

# First PPP Application in the Urban Water Supply Sector: Performance and Lessons from Ghana

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## Abstract

Following decades of neglect, unstable political and economic conditions, under-investment and inadequate pricing policies, the urban water sector of Ghana fell into disarray. In June 2006, a management contract between Ghana Water Company Limited (GWCL) and Aqua Vitens Rand Ltd (AVRL) emerged as an alternative to bring efficiency to the delivery of urban water. Asset ownership and investment responsibilities remained with the GWCL while the operation and maintenance of the urban water systems was transferred to AVRL, for a monthly fee, and bonus payments for achieving or exceeding contractual targets. This paper presents a thorough study of the process and outcomes of Ghana's first urban water management contract, and draws attention to useful lessons for academia, reformers and policy-makers who are interested in PPP water supply projects in Ghana. Drawing on this case study, the authors find mixed outcomes, with noticeable improvements in labour productivity, revenue collections, energy efficiency and most importantly cost coverage, but no improvements in demand management, non-revenue water, and revenue collection period. The case study provides relevant experiences and lessons for both the private and public sectors entities planning to participate in water PPPs in Ghana.

**Keywords:** Management contract, water supply, performance, private sector, Ghana.

## 1. Introduction

Since the late 1980s, Ghana has made various sector-wide efforts at reforming its urban water sector by passing laws, developing appropriate policies, drawing up structural programmes, strategies and plans aimed at bettering service delivery to urban residents. Like other low-income countries, the challenges of Ghana's urban sector ranged from limited service/network coverage to grave inefficiencies and low quality service to customers following the disrepair and replacement of the aging water distribution infrastructure, a precarious financial situation, and chronic institutional weaknesses (Fuest and Haffner, 2007; Nii Consult, 2003; Whitfield, 2006; WaterAid, 2005).

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Remedying the situation, and ensuring improved service delivery has been an overwhelming task for various governments of Ghana, since the early 1990s. Following continuous international and domestic pressure, the government turned to the private sector in the form of public-private partnerships (PPP) not only to improve the financial viability, operational sustainability and the quality of urban water supply but similarly as acting as an instrument for institutional transformation (Ainuson, 2010; Ameyaw and Chan, 2012; Mugabi and Marin, 2008). Therefore, after 15 years of consensus building and five years of experimentation with a private management of urban water supply services, stocktaking of experiences and results is timely. This paper presents a thorough study of the process and outcomes of Ghana's first PPP management contract, and draws attention to useful lessons. Thus, it discusses the pre- and post-PPP status of Ghana's urban water sector. Specifically, the impact of the PPP on energy efficiency, demand management, cost coverage, labour productivity, and revenue collection efficiency are examined. Drawing on experiences over the years, PPPs in the water sector have been very controversial (Prasad, 2006) and complex for most governments. Their complexities vary according to specific country and project circumstances (Zheng and Tiong, 2010). A case study research, therefore, is a well-established methodology to study PPP practice to capture specific project characteristics, gain thorough understanding of its development and implementation, and draw relevant lessons (Meng et al, 2011; Zheng and Tiong, 2010). This paper, therefore, adopts a case study approach. The performance assessment draws on empirical data from credible sources, mainly reports from AVRIL, GWCL, the sector ministry, the World Bank, and the International Benchmarking Network for Water and Sanitation Utilities (IBNET).

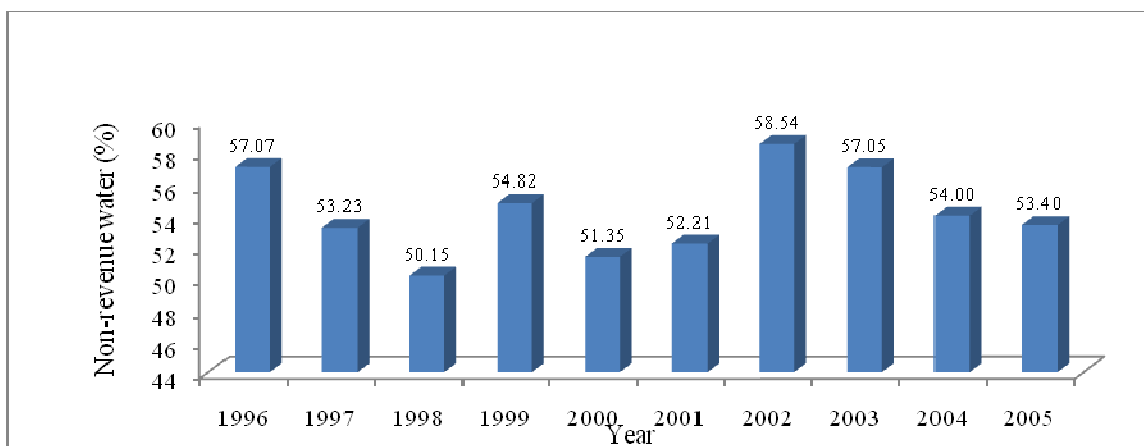
The choice of this case study by the authors is enthused by the fact that it is the first and only urban water PPP to be implemented and has been controversial, attracted national and international attention. The case study provides practical insights for private companies, policy-makers and reformers, water practitioners and academia at the time when government has fully embraced the PPP concept in its development policy, and more PPP projects are being planned in the water sector. Following on this introduction, the paper reviews the pre-PPP status of the urban water sector in section 2, while the justification for the management contract is summarised in section 3. The contract is presented in section 4, its performance is examined in section 5, and lessons are highlighted in section 6. Finally, concluding remarks are made in section 7.

## **2. Background and Pre-PPP status of the urban water sector**

Following decades of neglect, unstable political and economic conditions, institutional weaknesses and fragmentation, poor management practices, under-investment and inadequate pricing policies, the urban water sector of Ghana fell into disarray. These problems are classified under technical and operational, commercial and financial, and human and institutional. This brief discussion captures the state of the public water utility prior to the participation of the private sector.

## 2.1 Operational and technical problems

Operational practices in the sector were inefficient; regular infrastructure maintenance was insufficient, fire-fighting maintenance approach was widely practised, supply was intermittent, and non-revenue water (NRW) was over 50% of total output (Fuest and Haffner, 2007; Ofori, 2007) compared with international best practice of 10-20% in well-run systems (Haarmeyer and Mody, 1998). Given the level of NRW, the total volume of water that is effectively sold (280,000m<sup>3</sup>/day) is less than half of daily demand of 763,300 m<sup>3</sup> (WaterAid, 2005), with a total of 350,000 private connections, as of 2006 (AVRL, 2011). Figure 1 presents some NRW ratios from 1996–2005. The high NRW levels resulted from apparent losses and real losses owing to leakages from poorly-maintained distribution networks and untimely replacement of aged and badly deteriorated systems (GWCL, 2008; WaterAid, 2005). Under these conditions, it is difficult to expand service provision to cope with the growing populations. Access rates remained notoriously low, coverage rates in 2004 and 2005 are 57.5% and 56% respectively (MWRWH, 2009) compared with 56% in 1993 (Haarmeyer and Mody, 1998).



**Fig. 1: Non-revenue water trends from 1996-2005 (Source: Authors)**

## 2.2 Commercial and financial problems

In poorly-managed water utilities, consumption is hardly metered, or metering is limited and meter readings and billing of genuine consumption is not practised (Idelovitch and Klas, 1995). Metering and billing malpractices, such as manipulation of meter readings, understatement of actual consumption, poor classification of consumers, low metering ratios, and irregular meter reading, characterised the Ghanaian water sector (Nii Consult, 2003). The direct effect was a precarious financial situation of GWCL. In addition, unreliable consumer data and inefficient collection practices resulted in high commercial losses (AVRL, 2011), while disconnection of defaulted consumers was weakly and randomly enforced owing to clientele relations and political reasons (Fuest and Haffner, 2007). The utility, therefore, was financially weak and unable to deliver quality services. The water sector has long been plagued by non-commercial pricing, because successive governments were unwilling to approve cost reflective tariffs for political expediency, a situation that hampered the utility's ability to expand water services (Haarmeyer and Mody, 1997). Whitfield (2006)

noted that underinvestment in the sector, which saw the exit of professionals and a grave fall in operational efficiency, resulted from the late 1970s and early 1980s economic crisis.

### **2.3 Human and institutional problems**

Public water utilities are often overstaffed, with 5 to 20 employees per 1,000 water connections, indicating the low productivity of public water utilities (Idelovitch and Klas, 1995; Haarmeyer and Mody, 1997). Employee ratio, as a measure of labour productivity, varies widely across utilities and countries. GWCL was overstaffed with 4,300 employees most of whom were unqualified professionals (Ameyaw and Chan, 2012). By industrial standards, Nii Consult (2003) found that 50% of GWCL's staff was redundant; for example, in 2006, labour productivity ratio was estimated at 60 employees per 1,000 connections (Kauffmann and Perard, 2007) compared with international best practice of 2–3 workers (Haarmeyer and Mody, 1997).

GWCL is plagued by political interferences and political appointments and inability to attract, nurture, and retain managerial talent and qualified professionals (Idelovitch and Klas, 1995). Experience has shown that appointments to the position of directorship and other high rank positions are based not necessarily on competence, but rather on allegiance to the ruling party (Alidu, 2011). Political appointments are devoid of competition and have led to overstaffing, low productivity and high wage bills that potentially weakened the commercial and financial sustainability of GWCL (Fuest and Haffner, 2007). These problems pushed the government to search for possible solutions to the ailing water sector, including a PPP. The following section briefly explains the justification for the PPP management contract.

## **3. Justification for a PPP management contract model**

The earlier approach by the government of Ghana to resolving above problems was to invest in physical infrastructure, supported by technical and financial assistance provided through its development partners and international financial institutions. This approach seemed to have made limited improvements – given the multiple failings in all aspects of the public water utility. To remedy above problems, and to ensure long-term and sustainable improvements in the operations of GWCL, managerial and technical expertise had to be integrated within the utility's activities. Therefore, the government and its development partners embraced private sector participation as the most viable option. The object was to procure a strong, experienced and competent private operator with appropriate expertise for efficiency gains in the sector without huge increases in tariffs (Ameyaw and Chan, 2012).

Unfortunately, long-term PPP arrangements presented substantial risks to both the government and potential private water operators, giving the following conditions: (a) prevailing water rates were uneconomic for a revenue-based PPP to thrive; (b) sustained public resistance prevented any attempt for an ambitious contract with increased private involvement; and (c) highly deteriorated water infrastructure, and scanty and unreliable data on existing systems offered no incentives for long-term contracts. Management contracts have been used in such circumstances for stage preparation (WSB, 2010). Additionally, given the precarious financial situation of GWCL and the public sector's inexperience in

PPPs, a management contract promised several benefits due to its high flexibility, limited duration and restricted private ownership of assets, and greater government control over tariffs (Mugabi and Marin, 2008). In particular, the contract allowed the government, GWCL, consumers, civil society groups and the project sponsors to experiment with private management with only a short-term partnership.

#### **4. The Partnership: contracting process and obligations**

The process of engaging a private operator began in 2003, following a 13-year and heavily-contested policy process. The road leading to the award of the contract 'was a long and stretched out political process that involved' multiple stakeholders (Bohman, 2010). The contracting process began with a detailed analysis of the existing management problems. As indicated, areas of major concerns included: (a) widespread water leakage and wastage; (b) chronic water shortages and intermittent supply; (c) poor cost recovery; (d) high energy consumption; (e) low water quality; (g) low utilisation capacity; and (g) poor operating pressures. These are signs of management and institutional weaknesses, such as poor collection practices, bad maintenance culture, uncontrolled costs, and under-pricing regimes (Marin, 2009). The establishment of the key service problems and the reasons for private sector engagement guided the selection of performance measures corresponding to these problems, specification of the service targets to be attained and subsequent selection of the operator. The performance-based management contract can be best described as a hybrid, with the following characteristics: (a) control by private operator over funding for training programmes (US\$1.5 million), repair and replacement (US\$5million, and US\$6.5 million was added later), and making yearly proposals for capital expenditure to GWCL; (b) private operator control over the water supply infrastructure during the contract period; (c) complete private operator control of operations, maintenance, water abstraction, treatment, and distribution to consumers, billing and revenue collection; (d) private capital of US\$250,000; and (e) a performance incentive which allows the operator to keep a proportion of the incremental cashflow following enhanced operational efficiency and better performance.

The management contract was implemented within the frames of the Urban Water Project (UWP) which was funded by the World Bank (US\$103 million), the Nordic Development Fund (US\$5 million) and the government of Ghana (US\$12 million), totalling US\$120 million. The overall aim of the UWP was to upgrade the urban water infrastructure, expand access to piped water; and restore long-term financial sustainability of the urban utility. The project entirely had four components, presented in order (World Bank, 2004):

1. Network Expansion and Rehabilitation (US\$88 million) – focused on increasing the quantity of bulk water for distribution, rehabilitation and expansion;
2. Public-Private Partnership Development – aimed at improving customer satisfaction and forms 8% of the project;
3. Capacity Building and Project Management (US\$4.5 million) – focused on training of seconded staff and pursuit of sector reform of urban water supply; and

4. Severance programme – focused on financing the severance programme of the government.

On 22 November 2005, the 5-year contract for management and operation of 80 urban water systems was awarded to an international public sector joint-venture, Aqua Vitens Rand Ltd (AVRL), through an international competitive bidding process. The contract between GWCL and AVRL officially started on 5<sup>th</sup> June 2006. The overall objective of the management contract is “to restore GWCL to a sound financial footing and make a significant improvement in the commercial operations of the company” (MWRWH, 2009). GWCL remained the asset owner and responsible for investment, development and expansion of the water systems. It had an additional responsibility for day-to-day monitoring of the contract, with external assistance from technical and financial consultants. An independent regulator, Public Utilities Regulatory Commission (PURC), must approve all tariff revisions over the contract’s life. As a partner, AVRL’s core business included management of urban water systems, potable water production and distribution, billing and collection. The operator also provided key management team, with a 2,800 seconded staff from GWCL (AVRL, 2010).

AVRL was paid a fixed fee to run GWCL’s operations, and a financial incentive for achieving or exceeding performance targets. Bonus payments were tied to critical quantifiable targets, such as improved collection ratios, reduced energy consumption and NRW, and increased water production and hours of water supply. In contrast, the operator’s base fee was to be reduced by penalties based on the extent to which performance falls below targets. Like other management contracts, the base fee portion of the contract formed the basis for competitive bidding, and the AVRL was selected based on the lowest management fee of US\$11 million for the 5-year period (Tucker et al., 2010). The management contract set out requirements for service quality: treated water quality, service continuity, water pressure and flow, customer service, revenue collection, non-revenue water, capacity building, energy consumption and chemical usage, demand management, and rehabilitation and replacement.

## **5. Performance evaluation**

The partnership presented above ended on June 2011 after five years of GWCL–AVRL relationship. To what extent was there measurable evidence that the first partnership improved urban water services in Ghana? Following data deficiency, five key performance targets specified in the contract are investigated. In addition, the authors assessed whether the PPP implementation had any spill-over effects regarding policy and institutional development in the water sector.

### **5.1 Energy efficiency**

The contract required that the operator presents a power reduction plan within 12 months of commencement and reduces power consumption (to be measured in kWh/m<sup>3</sup>) as per the plan. The operator enjoys a financial incentive for reducing electrical consumption and suffers a penalty for failure. The 2006 baseline figure is used as the basis for assessment

because the set target is unknown. Overall, the total electricity consumption for water treatment plants reduced slightly. Table 1 indicates that GWCL recorded an 18.1% reduction in electrical energy consumption per m<sup>3</sup> of water treated during the contract period, from 0.83kWh/m<sup>3</sup> in 2006 to 0.68kWh/m<sup>3</sup> in 2010/2011. However, it is worth noting that out of the 89 treatment plants: only 26 reduced electrical consumption, 28 increased consumption, and the remaining 35 plants had no reliable data for assessment. According to AVRIL, the reduction was due to correction of erroneous billing in previous years, tackling illegal electrical connections, and proper relocation of electrical meters closer to the treatment plants. However, from Table 1, annual electricity costs and electricity cost/m<sup>3</sup> of water do not indicate falling trends. For example, cost/m<sup>3</sup> increased from Gh¢0.066 in 2006 to Gh¢0.12 in 2010, representing a 45% cost increase. Possible reasons include increased inflation/energy prices, and low quality of raw water.

## 5.2 Demand management

One of the main objectives of the contract was to decrease public sector (ministries, departments and agencies) water consumption through metering. Public sector consumption constitutes some 18–20% of total water produced in the urban water sector (Fichner et al., 2010). AVRIL was required to submit a demand management plan within 6 months of commencement to reduce public sector consumption by 3% of a baseline annual consumption.

**Table 1: Selected performance figures from 2006–2011 (Source: AVRIL, 2011; Fichner et al., 2010)**

Performance indicator	Unit	2006	2007	2008	2009	2010	2011
<b>Energy costs</b>							
Electricity cost	M Gh¢		17.1	32.8	22.6	29.8	
Electricity cost/m <sup>3</sup>	Gh¢/m <sup>3</sup>	0.066	0.080	0.152	0.098	0.12	
Treatment plants energy usage	kWh/m <sup>3</sup>	0.83	–	0.71	0.69	0.68	
<b>Technical</b>							
Non-revenue water (NRW)	%	53	52	52	52	50	51
Capacity utilisation	(%)	74	75	75	73	67	
<b>Operating costs</b>							
Collection efficiency	%	96 (95)	90 (89)	91 (93)	79 (97)	(91)	
Collection period	days	376	363	369	372		
Total annual income	M Gh¢	57	69.4	102.3	106.6	146	
Total annual operating cost	M Gh¢	48	57.8	89.6	87.8	109.6	
Net operating surplus	M Gh¢	9	13.4	12.7	18.8	36.4	
<b>Employees</b>							
Staff/1,000 connections	#	7.8	7.9	7.7	7.5	7.2	
Staff as of 31 <sup>st</sup> December	fte	2,840	2,975	3,092	3,156	3,162	

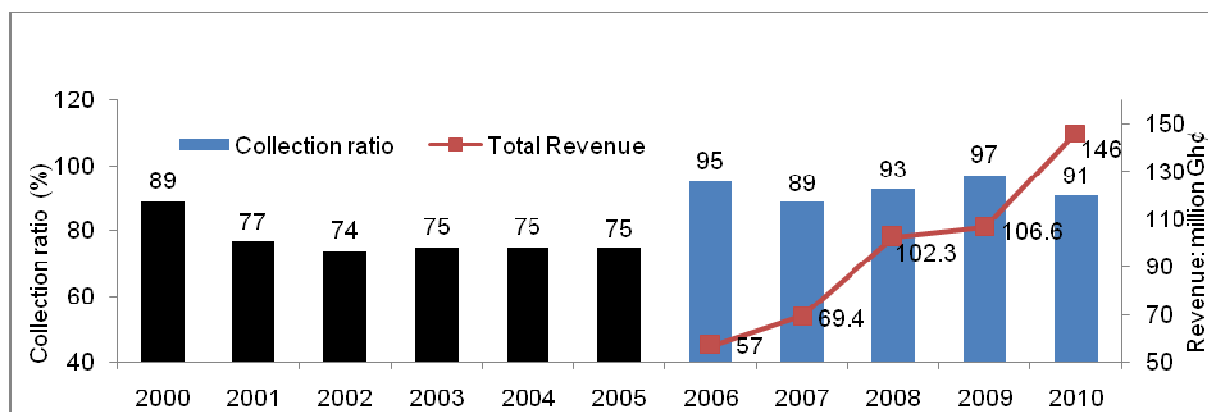
**Note:** Figures of collection ratio in bracket are from the operator, AVRIL. GWCL reported electricity cost/m<sup>3</sup> of Gh¢0.39 for 2009.

The World Bank audit report established that very little was achieved in terms of metering and establishing baselines for public sector institutions. Though water supply to these institutions has improved, billing is mainly based on estimated, rather than actual, consumption. Installation of water meters was held back by slow procurement processes, financial constraints, and other on-site conditions such as installation challenges (AVRIL, 2011).

Furthermore, progress on non-revenue water (NRW) reduction, one of the key objectives of the contract, has not been as originally anticipated. The contract required AVRIL to submit a comprehensive NRW reduction plan within 12 months of commencement that details a systematic reduction by supply area and how to determine NRW levels in the absence of complete metering. The performance target was a 5% reduction per year per service area, with a final target of not more than 25% by the end of the contract. As a percentage of water production, NRW stood at about 53% in 2006 and about 51% in 2011 (Table 1), representing a marginal reduction of 2%. High system losses are expected, given the (a) highly deteriorated distribution network, (b) inadequate pressure management practices; and (c) absence of widespread metering. NRW figures were based on rough estimates due to lack of reliable historic data, inaccurate customer database and billing systems, and lack of bulk and domestic water meters at connections and standpipes. This situation rendered the establishment of baselines and achievement of projected targets impossible.

### 5.3 Revenue collection efficiency

Revenue collection efficiency, a ratio of cash collections over billings, affects the cashflow of a water utility and measures the efficiency of its commercial management (WASREP & WSP, 2011; Marin, 2009). Figure 2 illustrates the revenue trend and collection efficiency prior to and under private management. Prior to the management contract, GWCL's was collecting 75% of its billings. Under the contract, collection efficiency ranged between 89% and 97%. The 2008–2009 sharp rise in revenue collection level was due to improved collection practices, extensive education campaigns, flexible collection methods for low-income consumers, establishment of more customer pay points, and disconnection of defaulters and (sometimes) court actions (AVRIL, 2011). However, maintaining collection levels above 90% was not due to improved service, as irregular supply was widespread, but rather strict collection policies and AVRIL's strong commercial incentives.



**Fig. 2: GWCL revenues and collection efficiency trend before and under private management (Source: Authors)**

Moreover, such high collection efficiencies were in part due to collections from accounts receivables – a target of the contract, and also, the starting level was quite good when AVRIL took over, for example, a collection rate of 75% for 2003 to 2005. Though data on collection period prior to the management contract is deficient, the number of days for recovering payments under AVRIL fell from 376 days in 2006 to 372 days in 2009 (Table 1 indicating a reduction of only 4 days). The data deficit limits our ability to compare with the previous



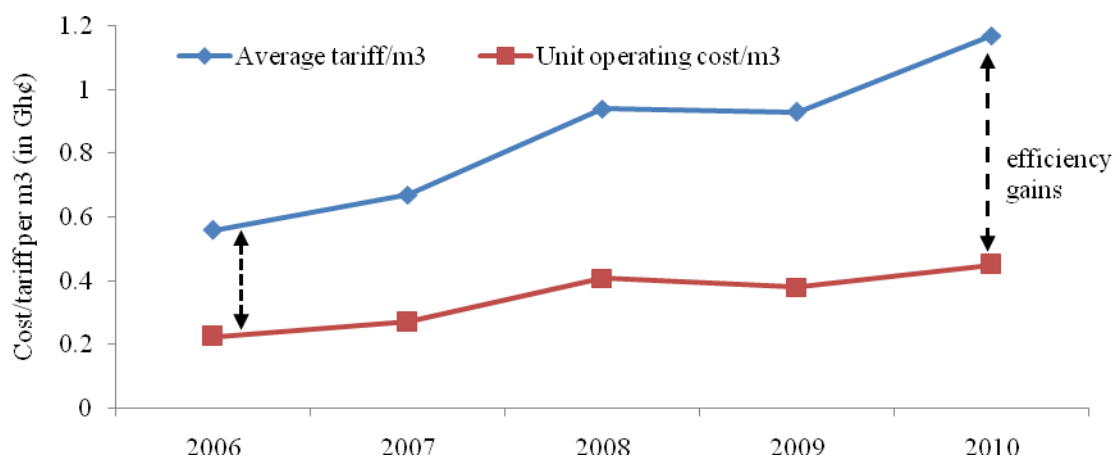
situation under public management. However, the operator fell short of achieving IBNET's 90-day benchmark. This poor performance in debtor days perhaps reflects the difficulties in recovering payments due to weak consumer confidence in and willingness to pay for services as a result of low quality services and increased tariffs.

### 5.4 Labour productivity

Labour is the largest fixed cost for water utilities and labour productivity is a relevant measure of operational efficiency (Marin, 2009). Introducing a private operator often results in low staffing levels and improved labour productivity (Gassner et al., 2008). The transition from public to private management entailed major changes in corporate culture, staffing and salary levels and employee qualifications. The need to replace the low-qualified with high-grade employees and ensure higher labour productivity made redundancies inevitable. Though efficiency target of less than 10 employees per 1,000 connections (Table 1) was surpassed (World Bank, 2009), this is largely due to the retrenchment programme executed by the government beforehand. The layoffs were tense and socially sensitive, and therefore AVRIL was not involved in the process. During the contract life, the operator further improved staff ratio from 7.8 to 7.2. The retrenchment of 1,600 workers (Fuest and Haffner, 2007) demonstrated how much excess staffing existed under public management before the PPP reform, owing to years of clientelism and political infiltrations. However, staff levels continued to grow gradually from 2,840 in 31<sup>st</sup> December 2006 to 3,162 in 31<sup>st</sup> December 2010.

### 5.5 Cost coverage

Given that the management contract was floated as a panacea to the utility's grave financial distresses, operating cost coverage was a key performance target and expectation of the stakeholders, namely the government, sponsors, GWCL, AVRIL, and the civil society. As of 2005, the utility's cash income could not support its operation and maintenance expenditures and only 48% of costs were recovered (AVRIL, 2011). From World Bank's perspective, the management contract made significant progress having achieved the target of recovering 100% of the operation and maintenance costs from GWCL's revenues (World Bank, 2009). The annual income increased from Gh¢57 million in 2006 to Gh¢143 million in 2010, with operating surplus rising from Gh¢9 million to Gh¢36.4 million over the same period.



**Fig. 3: GWCL's unit operating cost and average tariff under private management (Authors)**

Given that tariff increase was subject to PURC's approval, the operator did not have all the factors influencing the financial equilibrium of GWCL under its control, but had the opportunity to strictly control costs. However, the government must be commended for allowing justifiable tariff increases (Ameyaw and Chan, 2012) which largely contributed to operational and maintenance cost coverage. This decent achievement – financial stability and viability of GWCL – is the combined effect of AVRIL's effort and the government's commitment. Figure 3 illustrates GWCL's average tariff and unit operating cost under private management – indicating that efficiency gains improved during the 5-year period.

## **5.6 Policy and institutional development impact**

The qualitative evidence suggests that at least the management contract has had wider policy and institutional development impacts beyond the requirements specifically expressed in the contract. Two major policies were promulgated. First, one year into the contract, the National Water Policy was promulgated. The policy provides a framework for sustainable development of water resources in the country. It is targeted at all relevant stakeholders, including water managers and practitioners, investors, water users, and policy- and decision-makers within the central governmental and decentralised structures, international organisations, and non-governmental organisations. Second, a National PPP Policy was enacted in June 2011 to facilitate private sector involvement in infrastructure and services delivery. The policy clearly outlines procedures and models of private sector participation. The adoption of the policy reflects the government's desire to meet the infrastructure needs of the growing population through private sector capital and managerial expertise. These developments reinforced the argument that the presence of a for-profit private operator has the possibility to favourably influence government policies towards water services and their implementation (Mugabi and Marin, 2008).

## **6. Lessons learnt**

The urban water management contract is the first PPP project in Ghana, and there was no prior experience in PPPs. The project, therefore, provides a learning platform for the public and private sectors for future water supply PPPs in the country and elsewhere. Some useful lessons and experiences provided by this case are highlighted:

1. The Ghanaian experience exhibits the indispensable role that government (political) support plays in making management contracts work for water supply services. Despite the widespread water shortages and irregular supply, the government supported increased tariffs and stricter collection policies that in part ensured full O&M cost recovery from the utility revenues. Indeed, a transition from under-pricing to economic-pricing regime requires political backing – a condition for successful management contracts.
2. Private management of water supply services brings new competencies and skills through knowledge transfer, and also promotes policy and institutional transformations.

This brings important service delivery issues to the attention of reformers, water practitioners, and policy- and decision-makers.

3. The public sector should not raise unrealistic high expectations of the performance of the private operator – how fast performance can be improved. The Ghanaian experience indicates that public expectations on fixing the problems of NRW, widespread intermittent service, and chronic water shortages were poorly managed. AVRIL had difficulties in reducing NRW, bridging the increasing demand-supply imbalance, and re-establishing continuous service, given the absence of baseline data, destitute network condition, and insufficient funding. It is worth noting that AVRIL's inability to realise these targets hampered the evolution of the management contract into a lease. PPP transaction advisors must carefully set performance targets in future contracts.
4. Management contracts for water supply services must be carefully and properly designed. Ghana's contract exhibited two flaws that must be avoided in future partnerships: (a) unclear objectives and responsibilities. Given the grave sector challenges, a "*catchall with multiple unrealistic targets*" design approach was adopted, seeing the contract as a magic bullet, but leaving the responsibilities of GWCL and AVRIL poorly-defined; and (b) difficulties with interpretation of the contract. This prolonged decision making regarding investments, capital budgets, procurement, sales of assets, and outsourcing of services.
5. Access to reliable before-and-after performance data is a significant hindrance to meaningful performance analysis. Poor documentation of and discrepancies in performance data is observed in this case study. There are data inconsistencies depending on source – GWCL, AVRIL or independent organisations. This renders practical evaluation of performance difficult, if not impossible. Therefore, there is a need for a proper and common framework for performance monitoring and reporting.

## 7. Conclusion

The paper has made an attempt to analyse Ghana's experience with its first urban water management contract with a private operator. Prior to the introduction of the private operator, the status of urban water supply was in a terrible condition, characterised by prevalent water losses, chronic water shortages, dissatisfaction among consumers, high operational costs and a debt-ridden public utility that was struggling with high non-payment. To arrest the situation, the Ghanaian government with financial support from the World Bank and Nordic Development Fund engaged the private sector as part of a wider sector reform process. Given Ghana's inexperience with PPPs, the precarious financial condition of GWCL, the unattractiveness of the urban water sector and the fierce public resistance to private sector participation, a 5-year management contract provided many advantages in terms of its flexibility, limited duration and increased government control over tariffs and infrastructure. Before-and-after data showed noticeable improvements in the labour productivity, revenue collections, energy efficiency and cost coverage, but no improvements in demand management and revenue collection period. As this paper has shown, the performance of this management contract is best described as mixed. On one hand, the Ghanaian experience demonstrates that management contracts for water services can potentially activate policy and institutional transformation, paving the way for increased private activity in the water sector.

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