

PROCUREMENT PRACTICES IN URBAN WATER SUPPLY IN GHANA

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ABSTRACT

Procurement is an undervalued sector in the public sector. Cooperative procurement procedures have a positive influence on project performance. The study analysed the procurement practices in Ghana's water industry, factors that contribute to procurement success. Recommendations to improve the procurement process in urban water supply were outlined. The study revealed that there are provisions for institutional framework, procurement procedures documentation and anti-corruption measures. These provisions ensure the integrity and transparency of the public procurement process. The Ghana Water Company Limited (GWCL) has shown diligence in their procurement activities. The review body should be empowered to handle all disputes and complaints.

Keywords: Water, Procurement, Performance, Acquiring, Project, Urban.

INTRODUCTION

Procurement is an undervalued sector in the public sector. Traditionally, the legal framework for public procurement in Ghana was minimal (Westring, 1997; World Bank, 1996). The Ghana Supply Commission (since January 2000 the Ghana Supply Company Limited) used to be the parastatal procurement agency for the procurement of all public goods. However, insufficiently qualified personnel, lack of planning for the required goods, and lack of a proper database, and problems in the timely acquisition of funds led to long delivery times.

Procurement is the process of acquiring materials, equipment and services from external sources for use in a project. Procurement is a process that usually starts long before the start of the construction process and ends with project completion or project closeout. The procurement team must work in close coordination with both the estimating and scheduling teams and the project management team as a whole. For some institutions, the Procurement Manager works independent of the Project Manager (Mubarak, 2010).

Efficient procurement practices play a major role in both the public and private sectors of economies. This helps to ensure reduction of wasteful activities. Achieving such efficiency is an ambitious task as procurement faces numerous challenges. These challenges are due to market structure, the legal framework and the political terrains that procurers face (Thai, 2009).

The public procurement system is built on four cardinal pillars – procurement laws and regulations, procurement workforce, procurement process and methods and procurement organizational structure. This system is mostly determined by government and influenced by its economic, cultural, legal, political and social environment (Thai, 2009).

Although procurement procedures need to be tailored to enhance the fulfilment of different project performance objectives (Cox and Thompson, 1997; Wardani et al., 2006), clients tend to choose those procurement procedures that they have a good knowledge of and a habit of using, regardless of any differences between projects (Love et al., 1998; Eriksson, 2008b). For a new procurement procedure to be implemented, clients need to feel confident of how to use it and have positive attitudes towards its effect on outcomes (TysseLand, 2008).



According to Eriksson and Westerberg (2010), cooperative procurement procedures (joint specification, selected tendering, soft parameters in bid evaluation, joint subcontractor selection, incentive-based payment, collaborative tools, and contractor self-control) generally have a positive influence on project performance (cost, time, quality, environmental impact, work environment, and innovation).

The aim of this research is to assess the procurement practices in the urban water supply of Ghana. This research is intended to help investigate the procurement procedures and factors that would enhance water supply to the urban citizens.

To achieve the aim of the research, the following activities were carried out:

1. Analysis of the procurement practices in Ghana.
2. Identification of the factors that contribute to procurement success in urban water supply in Ghana.
3. Recommendations that would help in the procurement process of urban water supply.

Study Area and Research Methodology

Study Area

The research was based mainly on the project management activities being under by the Ghana Water Company Limited (GWCL).

Project Management Structure of Ghana Water Company Limited

Objectives of the Urban Water Project

The objectives of the Urban Water Project are:

- To expand the reliable supply of safe water in the urban areas.
- To ensure that low income consumers have access to potable water at affordable price.
- To ensure sustainability of the sector through cost recovery.
- To ensure steady flow of investment fund, with emphasis on low cost and concession financing.
- To support the introduction of the private sector into management and operation of the water supply systems.

COMPONENTS OF THE URBAN WATER PROJECT

The Urban Water Project comprises four components:

1. System Expansion and Rehabilitation

This component is to support:

- Increasing the amount of treated water for sale,
- Extending service to low income areas,



- Rehabilitating existing network to reduce non-revenue water.
- Dam safety upgrades, procurement and installation of meters, and provision of engineering services, vehicles and equipment for Grantor's regional and district offices.

2. Public-Private Partnership Development

This component supports the payment to the operator under the Management Contract as well as payment to Technical and Financial Auditors to measure the Operator's performance.

3. Capacity Building and Project Management

This component mainly includes training of seconded staff and technical assistance. Also included under this component are allocations for training at GWCL's headquarters, vehicles, office equipment, support for the Project Management Unit and the PURC as well as provision for environmental safeguards.

4. Severance Programme

This component was designed to finance the severance programme undertaken by Ghana Water Company Limited.

Services undertaken by GWCL may be categorised as follows:

- Rehabilitation of existing water supply schemes to bring them up to their designed capacities;
- Provision of operational support equipment;
- Limited extensions and improvements to existing systems;
- Construction of new water schemes

In general, GWCL is responsible for:

- Urban water sector planning and development.
- Investment planning.
- Sector financial management.
- Quality control over urban water sector operations.
- Monitoring the Private Operator over compliance with performance standards and targets.
- Contracting for design and construction and/or rehabilitation and expansion of existing as well as new works.
- Consumer information and sensitization.
- Community outreach activities.
- Regulatory applications and negotiations.
- Legal and policy issues including linkages to relevant ministries.
- Assets Management.

Research Methodology

The study was conducted within a period of ten months; from November 2010 to August 2011.

To be able to achieve the objectives of this study, seventy (70) questionnaires were sent out to stakeholders. The stakeholders were top level management in the water industry, consultants and other professionals



involved in contracts and project delivery. Sixty-two (62) of the respondents returned their questionnaires and fifty-five (55) were used for analysis.

- **Literature Review:** literature and research works done by other scholars relating to the topic were reviewed. This gave information on the research and the methods employed by these scholars. Also, the findings and challenges of these researchers were assessed and incorporated into the final analysis. The literature review was a good source of secondary data that proved to be very essential in achieving the objectives of the research.
- **Interviews:** Interviews were conducted with project staff of GWCL, consultants working with GWCL, some contractors using a structured questionnaire as a guide. These provided the required information from the interview sessions and also go into specific areas.
- **Questionnaires:** A structured questionnaire was distributed to consultants and contractors who were not reached for the interview sessions.
- **Data Analysis:** Both primary data from field and secondary data from literature were analysed and salient conclusions and recommendations provided.

RESULTS AND DISCUSSION

The respondents had ages ranging from twenty (20) years and above. Table 3.1 below shows the age distribution of respondents. It can be deduced from table 3.1 that about seventy-five percent (75%) of the respondent have ages of forty and above.

About eighty-five (85%) of the respondents have at least five years of experience in their field of work, especially on issues relating to contract delivery in the construction industry.

Results from the field data indicate that about 96% of the respondents were involved procurement processes in their operations. The respondents are in high management positions and therefore involved in procurement activities for their organizations. Table 3.2 shows the respondents that are involved in procurement activities.

Procurement Practices in Ghana

The World Bank (2003) estimated the annual value of public procurement for goods, works, consultancy services, at six hundred million dollars (US \$600 million). This value is about 10% of the country's GDP. The bulk of the public procurement expenditures were spent on Ministries, Departments, Agencies (MDAs) and District Assemblies (DAs). The MDAs and DAs spent much on capital investment procurement (Westring, 1997).

The procurement of construction works and services have been regulated mainly through circulars from the Ministry of Finance, which complement a set of procedures evolved by convention in connection with the control of procurement exercised by the ministry. Central, Regional and District Tender Boards process and award contracts within thresholds defined by the Ministry of Finance. World Bank projects use the World Bank Procurement Guidelines (World Bank, 1995) and the World Bank Consultant Guidelines (World Bank, 1997).

The traditional method of procurement is mainly used for public works with design split from construction. There is a provision for mandatory registration and classification of contractors under guidelines administered by the Ministry of Water Resources, Works and Housing (MWRWH). However, the MDAs and many DAs maintain separate lists for the pre-qualification of contractors and use different



standard conditions of contract for works procurement. World Bank-administered projects use the FIDIC conditions of contract for works contracts and shortlists for the selection of consultants.

The classification procedures by MWRWH have been observed to be too general and the registration criteria, lists of contractors and monetary thresholds are not updated regularly (Eyiah and Cook, 2003, World Bank, 1996). Except for major or complex assignments, most government-financed architectural consultancy services and project supervision have been assigned to the Architectural and Engineering Services Limited (AESL) on sole basis (World Bank 1996).

The shortlists used on World Bank-administered projects for the selection of consultants have been observed to be repetitive, with the same firms recurrently selected in civil engineering and building works supervision (World Bank, 1996). Many instances of a single contractor buying and pricing all the bidding documents, and of the award of a number of contracts (or lots) to the same contractor/supplier, under different contracting names have also been observed (Crown Agents, 1998, Westring, 1997).

Osei-Tutu et al (2010) posits that conflict of interest, bribery, embezzlement, kickbacks, tender manipulation and fraud are observed corrupt practices in the Ghanaian infrastructure projects delivery and procurement system. The severity of corruption practices has intensified the search for more innovative means of delivering infrastructure projects that will achieve value for money.

To address corruption practices, it would require the constitution of a sound procurement system and pro-social equity policies that would foster good governance, corporate social responsibility, transparency, accountability, judicious public expenditure and national progress.

Ghana's Public Procurement Reforms

The public procurement reforms are part of a programme to improve the public financial management. The procurement reforms would help the country achieve the following:

- Promote national development
- Enhance harmony with other local and international laws and regulations
- Foster competition, efficiency, accountability and transparency
- Facilitate ease of procurement administration
- Ensure value for money

Annual savings of about US\$150 million are predicted through better management of government-financed procurement alone (World Bank 2003). In view of the procurement reform, a draft Public Procurement Bill was presented to the Parliament of Ghana. This Bill was enacted into law by the Parliament in 2003. Some of the measures undertaken by the Government of Ghana include the following (in pursuance of the procurement reforms):

- The issuance and monitoring of expenditures of MDAs and DAs
- Creation of expenditure ceilings in consonance with annual budgets and updated cash flow forecasts
- Implementation of anti-corruption strategies and code of conduct for public officials

All procuring entities must obtain clearance from the Ministry of Finance through a certification to show as a proof of the availability of funds for the intended project before a contract is awarded.

The procurement reforms have led to the engagement of professionals from various backgrounds as consultants by Government and its allied agencies. Professional consultants who are regularly engaged by the government and other clients are Architects, the Quantity Surveyors (QS), Geodetic Engineers (GE),



Structural Engineers (St.E), Electrical Engineers (EE) and Services Engineers (SE). Geodetic Engineers are often called when it is about roads construction. All these professionals are regulated by their professional institution, namely, Ghana Institution of Engineers (GhIE), Ghana Institution of Surveyors (GhIS), Ghana Institution of Architects (GIA).

Construction contractors in Ghana are classified into eight (8) categories. The classification is in accordance with the works undertaken by the contractor. The contractors are classified as A, B, C, D, E, G, K and S. The works undertaken by the contractors are:

- (i) Roads, Airports, and Related Structures (A);
- (ii) Bridges, Culverts and other Structures (B);
- (iii) Labour based road works (C);
- (iv) General building works (D);
- (v) Electrical works (E); and
- (vi) Plumbing works (G).
- (vii) General civil works (K);
- (viii) Steel bridges and structures: construction, rehabilitation and maintenance (S);

The contractors in each classification are grouped according to their financial status. These financial classifications are from 1 to 4 (Vulink, 2004). In addition, Dansoh (2005) notes a combined category of AB for road contractors. According to Dansoh (2005) Class 4 contractors can tender for contracts up to \$75,000; class 3 up to \$200,000; class 2 up to \$500,000. Class 1 take contracts of all amounts. The two upper classes (D₁ and D₂) are more organised and hence more stable, taking on both bigger and smaller works.

Vulink (2004) notes that because of the poor performance of Ghanaian local contractors most of the nation's major projects are usually awarded to foreign contractors. Assibey- Mensah (2008) attributes this to the "non-business-like culture" with which indigenous firms operate in Ghana.

The Public Procurement Act (ACT 663)

In 2003, the Parliament of Ghana enacted the Public Procurement Act to help in procurement activities in the country and enhance the procurement reforms. Act 663 has contributed some level of sanity into the construction sector (Gyedu-Asiedu, 2009). Act 663 establishes the five basic pillars of public procurement (World Bank 2003):

- 1) Comprehensive, transparent legal and institutional framework;
- 2) Clear and standardised procurement procedures and standard tender documents;
- 3) Independent control system;
- 4) Proficient procurement staff; and
- 5) Anti-corruption measures

According to Osei-Tutu et al (2010), the Public Procurement Act 2003 (Act 663) is observed to proffer solutions for some of the challenges in the construction industry.

Act 663 incorporates the following provisions:

- **Legal and Institutional Framework:** the Procurement Act makes provision for the establishment of a Public Procurement Authority at the National level and Procurement Boards and Procurement Entities at decentralized levels. Procurement entities are defined as comprising MDAs and all parastatal establishments that utilise public funds. A tender committee in each procurement entity provides a one-stop shop for concurrent approvals, awards and management of contracts to predefined value thresholds.



The tender committee may use external consultants in the performance of its functions. The tender committee shall refer any procurement exceeding its value threshold to the appropriate tender review board at the district, regional, ministerial or central government level. The tender review board reviews all procurement activities for compliance with Act 663, provides concurrent approval or otherwise of procurement referrals, hears complaints and escalates unresolved issues to the Board.

- **Procurement Procedures and Documentation:** Act 663 stipulates the procedures tender packaging, soliciting and evaluation of tenders leading to the award of contracts. The Act makes provision for pre-qualification procedures of tenderers for large, complex and technical services contracts. All contracts must be tendered on an open competitive basis. Restricted tendering is justifiable based on the grounds that it will result in the provision of an efficient, economic and the best of services. Restricted tendering is subject to the approval of the Tender Board. Two-stage tendering is only allowed where detailed specifications cannot be made available before going to tender or the optimal solution is unknown and tenders are solicited to provide this. National Competitive Bidding shall be used when the procurement entity so decides and subject to contract value thresholds specified in Act 663. International Competitive Bidding shall be used when effective competition cannot be achieved without the inclusion of foreign firms.
- **Scope of Application:** Act 663 applies to all procurement financed in whole or in part from public funds. Notwithstanding this provision, procurement with international obligations arising from any grant or concessionary loan to the government shall be in accordance with the terms of the grant or loan. However, it has been suggested that the World Bank/ FIDIC procurement procedures are used on World Bank-administered projects because MDAs have no set of comprehensive guidelines for procurement (Westring 1997, World Bank 1996). There is therefore reason to expect that donor partners will defer to the use of the Act 663. The agreement between the Ministry of Health and its cooperating partners, under a World Bank-administered programme, to organise procurement under specific Ministry of Health procedures is perhaps evidence of this expectation (World Bank 2003).
- **Procurement Oversight, Capacity Building and Anti-corruption Measures:** it is the duty of the Procurement Authority to perform the following functions:
 - Provide policy and oversight responsibility oversight
 - Provide training and capacity building for officials involved in procurement activities
 - Aid local industries to become competitive and also efficient suppliers of goods and services to the public sector
 - Help resolve appeals, complaints and grievances

Corrupt practices as enshrined in the Constitution of Ghana and the Criminal Code 1960 are outlawed in Act 663. Violation of the provisions in the Public Procurement Act, upon conviction, is punishable by a fine, imprisonment or both.

Factors that contribute to Procurement Success

The following were identified as the factors that contribute to the success of procurement practices in urban water supply:

- Legal and regulatory framework
- Institutional framework and management capacity
- Procurement operations and practices
- Integrity and transparency of the public procurement processes

Cronbach's Alpha was used in measuring the consistency of the various elements under the four (4) major factors namely: legal and regulatory framework, institutional framework and management capacity,



procurement operations and practices and finally integrity and transparency of the public procurement process.

The Cronbach's Alpha is a tool which is used in measuring or assessing the degree of internal consistency to which multiple measures of the same thing agree with one another. It can also be seen as a tool for assessing the degree of internal consistency of scores from a set of indicators (questionnaire items). Simply put it is a measure of internal consistency or how closely related a set of questionnaire items are as a group.

Table 3.3 below shows a summary of the Cronbach Alpha values for the four (4) thematic areas of the Procurement Assessment process.

Elements that contribute to Procurement Success

The research identified eleven (11) factors that contribute to procurement success in the Legal and Regulatory Framework. These factors are:

- The scope of application and coverage of the legislative and regulatory framework in the procurement method used.
- Advertising of rules and time limits
- Tender documentation and technical participation.
- Adequate rules regarding to participation.
- Tender submission, receipts and opening of tenders
- Tender evaluation and criteria for award of contracts
- Adequate rules for handling of complaints.
- Model tender documents for goods, works and services
- Adequate procedures for pre-qualification.
- Procedures suitable for contracting services and other requirements that is included in the national laws.
- Procedures for contracting services and other requirements in which technical capacity is key criterion.

The research identified six (6) factors that contribute to procurement success in the institutional framework and management capacity of GWCL. These factors are:

- Procurement planning and data relating to costing are part of the budgetary formulation process and contribute to multi-year planning.
- Financial law and budget procedures support timely procurement, contract execution and payments.
- Budgetary approval before initiation of procurement processes.
- Completion reports prepared for certification of budgets, project execution and reconciliation of delivery with budgetary programming.
- Quality control standards used to evaluate performance of procurement staff.
- Provisions to avoid conflict of interest and direct involvement of officers in the procurement in the execution of procurement transactions.

Seven (7) factors that enhance the success of procurement operations and practices in urban water supply were identified. These factors are:

- The competence of the procurement officials within tender entities is consistent with procurement responsibilities



- There are established norms for the safeguarding or safekeeping of records and documents related to transactions and contract management
- There are established provisions for the delegation of authority to officials who are deemed to be competent and have the capacity to perform the functions assigned to them
- There are no systemic constraints such as inadequate access to credit facilities, contracting practices, etc. that inhibit the private sector from accessing the procurement market
- There are clearly defined procedures for undertaking contract administration responsibilities such as inspection, quality control procedures, acceptance of performance, etc.
- Contracts include dispute resolution procedures that define efficient and fair process to resolve disputes arising during the performance of the contract.
- Procedures exist to enforce the outcome of the dispute resolution process

The integrity and transparency of the public procurement process is influenced by nine (9) factors. The factors are:

- The procurement system has a legal framework, organization, policy and procedures for control and audit of procurement activities
- Procurement auditors are well informed about procurement control systems and procurement requirements to enhance quality audits that contribute to compliance.
- Internal control systems are clear enough to allow performance audits to be carried out.
- Enforcement and follow-up on findings and recommendations of the control framework provides an environment that enforces compliance.
- Decisions made during the procurement process are based on available information and the final decision can be reviewed and ruled upon by a body with enforcement authority under the law.
- The procurement system operates in a fair manner and the outcomes of the decisions made balanced and justified based on available information.
- The procurement system ensures that the complaints review body has the authority and independence for resolution of complaints.
- Special measures exist to detect and prevent fraud, corruption and conflict of interest in the procurement process.
- The legal and regulatory framework for procurement including tender and contract documents incorporates provisions for addressing corruption, fraud, conflict of interest, unethical behaviours and actions, etc.

EXPERIENCES OF THE GWCL

The GWCL undertakes the procurement of works and services. In 2004 and 2005, the GWCL undertook the procurement – management contract – with Vitens Rand Water Services BV of Netherlands, a consortium of Vitens International BV of the Royal Netherlands and Rand Water Services Pty of South Africa. 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.

GWCL oversees the expansion of water supply systems in urban centres. In 2008, a procurement process was undertaken to expand the water supply to the people of the Central Region in Ghana. The tender process followed used the World Bank procurement documents to guide the process. Ms Spaans Babcock B.V. of the Netherlands executed the Baifikrom Water Supply Project at a cost of Euro 25.870 million.

The scope of works consisted of installation of mechanical and electrical equipment, construction of permanent dam/weir across the Ochi-Amissa River, construction of raw water intake station, two new



reservoirs and two booster pumping stations and construction of a new 11,400 metre cube (2.5 million gallon daily) per day treatment plant at Baifikrom.

Similar works such as the Koforidua Water Works, the Sekyere Hemang Water System, the Rehabilitation of the Barekese and Owabi Headworks, construction and maintenance of water assets are some of the project that the procurement process was used for.

The traditional method of procurement employed by GWCL i.e. before the Public Procurement Act (PPA) was empanelling of a procurement team who would do the evaluation of bids. The bid evaluation was dependent on the Engineers' Price for project. This approach has caused the GWCL to pay more money for less work.

The above finding conforms the assertion that the sole reliance upon the traditional method and the use of largely price-based contractor selection criteria is a fundamental mistake that leads to poor delivery of projects (Palaneeswaran et al. 2001, Rwelamila et al. 1999).

The introduction of the PPA has brought sanity into the procurement activities of GWCL and also created the necessary conditions for best value for money. The evaluation of bids is based on the lowest responsive bidder. The PPA has come with a challenge of awarding bids to tenderers who do not have the required capacity to complete the given task.

CONCLUSION AND RECOMMENDATIONS

From the study above, the following are the conclusions drawn:

The GWCL has been using the Public Procurement Act in its procurement processes. The PPA establishes the legal and institutional framework for ensuring transparency, probity and accountability in public construction procurement.

The factors that contribute to procurement success in urban water supply by the GWCL procurement processes are:

- Legal and regulatory framework
- Institutional framework and management capacity
- Procurement operations and practices
- Integrity and transparency of the public procurement processes

The following are recommended for the improvement of the procurement practices in urban water supply in Ghana:

- Procedures suitable for contracting services and other requirements should conform to the national laws.
- Special measures should be put in place to detect and prevent fraud, corruption and conflict of interest in the procurement process.
- The legal and regulatory framework for procurement including tender and contract documents incorporates provisions for addressing corruption, fraud, conflict of interest, unethical behaviours and actions, etc.
- The complaints review body must have the authority and independence for resolution of complaints and disputes.



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TABLES

Table 0.1: Age of Respondents

Age	Number of Respondents	Percentage (%)
20 - 29	4	7.3
30 - 39	8	14.5
40 - 49	25	45.5
50 and Above	18	32.7
Total	55	100

Table 0.2: Respondents involved in procurement activities

Response	Number of Respondents	Percentage (%)
Yes	53	96.4
No	2	3.6
Total	55	100

Table 0.3: Results of Reliability Test

S/N	Item	Cronbach Alpha	Number of elements assessed
1	Legal and Regulatory Framework	0.855	11
2	Institutional Framework and Management Capacity	0.561	6
3	Procurement Operations and Practices	0.610	7
4	Integrity and Transparency of the Public Procurement Process	0.860	9

