPLY

Donors made their investments conditional on the introduction of a private sector operator. SONEES staff negotiated an agreement that the number of employees would not be reduced and the private operator would be required to meet performance targets. A 10-year *affermage* contract[22] was signed between the GOS, the National Water Company of Senegal (SONES [*Société Nationale des Eaux du Sénégal*]), and Senegalese Water (SDE [*Sénégalaise des Eaux*]) for monopoly operation of water service within the SONES perimeter of operation. As an annex to the *affermage* contract, SONES and SDE agreed to an additional performance contract covering loss reduction, bill collection, water quality, and customer service.[23]

With reforms in place, World Bank was ready to provide ongoing technical support to the GOS and aggregate significant funding for the sector. The Senegal Water Sector Project, which cost $290 million, was co-financed by the AfDB and European Investment Bank; 80 percent of the budget ($230 million) was used to rehabilitate the Ngnith treatment plant and increase the capacity of pipelines, boreholes, and storage. By its completion in 2004, the project would: 1) refine a public-private partnership framework; 2) expand coverage of water services in the Dakar region; 3) reduce unaccounted for water; 4) institutionalize systematic monitoring and regulatory tools;

[22] In an *affermage* contract, the private operator is responsible for operations and maintenance and holds limited investment obligations. The public sector maintains responsibility for major rehabilitation and new investments, helping to mitigate risk (see Annex A for more details).

[23] Tremolet, S. (2010). Private sector participation in Senegal: A successful "home-grown" strategy?

and 5) increase tariffs annually through a participatory process that strengthened the financial viability of the water sector and avoided public backlash.[24]

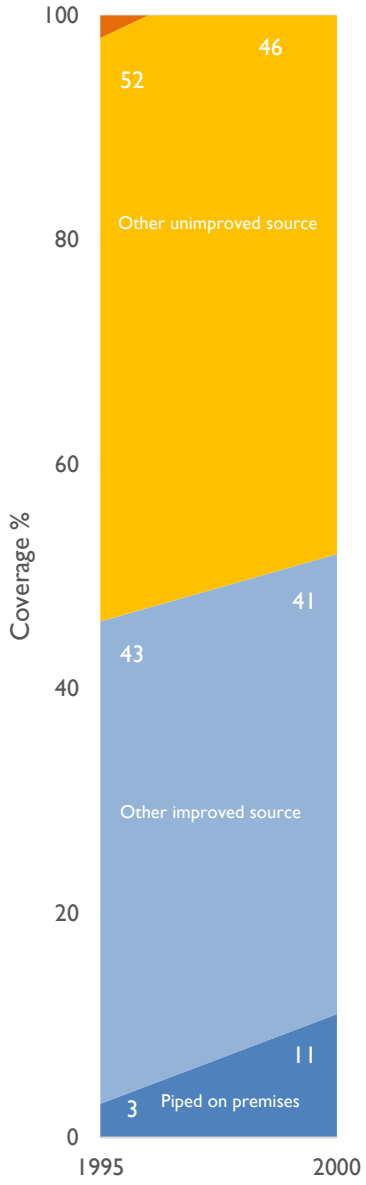
RURAL WATER SUPPLY

As early as 1985, the GOS invested not in simple dug wells and hand pumps, but rather in relatively sophisticated motorized boreholes, elevated storage tanks, and distribution networks in rural areas. To handle overall system management, the GOS established the Directorate of Operations and Maintenance (DEM [*Direction de l'Exploitation et de la Maintenance*]) within the Ministry of Water and Sanitation and gradually introduced community-based management committees to run the systems on a day-to-day basis. Users made financial contributions, and DEM focused its support on maintenance.

Beginning in 1996, the principles of delegated management under contract agreement were applied to create a more professional rural management system, which was piloted under the Management Reform of Motorized Rural Boreholes (REGEFOR [*Réforme de la Gestion des Forages Ruraux Motorisés*]) project[25] in the regions of Diourbel, Kaolack, Fatick, and Thiès.[26] Newly delegated volunteer managers in the Borehole Users' Association (ASUFOR [*Association d'usagers de forage*]) were entrusted with borehole management and sale of water by volume on behalf of the state under a fixed-term operating license authorized by DEM, and accounting for ring-fenced revenues in dedicated bank accounts. This new reform was based on a set of core principles:

- Replacing management committees with ASUFORs—legally recognized through new administrative and regulatory arrangements.
- Establishing a mechanism for the sustainable financing of operation and maintenance, and covering operating costs through volume billing and installation of meters.
- Involving the private sector through delegated maintenance of electromechanical equipment.

FIGURE 5: RURAL DRINKING WATER TRENDS 1995–2000



Data sourced from the WHO/UNICEF JMP.

[24] World Bank Independent Evaluation Group. (2015). *Project performance assessment report Senegal: Long-term water sector project and supporting access to on-site sanitation services through output-based aid scheme*

[25] Diallo, O. (2015a). *Levers of change in Senegal's rural water sector*.

[26] Ba, S. (personal communication, 2016). DH.

- Refocusing DEM on: 1) control and monitoring; 2) programming; 3) rehabilitation of infrastructure older than 10 years; 4) increasing and measuring access; and 5) training and building the capacity of actors involved in the technical and commercial management of rural water supply systems. This pilot effort continued until 2005.

TABLE 2: OVERCOMING CHALLENGES WHEN INSTITUTIONALIZING PRIVATIZATION

KEY CHALLENGES	OVERCOMING THE CHALLENGES
Contracting to formalize relationships and obligations.	• SONES, as the state asset-holding company, was authorized to manage the sector through a 30-year concession contract signed with the government. • SONES also signed a sector development contract that outlined its investment obligations. • An *affermage* contract was signed between three parties: 1) the GOS; 2) SONES; and 3) SDE. • SDE also signed a performance contract with SONES that was renewable every 5 years after the first 10 years and required review of performance targets every 2 years.
Localizing an *affermage* contract by incorporating investment obligations, reducing unaccounted for water, and improving billing and fee collection.	• The contract designed for Senegal incorporated incentives for targets for two important parameters: 1) leakage; and 2) bill collection. • The operator's remuneration consisted of two parts: 1) the bid price applied to the amount of water sold; and 2) the average tariff as applied to the difference between the actual amount of water sold (based on the actual efficiency and collection) and the target amount. The operator thus realizes the full financial value of any gain or loss resulting from failure to achieve or out-performing targets.[27]
Building understanding of the institutional structure and contracts through social dialogue.	• World Bank played a pivotal role in facilitating and moderating a series of workshops and capacity-building events that formed an integral part of rolling out reforms.
Leveraging private sector finance.	• There were two types of private finance that contributed to water sector reform: 1) finance from the operator in the form of investment in the network; and 2) a commercial bank line of credit to assist with SONES' management of cash flow.

2000–2004: REFINING URBAN PRIVATIZATION AND RURAL MANAGEMENT

In 2002, the GOS completed its first Poverty Reduction Strategy Paper (PRSP), which acknowledged the need to benefit the entire Senegalese population by meeting its identified needs. A pillar of the PRSP was the commitment to a "participatory and decentralized approach to the steering, execution, and monitoring and evaluation of programs to ensure rapid responses and transparency."[28] This commitment became central to water sector progress for the next 14 years.

[27] Ba, S. (personal communication, 2016). DH.
[28] GOS. (2002). *PRSP*.

The immediate focus of the GOS was on large-scale improvements in population centers to increase the availability of water from 28 liters per capita per day to 35 liters per capita per day by 2010. Rural efforts continued to focus on motor-driven boreholes with multi-village distribution networks for villages with more than 1,000 inhabitants not served by traditional supply systems. In urban and peri-urban areas, the GOS focused on installation of social connections for drinking water. These strategies were adopted to control demand by organizing delivery for satellite villages within a radius of 5 kilometers around the borehole, installing distribution networks with appropriate storage facilities and interconnection of the boreholes, installing and promoting measures to maximize equity and economic benefits of water investments, and standardizing maintenance of structures and facilities. To best manage these parallel strategies, water supply and sanitation, previously entrusted to the Ministry of Mines, Energy, and Water, was divided between two ministries in 2003, one for rural and the other for urban water supply.

With water supply and sanitation prioritized in the PRSP, World Bank expanded its lending to support a rapid increase in urban water access through the Long-Term Water Supply Project, which prolonged the activities of the PSE through 2008. Through these two projects, the government and development partners—led by World Bank—had made a total investment in urban water supply improvements of $450 million.[29] Under these urban and rural works, the national pattern of water sector privatization under strict government contracting was established.

2005–2015: UNIFIED FRAMEWORKS AND INVESTMENT RAMP-UP

A new program framework was set up in 2005, which was aimed at increasing water supply and sanitation access in rural areas with a clear focus on MDG Target 7c. To do this, it was necessary to improve rural access to drinking water from 64 percent in 2005 to 82 percent in 2015, and to supply 2,315,000 people with improved drinking water supplies per GOS data.[30]

Lessons learned in rural areas under the pilot phase of the REGEFOR project convinced the government to generalize the approach across the whole country with the help of the World Bank WSSP. Around mid-2007, DEM would disengage from its maintenance and rehabilitation activities, which would be taken up by ASUFORs. As a result, user associations would manage or contract the private sector management of boreholes. Nongovernmental organizations (NGOs) would provide support and training. Development partners would be invited by the GOS to insert their interventions into a unified intervention framework. The government would:

- Implement the Water Supply and Sanitation Public Service Law, organizing the Public Service of Drinking Water and Sanitation in Senegal that institutionalized the principles of delegated management and contract agreements[31] and provided guidance on pricing of water supply and sanitation services.

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[29] International Water Association. (2013). *Mapping human resource capacity gaps in the water supply and sanitation sector: Country briefing note, Senegal*.

[30] GOS. (2016). *Ministére de l'Hydraulique et de l'Assainissement Hydraulique Rurale: Revue sectorielle conjointe.*

[31] AMCOW, World Bank WSSP, AfDB, & UNICEF. (2011). Water supply and sanitation in Senegal: Turning finance into services for 2015 and beyond.

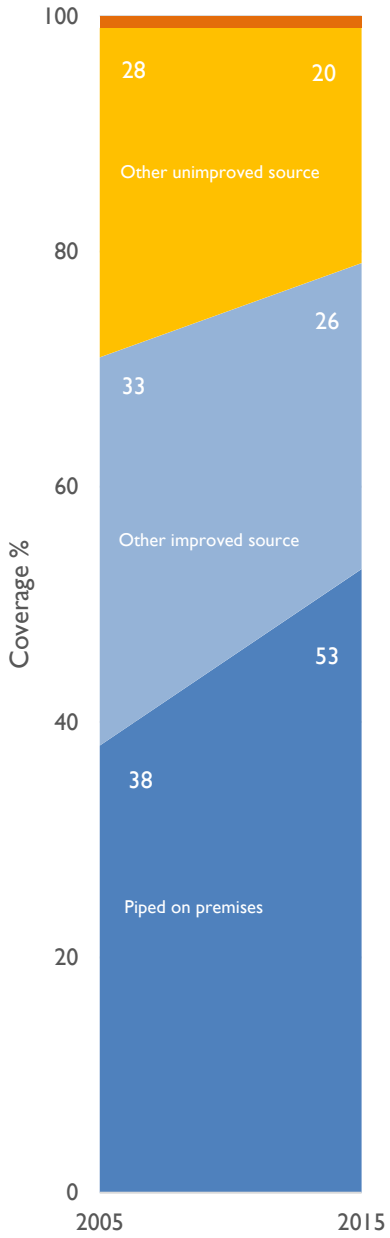
- Involve the private sector in the technical and commercial operation of rural water supply structures and equipment.
- Establish a new governmental entity to supervise the rural water sector, including programming rehabilitation investments, and privatizing technical and commercial management of rural water systems.
- Regulate relationship between private operators, the ASUFORs, and consumers.

An updated PRSP was issued in 2007, which was grounded explicitly in a long-term (2015) vision centered on the MDGs. It described the significant expansion of urban access to water and attributed the success to "the ambitious programs of subsidized service connections (*branchements sociaux*) executed by SONES."[32] In the rural sector, access to drinking water also increased, though less significantly than in urban locations. The GOS and its partners determined that implementing these reforms would benefit from a coordination and financial management organization with a mandate directly related to the MDGs. The government's Sectoral Policy Letter for Urban and Rural Water and Sanitation for the 2005–2015 period was the basic instrument guiding the launch of PEPAM.[33]

ROLE OF PEPAM

PEPAM was specifically set up collaboratively by the GOS and World Bank as a programmatic framework for achieving the MDGs. Its specific mandates were to: 1) establish and meet targets for access before 2015; 2) define an investment program; 3) federate and drive all sector initiatives; and 4) coordinate roles and responsibilities among multiple implementation agencies. These mandates were undertaken under the leadership of the PEPAM Coordination Unit, which coordinated activities, managed administration and finances of the program, directed donor financing, monitored crosscutting issues, and oversaw operational, administrative, and financial monitoring and evaluation (M&E) of sector programs.[34]

FIGURE 6: SENEGAL DRINKING WATER TRENDS 2005–2015



Data sourced from the WHO/UNICEF JMP.

[32] GOS. (2006). Poverty reduction strategy paper II (PRSP II). *International Monetary Fund Country Report No. 07/316.*

[33] Sakho-Jimbira, M. S., Hathie, I., Wade, I., Niang, A., & Niang, M. M. (2015). Measuring sustainable development for post-2015 in Senegal.

[34] AfDB Group/Senegal. (2014). *Water and sanitation sector project.*

It is important to note that PEPAM was established outside of normal government channels as a program to end its operation upon completion of the MDG era.

PEPAM's efforts focused on: "1) preserving and improving the results of previous urban water improvements; 2) intensifying the development of rural water facilities; 3) increasing accountability and participation of direct stakeholders (i.e., local authorities, end users, the private sector); 4) improving synergy between sectors (waterworks, decentralization, sanitation, energy, health) and technical performance and control of infrastructure costs; 5) strictly managing water resources; and 6) creating mechanisms to ensure long-term financial equilibrium of the public water service."[35]

To fulfill its multiple mandates, PEPAM created a unified intervention framework with common rules and tools for all sector actors. Implementing agencies under PEPAM were expected to adhere to the framework and report standardized data to PEPAM, which maintained a comprehensive database of waterpoints and functionality. The framework is described in detail in Chapter 4.

NEW ROLES FOR LOCAL AUTHORITIES

Under more generalized decentralization efforts, local authorities—urban communes and rural communities—were given responsibility for local planning and contracting authority for small- and medium-scale water and sanitation projects in collaboration with central and regional state technical departments. As far as their limited resources allow, they ensure that investments in their localities are aligned and conform to planning requirements. To help organize their planning and align it with the PEPAM framework, an innovative effort was contracted to prepare detailed PLHAs, which applied a standardized method for consultants and communities to carry out a situational analysis and review of infrastructure. The PLHA was conducted as part of comprehensive local development planning, which firmly grounded its preparation in ongoing participatory processes.[36]

NEW MAJOR INVESTORS

With the establishment of PEPAM, new investors came to the sector, including USAID and the AfDB. USAID invested in solutions for the most disenfranchised population, and AfDB's investment magnified previous achievements. In 2005, AfDB obligated approximately $37 million for five years of support to: 1) improve coverage of household drinking water and sanitation services in 240 rural localities in Louga, Ziguinchor, and Kolda; and 2) improve the supply of community sanitation services in 64 out of 114 rural communities in the three regions.

In 2009, the AfDB continued its high level of investment in the sector through a loan of $44.76 million for a five-year effort focused on:

- Drilling 35 boreholes, including 30 for multi-village supplies.
- Rehabilitating 21 existing boreholes.
- Constructing 41 water towers.

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[35] GOS. (2006). *PRSP II*.
[36] Ibid.

- Extending reticulated networks on 58 sites.
- Establishing 10,000 social connections.
- Installing 290 production meters and 2,035 distribution meters.
- Constructing latrines at 400 schools and health centers and for 11,000 families.

TABLE 3: OVERCOMING CHALLENGES TO RAMPING UP SERVICES

KEY CHALLENGES	OVERCOMING THE CHALLENGES
The need to clear accumulation of arrears from public sector water customers' non-payment did not disappear with the shift to privatization.	The GOS implemented, through time-bound action plans, corrective measures to reduce public sector water usage, budget for payment of agency consumption, and pay water bills within two months of notification of arrears. Currently, the GOS is one of the few regional governments that pays its water bills.[37]
Flexibility for ongoing tariff adjustment.	Progress toward financial equilibrium has been maintained because the GOS and donors remained committed to ensuring that the cost of providing water was balanced against price. Using a non-political financial model annually in stakeholder forums, the GOS could gradually increase tariffs without social unrest.
Communication and trust for unanticipated performance adjustments.	During urban operations, performance targets required adjustment as new information became available to the contractor. The flexible, but strong contractual relationship facilitated renegotiation that satisfied all parties and enabled uninterrupted progress.[38]

REGIONALIZING RURAL WATER SUPPLY MARKETS

It was clear to the GOS and its donor partners that ASUFORs were central to the robust expansion of access to the rural water supply. In 2009, the WSSP turned its collaboration with the GOS to more effectively organize DEM's ability to oversee the provision of operation and maintenance services for rural water supplies via ASUFORs and private specialists. Together, they divided the country into three zones with attention to creating large water markets within each zone. Zoning was introduced to attract larger, more capable local private operators, and at the same time establish competition benchmarks.[39]

Zones were organized around groups of 100 to 150 water systems supervised by regional DEM brigades. After initially transferring borehole and network maintenance to the private sector, while keeping production in the hands of ASUFORs, in 2012 the private sector options were expanded to include water production and providing operation and maintenance services for clusters of rural systems through public-private partnerships captured in lease contracts, beginning with three pilots. As part of these feasibility studies, the public sector was repositioned through the creation of a national asset-holding agency that replaced ASUFORs as the contracting authority and gained legal status in 2014.

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[37] Brocklehurst C., & Janssens, J. G. (2004). Innovative contracts, sound relationships: Urban water sector reform in Senegal.

[38] Ibid.

[39] Diallo, O. (2015a). *Levers of change in Senegal's rural water sector.*

This new entity, the Office of Rural Boreholes (OFOR [*Office des Forages Ruraux*]) replaced DEM[40] and paved the way for regional, rural private sector operators with a focus on professionalizing the ASUFORs. OFOR was established as a public corporation to own, manage, rehabilitate, and delegate rural water supply assets across the country on behalf of the GOS. It was created as a reflection of the urban water asset-holding company (SONES) with similarities and differences to that mature institution:

Typical Motorized Borehole with Distribution Network

- **SIMILARITIES:** Both SONES and OFOR are asset-holding agencies and contracting authorities on behalf of the GOS. Both follow GOS-approved financial models to forecast business operations and growth while maintaining financial balance and achieving long-term self-sufficiency. Private operators manage operation and maintenance and rehabilitation of small infrastructure.

- **DIFFERENCES:** SONES works in urban centers with a single operator (SDE) to cover 66 centers (6 million people). OFOR will contract several operators to manage 1,500 programs split into three rural zones (7.5 million people). SONES is responsible for implementation of its investment program; whereas for OFOR, this is expected to remain the responsibility of the Directorate of Water (DH [*Direction de l'Hydraulique*]) in the Ministry.[41]

The primary factors that contributed to the success of two decades of reform and strengthening of the urban and rural water sectors can be summarized as follows: 1) the use of a particularly appropriate form of contract; 2) strong political will and good leadership within the government; 3) a well-designed and executed process; 4) the availability of reliable resources; and 5) flexibility and innovation when it was needed. The lessons learned from each are presented in Chapter 3.

[40] Diallo, O. (2015b). *Open for business: Senegal's rural water and urban sanitation sectors leverage private sector participation to improve service.*
[41] Diallo, O. (2015a). *Levers of change in Senegal's rural water sector.*

CHAPTER 3: LESSONS LEARNED FROM THE MDG ERA

20-YEAR THREAD: PRIVATIZATION THROUGH SOCIAL DIALOGUE, FINANCIAL MODELING, AND FLEXIBLE CONTRACTING

Water privatization in Senegal is an example of how privatization can work for the betterment of the urban poor if it is planned, resourced, and executed with understanding and consistent attention to the needs and interests of all governmental and nongovernmental stakeholders. In Senegal's experience, privatization and its requisite institutional reforms have delivered significantly better services and financial health for the sector without the social disruption so commonly seen when drinking water services have been privatized. In both rural and urban locations, the amount of water supplied has increased, and more customers are using the service. Consumers experience more efficient response to issues, more flexible hours of service, and improved water quality. The supply systems are better run, with lower water losses and higher bill recovery. Both the private operating company and the state asset-holding company are healthy organizations, and their working relationships are good.[42] Donor investment has become less important due to improved commercial operation and the government's capacity to manage contracts and regulatory oversight.

There is no single institution or factor responsible Senegal's success. Instead, "a combination of factors created a virtuous circle of mutual understanding to deal with unforeseen events and circumstances and contributed to the stability of the arrangements."[43] These factors are presented in this chapter and placed in the context of Senegal's progress toward the SDGs in Chapter 4.

LESSON 1: DO YOUR HOMEWORK

LEARN THE LOCAL SITUATION BEFORE DOING, THEN PLAN, THEN ACT

In 1995, before undertaking infrastructure improvements or institutional reform, the GOS and partners invested time and treasury to establish a clear understanding of the current status of all parameters of concern by geography. This resulted in a set of defensible data on which stakeholders could agree before actions were planned or undertaken. In Senegal's case, this was an investment of six months of intensive, contracted specialist support used to identify options, priorities, and an investment plan. Resulting PLHAs characterized gaps and needed investments, and they included options and detailed costing information. Two examples of the cost of such homework were the creation under contract of seven PLHAs in standard format and using standard definitions and information collection forms for 26 million CFA (~$41,000) and 10 plans under a separate contract for 38 million CFA (~$62,000). These were highly useful to both central decision makers and local leaders due to the extent of stakeholder input, and they were made available on the PEPAM website.

In addition to conducting these new studies, it proved similarly valuable to acknowledge the initial conditions in the institutions anticipated for reform. For example, from the technical side, it was important to know that SONEES was relatively well run before reform planning was conducted. With this knowledge, reformers knew that technical people were available to SDE from the start, and there

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[42] Brocklehurst C., & Janssens, J. G. (2004). Innovative contracts, sound relationships: Urban water sector reform in Senegal.

[43] Tremolet, S. (2010). Private sector participation in Senegal: A successful "home-grown" strategy?

was no need to invest heavily in the pool of capacity. This freed up reformers to focus on the less-robust financial management of the sector.

The reform benefited from good timing in terms of the attitudes of the international community. The mid-1990s was the peak of donors' enthusiasm and this helped Senegal get the critical hundreds of millions of dollars that helped make the reform possible. At this generally conducive time, primarily the GOS, World Bank, and AfDB, invested time, effort, and resources—at the beginning—in "doing their homework" to be positioned to establish a clear goal, learn from other countries, and integrate that learning into each step along the pathway to meet the goal.

Finally, it is often said that policy change comes from crisis. In the case of Senegal's water sector, this was proven true. The 1994 CFA devaluation, which halved the value of the country's currency forced the government to take, and stakeholders to accept, reforms that would not have been possible in a more stable environment.

LESSON 2: INVEST IN SOCIAL DIALOGUE

ESTABLISH FUNCTIONING RELATIONSHIPS OF TRUST AND COOPERATION

In Senegal's first PRSP, the national concept of social dialogue was introduced and defined: "…the President of the Republic defines the thrust of social dialogue as the qualitative change of the existing system of professional relationships handed down from the colonial era and the promotion of new types of behavior, attitudes, and working relations that can ensure greater consistency with the new development paradigms. Social dialogue is both an end and a means in any development process, and will contribute to meeting the challenges of the day, namely: poverty, productivity, investment, growth, and employment." Ongoing, collaborative social dialogue is uniformly identified in interviews and documentation as a fundamental reason for the success of privatization in the water sector in Senegal.

Establishing a climate of trust and cooperation among the various key actors made Senegal's reform consistent, incremental, and robust. The good relations between the actors in the reform system enabled them to flexibly create solutions to unforeseen occurrences that took advantage of the spirit of the contract rather than simply its text. Even consumer advocacy groups and labor unions were involved in the process, with the former having a seat on the SONES board. To keep this spirit alive over two decades, the GOS, with the help of World Bank, organized a series of seminars designed to keep all stakeholders informed and provide a forum for legitimate concerns to be aired and dealt with. Joint Annual Reviews were critical forums for accountability and consensus-based planning. The most recent was held in 2016.

Constant and open dialogue engaged the entire system and actors' strengths and generated political commitment, stakeholder ownership, and strong internal leadership. The sector policy letter contributed by defining the roles and responsibilities of each actor. Strong and competent leadership from the relevant ministry was present throughout the reform process, and there was little, if any, interference from other parts of the government. World Bank and the other donors involved understood and appreciated the position of the government on certain aspects of the reform, and demonstrated flexibility. All of this came together in the design and implementation of a unified framework and monitoring system under PEPAM and its adaptation under OFOR.

Positive relationships are usually formed between people, rather than with an organization, and therefore the process benefited from the stability of people in positions of decision-making authority. But, after 20 years of reform and multiple changes of heads at governmental bodies, the fact that this collegiality remains demonstrates that the success of the reforms was not purely dependent on the people in place.

LESSON 3: DEFINE ROLES AND RESPONSIBILITIES OF ALL STAKEHOLDERS

USE POLICY, REGULATION, AND CONTRACTING AS DEFINERS

Throughout the two decades of water sector reform, the institutional policy framework was incrementally restructured to update and specify responsibilities between entities. This served to provide the stability and confidence needed for greater private sector participation.[44] As described above, each restructuring emerged from stakeholder consensus and was a core of Joint Sector Reviews. In contrast, regulation and contracting were intertwined.

Conventional wisdom is to have an independent regulatory body within government. Senegal has no water and sanitation regulatory authority; both sectors are regulated via contracts.[45] In the context of open collaboration, described as Lesson 2, the fact that the regulatory framework was built into contracting has been viewed as a strong point. It was not necessary to establish an independent regulator before reform could take place; it created an opportunity for negotiation between equals; and it includes a provision for an independent "*conciliateur*" to reconcile conflicts and facilitate negotiation of shared solutions. They have not avoided problems with regulation, instead they solve them in a non-standard way, taking advantage of the healthy trust that emerged from consensus building and homework.

But, this flexibility necessitated equal investment in coordination. To this need, PEPAM was built applying its unique framework, generating uniform acceptance from donors and government, but remaining as an independent entity outside of government. This arrangement worked during the decade in which PEPAM was provided with resources and authority. What is being seen now is that CCSPEA, PEPAM's replacement entity, is on less-secure footing. No consideration was given to business planning for the organization after the expiration of external funding. It has been incorporated into government, but has not yet achieved stability or visibility at the ministerial level.[46] Donor funds, particularly the significant Chinese funding for 2017–2018, is moving outside of CCSPEA, and it is struggling to maintain the quality and quantity of its skills in monitoring field programs and managing data. As OFOR gains its national footing, the continuing success of combining contracting and regulation to implement policy and the coordination roles of CCSPEA should be monitored.

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[44] Ndaw, M. F. (2016). *Private sector provision of water supply and sanitation services in rural areas and small towns*.

[45] Diallo, O. (2015a). *Levers of change in Senegal's rural water sector*.

[46] AMCOW, World Bank WSSP, AfDB, & UNICEF. (2011). Water supply and sanitation in Senegal: Turning finance into services for 2015 and beyond.

LESSON 4: RECOGNIZE THE IMPORTANCE OF POLITICAL STABILITY

EXTERNAL INVESTMENT FOLLOWS CONSISTENCY OF VISION

Senegal gained independence in 1960 and has benefited from political stability since that time. In 2000, it was the first West African country to undertake a smooth democratic transition. The new president made no effort to change existing arrangements in the water sector due to the success and consensus around urban privatization, instead he used a strong SONES to speed the delivery of social connections and gain political capital. The minister in charge of hydraulics, a senior member of the cabinet, felt confident enough to make difficult decisions, because he was looking at the reform as a crowning achievement. Subsequent reliability of public funds was a requisite for operationalization of the *affermage* contract and enabled limited annual tariff increases while avoiding social and political disruption. Taking advantage of the presence of stable and engaged political leaders, World Bank focused early on bringing the most respected "elders" of the water sector into the reform process. This was not exploitative, but instead built on West African traditions in which a small group of respected elders are called on to give their opinions and settle disputes, not simply through unidirectional judgments, but by force of their arguments and the respect they receive.

Only within a stable political system was it possible to create financially transparent and technically competent asset-holding units on the scale of operation seen in Senegal. SONES is a well-resourced organization able to retain highly skilled staff necessary to advance a complex and flexible privatization program. The same water minister remained in place from 1992 until 2000 providing full and consistent backing to the reforms. PEPAM was well-funded and professionally staffed for its decade of operation. Visiting OFOR, one sees a dynamic and well-structured operation, which bodes well for the next stages of sector reform moving Senegal toward well-managed services for all, as required by the SDGs.

LESSON 5: IF PRIVATIZING, UNDERSTAND THE MARKET

ENSURE THAT PRIVATIZATION WORKS EQUALLY WELL FOR CONTRACTORS, GOVERNMENT, AND THE UNSERVED

Before entering a public-private agreement, the GOS and its key partners, World Bank and AfDB, established a clear legal framework regarding the roles and responsibilities of the public and private sectors that acknowledged their realistic understanding of the dynamics of the urban water market. Each element of the market, including operation, maintenance, investment, financing, equity, rehabilitation, tariff setting, and tariff collection were characterized and assigned to the most effective actor in the service delivery system. The same analyses have contributed to the piloting and contracting of rural service delivery. Market incentives, however, are different from market structure. And, it was an important step for public and private sector partners to realize their importance and act accordingly. In the urban space, SONES and SDE share tariff revenues, so they share revenue-based incentives that result from sustainable system operation and expansion. The GOS overall was incentivized to see the reforms eliminate the embarrassment of inadequate water services in the capital city and preserve its relations with donors and their substantial direct and indirect investments in sector infrastructure and capacity. Donors were incentivized by global pressure to identify a flagship operation that could demonstrate successful structural adjustments and privatization. These incentives drove the process and content of the service contract.

Use of the locally adapted *affermage* contract allowed sharing of operational risks and incentives between the three signatories. It was appropriate for use in a situation where large infrastructure investments were required, data were scarce, and discipline was needed in the public sector. The contract incorporated service provider incentives to reduce leakage and improve billing and collection efficiency in a country where leakage was high, system rehabilitation was urgent, customers had to be protected from dramatic price increases, and coverage needed to be expanded."[47] The incentive structure allowed the private operator to focus on technical and commercial efficiency to reduce waste and deliver production volumes to customers—and therefore maximize revenue. The contract also addressed the immediate needs of the GOS. It was of a suitable duration, kept assets in government hands, and facilitated large-scale governmental investment. The state asset-holding company was established as institutionally autonomous, could take advantage of its professional competencies, gained clarity on issues of employment and job security, and internally controlled finances and financial targets.

The nature of the contract fostered a shared-value partnership between the government, the asset manager, and the private operator. The resulting network of contracts was built on robust relationships and an institutional structure that has endured, but it is complex. The future of water sector reform will see how the next generation of actors is able to disentangle the complexity and maintain the achievements and vision of sector reform.

LESSON 6: EXPECT AND PLAN FOR HIDDEN COSTS

PRIVATIZATION DONE RIGHT IS TECHNICALLY AND SOCIALLY COMPLEX AND LIKELY REQUIRES EXTERNAL SUPPORT

Sector investments must be planned in parallel or in synergy with utility reform. Each is technical and socially complex, and together generate issues and require sophisticated solutions that may be beyond the capacity of a single national government to address—technically, socially, and financially. Resolution of each should be expected to require the engagement of nongovernmental specialists, with associated transaction costs. In Senegal, these were covered by external support agencies. These hidden costs—whether as operational support to PEPAM or as technical and logistics support to other government departments, must be acknowledged as part of reform and given support.

Two costs were borne by World Bank: 1) the subsidy component of the loans to the GOS discussed earlier in this document; and 2) the cost of technical assistance. Through 2006, "the primary component of the latter was 534.5 person-weeks of staff time valued at $1,217,500. Since this averages to only $2,278 per week, it clearly includes only salary and perhaps fringe. We therefore add a 65 percent mark-up for overhead, bringing the total to $2,078,900 … [or] 6.2 percent of the total. Additional technical-assistance costs were borne by AfDB and the German Cooperation Agency (KFW). We have no information on these, but believe their contribution to this project to be small enough to be ignored."[48] The authors have not identified more recent quantifications of support covering the last 10 years in reviewed literature, although at a minimum, World Bank funding continued during biannual World Bank missions to Senegal and provided support from a task manager.

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[47] Brocklehurst C., & Janssens, J. G. (2004). Innovative contracts, sound relationships: Urban water sector reform in Senegal.

[48] Jammal, Y., & Jones, L. (2006). *Impact of privatization in Africa: Senegal water*.

LESSON 7: SOPHISTICATED FINANCIAL MODELING EASES DECISION MAKING

INVEST EARLY IN LOCALIZED, RIGOROUS FINANCIAL MODELS FOR PLANNING AND ONGOING DECISION SUPPORT

Much of what Senegal's reformers learned during initial sector assessment was incorporated into a well-designed, comprehensive financial model that allowed them to set operator and consumer rates outside of political concerns and examine effects of options and tradeoffs. The cash flow equilibrium model was developed to support broad policy directions and strategies and for more granular use as a shared and trusted platform to assist annual planning and tariff evaluation.

CHAPTER 4: TRANSITION TO THE SDGS

Senegal's Ministry of Environment and Sustainable Development (*Ministère de l'Environnement et du Développement Durable*) held five regional consultations in 2015 on 17 prioritized SDGs. Seven were named as a high priority, with none higher than SDG 6 on water and sanitation. The institutional components of the system that will move Senegal toward the SDGs are in place. What has not been created is the M&E system that will be used to assess progress and achievement, although its institutional framework is contained in the PSE 2015. Achieving SDG Targets 6.1 and 6.2 is expected to build on the GOS 2014 draft SDG Plan and will require application of the lessons learned as presented in Chapter 3 by institutions including SONES, OFOR, CCSPEA, and the National Office of (Urban) Sanitation in Senegal (ONAS [*Office National de l'Assainissement du Sénégal*]) and by development partners via continuation of water privatization and operationalization of the National Sanitation Strategy. In early 2017, the Sector Policy Letter of 2005–2015, which assigned specific roles and responsibilities, will be updated. Its completion will serve as a significant guidepost toward SDG Targets 6.1 and 6.2, taking advantage of the prevailing high levels of political stability, management and technical capacity, and governmental commitment.

As the GOS continues its pivot toward the next set of national and international development goals, Senegal's challenges moving forward are expected to be: 1) localizing the SDGs; 2) building a national agenda; 3) financing the agenda; and 4) validating and maintaining a decade of data. In interviews with system actors and review of system documents and factors, the authors worked to identify the way in which each lesson from the MDG era, as documented in Chapter 3, is being incorporated into the documentation, planning, and actions currently being undertaken by the GOS and its partners after 2015. Each lesson and its corresponding application are presented in Table 4.

TABLE 4: PIVOTING MDG-ERA LESSONS TOWARD THE SDG ERA

LESSON	POST-2015 APPLICATION
Do your homework.	In advance of launching OFOR for rural water supply management, a strengths/weaknesses/opportunities/threats (SWOT) analysis[49] was conducted as one part of homework to structure the organization and its priorities. Presented first are three sets of weaknesses followed by threats: **Operations** • Unfamiliarity with network performance. • Absence of measurement of water quality. • Reliability of data on access rates. • Aging state of the hydraulic works. • Management of human-powered pumps. **Access development** • Significant regional disparities in WASH. • Cost of social connections.

[49] OFOR. (2016). *Reform of rural water supply: Strategic directions and operational action plans*.

LESSON	POST-2015 APPLICATION
	• Weaknesses in financial resources dedicated to the renewal of drilling and development of special connections. **Water quality** • Lack of performance indicators. • Organizational weaknesses (both material and human). • Strong dependence on state resources. • Water quality issues in the central areas of the country and the Casamance are a key challenge to achieving the SDGs. **Threats** • Budgetary constraints of the state. • Priority given to urban water supply. • Over exploitation of water resources. • Pollution and quality of surface water. • Supplying drinking water to religious towns. • Regional strategy for technical and financial partners. To guide urban improvements, SONES has identified an investment program for 2025, accounting for ongoing (Dakar emergency program) and new (improvement of water quality in Dakar and the regions) operations. Earlier master plans highlighted the potential shortages of peak-day drinking water. In addition, the government has prioritized new investments in seawater desalination and a new treatment station on Lake Fuiers. This program is in alignment with the PSE and has been endorsed by technical and financial partners. Direct or indirect loans, often accompanied by subsidies, have been granted to SONES for the works on favorable terms (interest rates on average less than or equal to 5 percent, duration 15 to 20 years, deferred more than 4 years).[50] Senegal has started work on the second national program aimed at ensuring universal supply of secure and quality services for potable water and sanitation in urban and rural areas by 2030. To guide prioritization and investment, the GOS has worked with AfDB to prepare and launch a national sanitation strategy[51] that focuses on hygiene practices, excreta management, and fecal sludge management. The innovative center of the strategy is to gradually hand over to households the responsibility for developing their own sanitation facility. This strategy is different from current implementation where households typically contribute to the implementation of a project conducted by an external actor. The new strategy, with 2025 goals not directly linked to the SDGs, proposed to support households in achieving their own improvements. The role of the government will be to plan, build small-scale private sector capacity, perform hygiene promotion and education, regulate, and manage grants.
Invest in social dialogue.	At the time of writing, the level and actors to support social dialogue moving forward are unclear. The WSSP, which provided dynamic inputs to promote social dialogue during the advancement toward the MDGs, does not exist as an independent unit, and World Bank is turning its investment portfolio toward rural infrastructure. By mid-2017, the findings from a collaborative assessment workshop are expected to serve as a guide to resource commitments among sector actors. The benefits of social dialogue are well known to and widely accepted by the GOS, so it is safe to assume that it will be part of advancement toward the SDGs. It is unclear who will resource, lead, and coordinate the effort.

[50] Ba, S. (personal communication, 2016). DH.

[51] GOS. (2013). *National sanitation strategy for rural sanitation in Senegal, Volume 1*.

LESSON	POST-2015 APPLICATION
	Transparency and social accountability on tariff setting, commune involvement, and governance of the sector are key issues to address in the SDG era.
Define roles and responsibilities of all stakeholders.	New roles are emerging among key actors in achieving MDG Target 7c. PEPAM no longer exists, and its remaining assets have been folded into government as the CCSPEA, World Bank is no longer funding infrastructure and their funding to the country has been significantly reduced, and AfDB is filling this funding void. Without PEPAM, external funding to the water and sanitation sectors is no longer provided to a single sector-coordinating entity. Instead, it is being passed directly to the Ministry of Finance as part of the overall national budget. This is most evident with the significant investment of Chinese money in the sector intended to address inequities in water supply access across the various regions of Senegal—CFA 50 billion (~$820,000). Other donors active in the sector include the United Nations Development Programme supporting the Emergency Programme for Community Development, planning more than 150 multi-village water supplies for more than 1,000 villages; AfDB funding a third water plant to serve Dakar; and Japanese support for a desalination plant in Dakar. Regarding rural sanitation, ambitious changes in roles and responsibilities have been proposed and are only beginning to become manifest. As stated earlier, by 2025 households are expected to be fully accountable for their excreta management, with the state poised as regulator, promoter, monitor, evaluator, and supporter. Operationalization of this new approach will require new institutional assignments and accountability. The Sanitation Directorate (DAS [*Direction de l'Assainissement*]) will be strengthened at central and regional levels to take responsibility for the regulation, promotion, and M&E aspects of the work. Sector implementers will be expected to strengthen the capacity of local communities to provide their own services, develop sustainable sanitation financing mechanisms for both households and providers of products and services, and work with the state to create favorable conditions for the development of small-scale private sector sanitation markets. Regulatory efforts should be made to increase efficiency in the sector, because delegation of a public service such as drinking water should be regulated according to principles of good governance, and should ensure the balance among actors to manage disputes and conflicts between them.[52]
The importance of political stability.	Overall political stability is a fact of life in Senegal. Under the PSE, the government has established a new focus of coordinated effort toward "emerging nation status." After 2015, consistency, coordination, and economic stability will be more important dynamics to monitor than the political stability that has existed since the currency devaluation of 1994.
If privatizing, understand the market.	The Capital Expenditures (CAPEX) investment in Senegal's WASH sector has largely been estimated in terms of overall public and household expenditures.[53] Significant CAPEX gaps remained even going into the end of the MDG era despite Senegal's success in meeting its water MDG target. Senegal's privatization model and the CAPEX needs deserve further study and analysis, because this model begins to expand greatly into rural areas.[54] Significant opportunity for future research and financial modeling of the CAPEX investment needs (public, private, and household) exist. OFOR is the "all-in bet" on privatization in the Senegalese water sector. Based on previous experience and multiple years of situational and market analyses, OFOR is expected to: • Manage the rural water supply systems and networks. • Delegate authority to operate and maintain motorized rural boreholes to private operators.

[52] Boly, A. (personal communication, 2017). USAID.

[53] AMCOW, World Bank WSSP, AfDB, & UNICEF. (2011). Water supply and sanitation in Senegal: Turning finance into services for 2015 and beyond.

[54] Boly, A. (personal communication, 2017). USAID.

LESSON	POST-2015 APPLICATION
	• Monitor the technical and financial operations of rural water supply systems. • Monitor the quality of water distributed. • Advise and support ASUFORs, local communities, and local authorities. • Participate in the management of services and large events (e.g., religious events). • Procure and manage infrastructure works to obtain target numbers for access to improved drinking water.[55] It is safe to assume at this point that the GOS and its sectoral partners have achieved a deep market understanding, but because OFOR's operations have only been piloted and are just now expanding to full operation it is not possible to know if adequate analyses have been performed. This principal test will be the 2017–2018 management of the rapid-paced investment of Chinese funds to rehabilitate 70 wells and related infrastructure; construction of 181 new wells and water tanks; and 1,000 kilometers of network serving 900 kiosks. There is uncertainty in applying this lesson to the rural sanitation sector moving toward the SDGs. The state has given clear responsibilities and leadership to markets for the provision of household sanitation facilities without a clear understanding of the functionality of sanitation markets in various locations across the country.
Expect and plan for hidden costs.	OFOR has been provided with CFA 2 billion in government funds, but contingency funds are not as readily available or in the quantity that was available from external donors to support initial urban privatization and the operation of PEPAM. Investments in rural sanitation focus on intensive and widespread capacity building and faith in the private sector's ability to step up to build and grow markets in challenging and resource-scarce communities. At this time, there is no apparent plan on how this work will be funded. Those driving the national sanitation strategy should be prepared for hidden costs by analyzing budgets and external sources for resources.
Sophisticated financial modeling eases decision making.	As the sector matured in the five years before the MDGs ended, the GOS worked with WSSP and a Senegalese accountancy/auditing firm to simplify the original financial model into a spreadsheet that could be maintained by the GOS and still yield useful input for tariff decision making. WSSP collaborated with the GOS separately on a financial model applied to the development of OFOR. As OFOR is rolled out, this model will be refined with real cost data to support decision making in this new effort.

[55] Senegal: Rural Drinking Water and Sanitation Program. (2013). *Joint sector review presentation*.

CHAPTER 5: CONCLUSIONS

In this chapter, we will qualitatively assess the WASH systems of Senegal against the components of USAID's Local Systems Framework, and provide thoughts on the utility of each component to analytic efforts of the type described in this document. This section is organized according to the "5Rs" presented in the framework document and the "new opportunities" USAID identified to make systems thought and action most relevant to current trends in international development.

SENEGALESE ALIGNMENT WITH THE 5RS

The way forward for the drinking water and sanitation sectors in Senegal is fraught with optimism, insecurity, and uncertainty. The optimism is grounded in the impressive achievements the country has made in the operation of financially viable drinking-water supplies in urban areas. The insecurity emerges from the well-prepared, but unproven privatization of rural water supplies and the importance of OFOR's rapid maturity to handle the major investments being made in the sector—particularly by the Chinese Government. The uncertainty lies in the operationalization of the rural sanitation strategy, along with transparency and social accountability on tariff setting. With these concerns in mind, the GOS has put in place the policies, strategies, and systems expected to advance the sectors toward national and global goals.

As guidance to all policies and strategies, Senegal has created the PSE, a vision and strategic plan aimed at economic emergence by 2035. Water and sanitation stand as one component of the pillar of the PSE designed to significantly improve living conditions through a sustained struggle against social inequalities. This vision for the sectors aligns with the concerns of the United Nations General Assembly, which recognizes access to quality water and sanitation facilities as a human right. The vision is also in line with the United Nations General Assembly's efforts to eradicate poverty by 2030 and to pursue a sustainable future after a decade marked by pursuit of the MDGs.

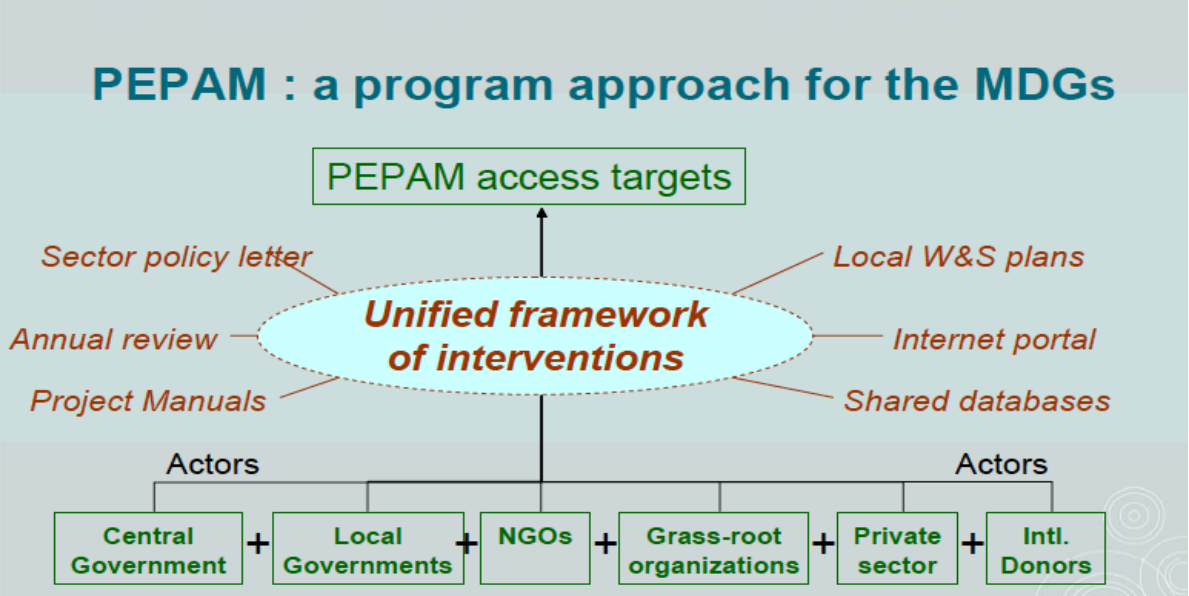
The SDGs, with their sectoral focus on total coverage across all localities of the country, require a greater quality of service offered to populations, because universal access now includes accessibility, availability, and quality. To achieve this, a new reference situation will be realized, taking into account new standards as expectations; and a new investment program will be developed by the GOS and its partners in the framework of the changing sectoral program. The pathway for development of the WASH sector by 2030 has not yet been clearly described, but the systems expected to flexibly lead to achievement of this next round of more complex goals are in place. They are described briefly in the following sections, organized according to USAID's "5Rs" of their Local Systems Framework.

RESOURCES: LOCAL SYSTEMS TRANSFORM RESOURCES—SUCH AS BUDGETARY ALLOCATIONS, RAW MATERIALS, OR INPUTS—INTO OUTPUTS.

The best example in the Senegal water sector of a local system that transformed funds into outputs has, for the past decade, been PEPAM. Its central purposes were to: 1) direct resources from multiple contributors into a coordinated set of activities consistent with sector policies and norms; and 2) coordinate the data produced by project stakeholders, including central and decentralized government,

civil society, local communities, the private sector, consumer associations, and NGOs, etc.[56] A schematic of its inputs, services, and outputs is illustrated in Figure 7.

FIGURE 7: SCHEMATIC OF PEPAM'S INPUTS, SERVICES, AND OUTPUTS



From: Ndaw, M. F. (2007). *Developing and implementing a monitoring system for the MDG roadmap: The PEPAM experience in Senegal.*

Regarding inputs, PEPAM was responsible for financial management, including annual financial statements, balance sheets, and an income and expenditure table in accordance with the standards and principles of the OHADA accounting system. Progress reports were produced quarterly, including budget execution reports. PEPAM processed all accounts and received accounting records from its executing agencies.[57]

Regarding outputs, PEPAM was responsible for project monitoring, preparing quarterly progress reports (using AfDB formats) on the physical and financial implementation of its projects (using a common set of indicators and in collaboration with the focal points of the executing agencies). Ministries represented on the Steering Committee were expected to conduct regular monitoring of outputs. In addition, PEPAM regularly prepared and distributed project products (e.g., photos, documentaries).[58]

PEPAM was established as an autonomous program, but related across both the water and sanitation sectors with the DH, DEM, Water Resources Management and Planning Division, DAS, SONES, and ONAS.

[56] AfDB Group/Senegal. (2014). *Water and sanitation sector project.*
[57] Ibid.
[58] Ibid.

TABLE 5: HOW PEPAM OVERCAME CHALLENGES TO RURAL SERVICES

KEY CHALLENGES	OVERCOMING THE CHALLENGES
Urban sector reforms benefited from heavy investment by donors—particularly multilateral development banks with shared requirements. Rural sector projects were supported by a wide range of donors with various funding and reporting requirements.	• Did not focus on reform, but instead on supporting a unified sector-wide approach that standardized many aspects across donors and programs.
On launch, there was limited understanding of the rural water supply sector and an objective of establishing a sector-wide approach.	• Significant investment in establishing the baseline or reference situation before programming. Conducted a national survey to monitor and evaluate the sector and identify all stakeholders and partners, building forward from the end of the long-term project.
A sector-wide approach requires a unified implementation framework.	• Formation of M&E tools, manual of procedures, and a comprehensive website from which all documentation was available for download.
A sector-wide approach requires sector-wide engagement.	• All guidance documents were developed with input from local authorities and rolled out to the country as part of consistent stakeholder engagement.
Senegal has been a laboratory of local management systems, but needed a viable institutional arrangement to roll out the sector-wide approach.	• The GOS led formation of an independent program focused on the MDGs through stakeholder input and partner counsel.
A new organization is needed to demonstrate financial accountability.	• Started with an investment plan and established open accounting, budgeting, and planning systems available to the government and partners. • Sector payments were centralized through PEPAM.
The new entity needed to define a way of managing the sector.	• Public annual joint sector reviews. • Decentralized joint sector reviews. • Donor platform.

Amid all its accomplishments, PEPAM was not a perfect organization. At its completion, it was apparent that it had failed to accomplish three tasks related to the utility of its post-2015 transformation into the CCSPEA:

- ***Planning capacity***. Local, decentralized planning capacity was not strong at the completion of the program.
- ***Data management.*** Sharing, strengthening, and locking in the content and utility of its database and associated equipment was not completed.
- ***PLHAs.*** Use of PLHAs, which required significant investment of resources, as living documents was not accomplished, because they were not widely shared and are only marginally useful as investment guides due to their containing material collected several years ago and not kept current.

ROLES: MOST LOCAL SYSTEMS INVOLVE A NUMBER OF ACTORS WHO TAKE ON VARIOUS DEFINED ROLES OF PRODUCER, CONSUMER, FUNDER, AND ADVOCATE.

OFOR provides the most current example of a system with defined expectations for actors. These, as the program is launched, are shown in Table 6.

TABLE 6: OFOR SYSTEM

SYSTEM ACTOR	FUNCTION	DESCRIPTION
Ministry	Sector policy and planning	• Promote consistent processes and standards across stakeholders and interventions. • Coordinate with resource management committees. • Conduct due diligence on tariff setting. • Develop investment plans for new assets.
OFOR	Public investment and financial management	• Renew aging infrastructure. • Establish transparent financial systems. • Engage the private sector to address funding gaps for required investments.
	M&E	• Monitor operations to ensure service delivery by private and ASUFOR partners. • Monitor finance to ensure sustainability of operations and forecast needs. • Monitor natural resources and infrastructure to repair and forecast renewal needs.
	Capacity building	• Provide technical assistance, training, and resources to ASUFORs and their independent operators/distributors.
Private operators	Service delivery and revenue management	• Provide wholesale water supply operations. • Provide bill collection and customer service. • Increase efficiency, reduce waste, and increase continuity of supply.
	Repairs and maintenance	• Maintain and calibrate meters. • Perform light repairs of equipment less than 10 years old.
	Planning and reporting	• Prepare business and asset management plans. • Conduct routine reporting to comply with terms of the contract performance parameters.
	Capacity building	• Provide training and technical assistance to ASUFORs and local distributors.
	Opportunity to establish distribution contracts with ASUFORs for delivery directly to customers.	
	Encouraged to collaborate with ASUFORs and OFOR to propose and execute infrastructure expansion projects.	

Adapted from: Sy, J. (2014). *Reforms and public-private partnerships in Senegal's rural water sector.*

RELATIONSHIPS: IN A SIMILAR FASHION, THE INTERACTIONS BETWEEN THE ACTORS IN A LOCAL SYSTEM ESTABLISH VARIOUS TYPES OF RELATIONSHIPS. SOME MAY BE COMMERCIAL; OTHERS MORE ADMINISTRATIVE AND HIERARCHICAL.

As has been noted throughout this document, the relationships between people and organizations in support of a national commitment to social dialogue have been central to the achievement of MDG Target 7c and the preparations made by the country to pivot its success toward SDG Targets 6.1 and 6.2. These relationships have been of many types, including contractual, personal, opportunistic, and professional. But, in all cases, they emerged from mutual respect, collegiality, and a sincere wish to communicate openly, honestly, and often so that decisions, plans, and priorities benefited from well-planned and executed consensus and best practices most fully applicable to the Senegalese context. In preparing this document, the authors benefited from these relationships to gain a rapid and clear understanding of the events and decisions that led to reaching the target, and to clarify the lessons learned and their applicability.

RULES: AN IMPORTANT FEATURE OF LOCAL SYSTEMS IS THE SET OF RULES THAT GOVERN THEM. THESE RULES DEFINE OR ASSIGN ROLES, DETERMINE THE NATURE OF RELATIONSHIPS BETWEEN ACTORS, AND ESTABLISH THE TERMS OF ACCESS TO THE RESOURCES ON WHICH THE SYSTEM DEPENDS.

SONES, the most experienced asset management unit in Senegal's water sector, is the best example of a creator and enforcer of rules that, in this case, guide operations of the urban water supply sector nationwide. This set of rules is captured in the contract governing the relationship with SDE and serves as the basis for the contracts being used by OFOR. Details of the contracts are scattered throughout this document. A summary of the key challenges faced by SONES and the actions taken to overcome them are shown in Table 7.

TABLE 7: HOW SONES OVERCAME CHALLENGES

KEY CHALLENGES	OVERCOMING THE CHALLENGES
Preservation of financial equilibrium.	• Financial equilibrium was reached in 2003 and stabilized until 2008. At that time, new tariff adjustments became necessary after three years of freezing them. • Anxious to spare the population a tariff increase, the government opted to have the state bear the cost of the necessary tariff adjustments.
2010–2011 financial imbalance in the sector and the suspension of payments by PEPAM donors.	• The state allocated CFA 15 billion per year to support PEPAM, beginning in 2011 and 2012. • Control of water consumption by the public sector. • Realization of cross-debts between the state, SONES, and SDE.
Unique constraints to financial balance of SONES include: 1) financing the social connection program; 2) increase in volumes of water consumed and invoiced in the social sector; 3) reduction of consumption by the administration; and 4) the importance of investments to 2025.	• Carried out a tariff study to consider these constraints and to propose a billing grid preserving the most deprived layers.

RESULTS: THE CONCEPT OF "RESULTS" IS EXPANDED TO INCLUDE MEASURES OF THE OVERALL STRENGTH OF THE LOCAL SYSTEM, AS WELL AS TRADITIONAL OUTPUTS AND OUTCOMES.

The PSE is Senegal's long-term economic growth strategy for 2035. It reiterates the government's commitment to expanding improved water and sanitation services, and introduces a monitoring unit responsible for tracking and evaluating partnerships and funding commitments, including those of the water and sanitation sectors.[59] It is not specifically correlated to the SDGs, but instead serves as the national guide to accelerate progress toward emerging market status. The "results" presented in the plan are presented at multiple levels and with varying granularity. They will measure the quality of the system and the improvements it delivers.

At the highest levels, the GOS will be held accountable for internalizing—at all levels—a culture of transparency and accountability, and results-based management. Measurements of quality cover the creation of mechanisms for planning and dedicated M&E, strengthening the capacity of human resources, taking ownership of policies by all levels of society, and exercising control by the citizenry. Discipline and focus will be maintained by a Strategic Orientation Committee, under the authority of the President of the Republic; a Steering Committee, chaired by the Prime Minister; and an Operational Bureau for monitoring the PSE (BOSSE) and executing structure. Part of the PSE's institutional framework is a single coordinating body for M&E and a cell within each ministry receiving support from and communicating results to the cross-government coordinating entity.

For water supply, the PSE will continue to monitor access to safe water in rural and urban locations, with 2017 targets of 98 percent and 100 percent respectively. For sanitation, national monitoring focuses on the percentage of households with access to improved sanitation systems, with 2017 targets of 85 percent in urban areas and 70 percent in rural.[60] No indicators are being applied that correlate directly to the SDGs.

[59] Sy, J. (2014). *Reforms and public-private partnerships in Senegal's rural water sector*.
[60] GOS. (2014). *Plan Sénégal Emergent (PSE)*.

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