

## The impact of Public Procurement Act 663 on the procurement of essential water treatment chemicals at Ghana Water Company Limited

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**ABSTRACT:** *Introduction:* This article discusses the extent to which the promulgation of Public Procurement Act (PPA) 663 has affected the acquiring of water treatment chemicals which is pivotal to the operations of Ghana Water Company Limited (GWCL). The purpose is to find out from officials within the company about their impressions with the coming into force of the act for more than a decade now.

*Methods:* A descriptive study with quantitative methods was conducted with workers of GWCL; procurements and materials, operations/project management unit and projects planning and development in Accra. Questionnaires were administered to 85 workers within GWCL through a purposive sampling method. Data analyses involved descriptive statistics using SPSS version 20.

*Results:* Out of 85 participants, 88.2% revealed that all contracts are made available to interested individuals to apply through sources such as website of GWCL and newspapers. Most workers agreed that procurement management has improved efficiency and effectiveness in procurement of essential water chemicals (mean=4.08). Finding further revealed that the PPA has significant (65.9%) and very strong effect (27.1%) on procurement of essential water treatment. However, the structure has been plagued by lapses affecting procurement of water treatment chemicals. These include bureaucracy and centralization which has negative impacts on procurement activities.

*Conclusion:* The study concludes that since the coming into force of the act, there has been institutionalization of structures to handle procurement within GWCL. Therefore, measures to decentralize the activities of GWCL will further help in enhancing efficiency within GWCL and other entities to a larger extent.

**KEYWORDS:** Public procurement, public procurement act, water treatment chemicals, decentralization, centralization, bureaucracy.

### 1 INTRODUCTION

Parliament of Ghana passed the public procurement Act, Act 663 in 2003 and it received presidential assent on 31st December, 2003 [1]. The coming into force of the Act makes non-enforceable the District Tender Board Regulations, 1995 (L.I.1606) and repeals the Ghana National Procurement Agency Decree 1976 (SMCD 55) and the Ghana Supply Commission Law, 1990, PNDCL 245 [2]. A provision was made for the establishment of Public Procurement Board (PPB) which is central authority created to harmonize the process. The PPA has been mandated to ensure efficiency as well as transparency in the process [1, 3]. In addition, procurement entities such as state owned enterprises, hospitals, public universities, state owned banks and District Assemblies initiate procurement process and tender review board makes approval for recommendations as the contracts are awarded by committees [2, 4].

The Act seeks to guide against fraudulent practices, provide best guide for procurement practices, make a strong case for value for money and maintain the integrity of the procurement process [4-6]. In addition, the Act seeks to lay a strong

foundation for a standard system which takes into account Ghana's decentralization system. The Act essentially provides a framework for the development as well as strengthening procurement institutions and making sure their activities are geared towards poverty reduction, good governance and anti-corruption [1, 2].

Procurement process is seen as a bureaucratic but it is important to follow key steps in any procurement exercise. Procurement processes aim to achieve the best value while ensuring competition and fairness. The procurement cycle follows certain documented steps for identifying a requirement or need of the company through the final step of the award of the product or contract. The procurement process involves stages which can help check procurement activities. Also, following a proven and tested step-by-step cycle will result in effective management to successfully achieve its goals. This process is common to all procurement activities anywhere [2, 7-10].

There are various phases of public procurement being followed by countries as well as international organization and bodies. For instance Abrams [11] suggested seven public procurement processes for member states of United Nation Capital Development Fund. These are as follows; Planning, preparation, search, evaluation, decision, delivery and payment [11]. In addition, OECD [8] identified three phases of public procurement which include pre-tendering (assessment, planning and budgeting, definition of requirements and choice of procedures), tendering (invitation to tender and award of contract) and post-tendering phase (contract management, order and payment, Monitoring and Evaluation). Furthermore, [12] agreed with these generally three phases of procurement process. The phases outlined by UNDOC [13] and OECD [8] are similar to the processes documented in the Procurement Act 663 of Ghana.

Ghana's achievements in the implementation of the Public Procurement Act 663 have been recognized by the OECD Development Assistance Committee as an important tool for checking corruption in the country [14]. However, studies have revealed that even though Ghana's Procurement Act was enacted on the principles of transparency, accountability, efficiency, economy and sustainability, there is growing perception that contracts in public intuitions like GWCL [14, 15] are awarded not on the basis of factors including competence through evaluation criteria of specification, personnel, resources, experience, financial capacity and equipment holding but rather on the basis of affiliations [16, 17].

## **2 METHODS**

### **2.1 STUDY DESIGN**

The study employed descriptive methods in examining procurement processes being used at GWCL. Quantitative methods provided the researcher the opportunity to subject collected data to statistical analysis. Quantitative method in this study focused on numbers and frequencies. Questionnaires were issued to workers and were analyzed statistically. A quantitative data collection method employs ordinal summation of data collected from respondents.

The Ghana Water Company head office in Accra was chosen for the study because information needed could only be provided by the head office in Accra. GWCL was chosen for the study because it is the only company in the country mandated by law to make water available to people of Ghana. Besides, water treatment chemicals is essential in their operations therefore there is the need to research into how it is purchased taking into consideration procurement act.

### **2.2 PARTICIPANTS**

The target population consisted of officials of Ghana Water Company Limited specifically those in charge of procurement in the Accra office. These included officials in charge of procurements and materials, operations/project management unit and projects planning and development. In all, a total of 100 questionnaires were issued out to workers of GWCL, however, 85 workers from various departments responded and enrolled in the study. Additionally, participants were selected based on the role they play in the procurement of chemicals.

### **2.3 SAMPLING TECHNIQUE**

In conducting research, it is at times not possible or too costly to collect data from all potential respondents [18]. Hence, a smaller number of units (sample) are chosen to represent the whole population. Therefore, the sampling methods chosen for this study was a purposive sampling. With regard to purposive sampling, the researcher employed his or her own expert judgment about who to include in the sample frame which is based on appropriate characteristics required from sample member [18-20]. In addition, David and Sutton [21] added "the units are selected according to the researchers own knowledge and opinion about which ones they think will be appropriate to the topic area". Therefore, the researcher

selected the sample on the basis of their suitability and purpose of the study. In line with this, workers of Ghana Water Company Limited within Accra office (Procurements and materials, Operations/Project management unit and Projects Planning and Development) were purposively chosen as the sample for this study.

## **2.4 DATA COLLECTION AND ANALYSIS**

The researchers administered questionnaires to collect information from officials of Ghana Water Company in Accra who handle procurement of chemicals for water. The questionnaires were structured based on the variables under the objectives of the study. The questionnaires involved both closed and open-ended questions. The data was entered into Statistical Package for Social Sciences Software (SPSS) version 20 which made the data entry quicker than manual process and reduced human errors. Results were generated using descriptive statistics. Data were summarized using frequency and percentage for categorical variables. Results were also presented in tables and figures. The analysis then followed interpretation of the tables and figures and discussions based on the findings from the study.

## **2.5 ETHICAL ISSUES**

An approval was sought from Procurement Department of the GWCL before commencing the study. The Principal Investigators (PIs) then obtained a letter from the head of Procurement Unit at GWCL showing their approval of the study. The PIs then explained the potential benefits of the study participants, the purpose of the study and what will be required from participants prior to their enrolment into the study.

## **3 RESULTS**

### **3.1 BACKGROUND OF RESPONDENTS**

Table 4.1 presents the background information of respondents enrolled in the study. Responses indicate that slightly half (50.6%) of the respondents were within the age group of 31 – 40 years while 36.5% were within 41 – 50 years. Only 5.9% were, however, above 50 years of age with an average age being 39 years. Respondents were mostly made up of males (81.2%) with 18% constituting females. The majority (45.9%) of respondents had Polytechnic Education qualification, 28.2% Bachelor degree, with 3.5% having Master's degree. The majority (74.1%) of respondents were married while 25.9% were single. Christianity (78.8%) was a dominant religious sect among respondents. The results showed that 55.3% of the staff had experiences ranging from 6 years to 10 years while 32.9% had worked with GWCL for 5 years and below.

Table 1: Background information of respondents

Variable		Frequency	Percentage
Age			
–	≤ 30	6	7.1
–	31 – 40	43	50.6
–	41 – 50	31	36.5
–	> 50	5	5.9
		<b>Mean=39years</b>	
Gender			
–	Male	69	81.2
–	Female	16	18.8
Educational Level			
–	SHS/O' Level	19	22.4
–	Polytechnic	39	45.9
–	Bachelor Degree	24	28.2
–	Master's Degree	3	3.5
Marital status			
–	Single	22	25.9
–	Married	63	74.1
Religion			
–	Christianity	67	78.8
–	Islam	18	21.2
Years of working with GWCL			
–	≤ 5 years	28	32.9
–	6 – 10 years	47	55.3
–	> 10	10	11.8

### 3.2 PROCUREMENT OF WATER TREATMENT CHEMICALS

To be able to examine the procurement of essential water treatment in GWCL, there was the need to find out the extent to which such procurement was complying with the principles established by the Public Procurement Act, 663. Table 2, Figure 1 and 2 present responses on how procurement of essential water treatment conforms to the Act. All responses indicated that the GWCL has a procurement officer. Respondents further mentioned the Department they worked within the GWCL including Procurements and materials (58.8%), Operations/Project management unit (11.8%) as well as Projects Planning and Development (29.4%). The study again elicited information on the number of contracts awarded for essential water chemicals in the last year and the maximum days open to tenderers. All responses indicated that a maximum of four contracts were awarded such that a maximum of six weeks were open to tenderers. The majority (88.2%) of respondents further indicated that they make all contracts available to interested individuals to apply. Respondents mentioned the sources of making information available to the public including the website of GWCL and newspapers such as Daily graphic which is largely read in Ghana.

Respondents further mentioned the stages involve in the procurement of essential water treatment to include; Tender Publication, Testing of Chemical sample, Tenders evaluations, Approval by Review Committee and Contract Award or Administration. On the average, a typical period of procurement of chemicals was 98 days as reported by the respondents. In addition, the study asked respondents the extent to which procurement of chemicals at GWCL conforms to the PPA. The majority (76.5%) indicated that most of the time it conforms to the PPA whiles 21.2% disclosed all the time. However, 2.4% indicated that procurement of chemicals sometimes conform to the Act. According to the responses, procurement handled at the head office use the competitive tendering process whiles at the regional level, there is not much strict adherence to the PPA guidelines in all cases.

Table 2: Extent to which procurement of essential water treatment conforms to the Procurement Act

Variables	Frequency	Percentage (%)
<b>Department worked within GWCL</b>		
– Procurements and materials	50	58.8
– Operations/Project management unit	10	11.8
– Projects Planning and Development	25	29.4
<b>Procurement methods used on chemicals for essential</b>		
– Competitive	85	100
<b>Period for procurement of chemicals for essential water treatment</b>		
– 30days		
– 90 days	5	5.9
– 100 days	54	63.5
– 150 days	11	12.9
<b>Average days</b>	15	17.6
	98	
<b>Number of contracts awarded on chemicals for essential water in the last year</b>		
– 4 contracts	85	100
<b>Maximum time/days open to tenderers</b>		
– 6 weeks	85	100
<b>Sources of making information available to the public</b>		
– Through GWCL website	56	65.9
– Newspaper	29	34.1

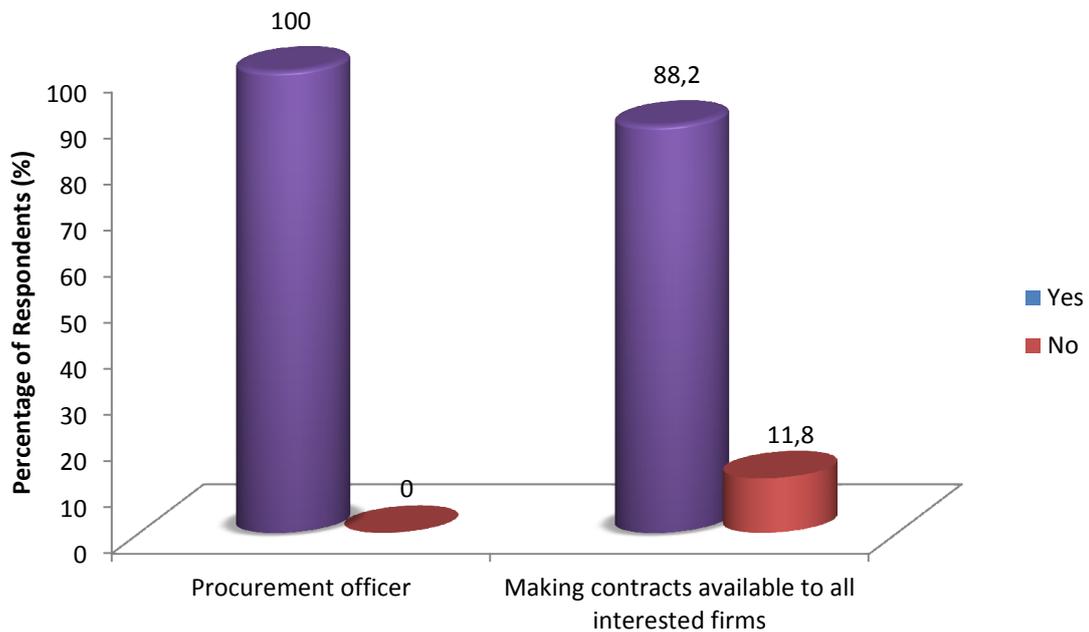


Figure 1: Availability of procurement officer and fair opening of contracts

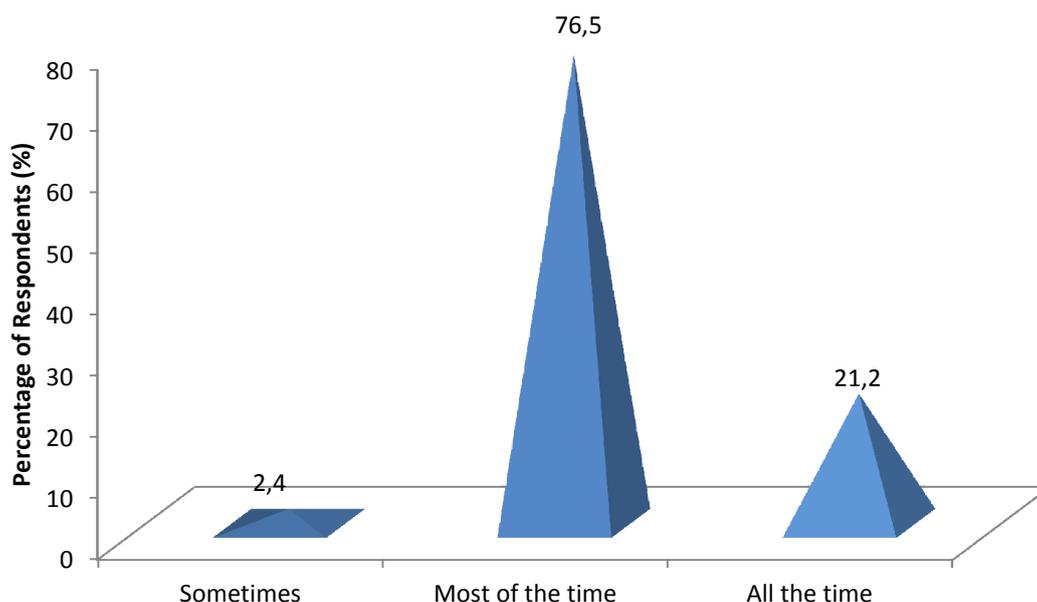


Figure 2: Extent to which procurement of essential water chemicals conform

### 3.3 IMPACTS OF PROCUREMENT ACT

The study further sought to examine how procurement management using the PPA enhances procurement of chemicals for water treatment at GWCL. As shown on Figure 3 and 4, respondents view has been ranked with a Likert scale of five (5) responses ranging such as strongly disagree (1), disagree (2), not sure (3) agree (4) and strongly agree (5). As shown in Figure 3, the majority of respondents agree that using the PPA ensures that smaller and bigger companies have same access to procurement of chemicals at GWCL (mean=4.15). Also, respondents agree that procurement management improves efficiency and effectiveness in procurement of essential water chemicals (4.08). Responses were again in agreement that management of procurement using the PPA is not sufficient to check transparency on procurement of essential water chemicals (mean=3.71). The mean responses indicated that respondents agree that the PPA was too bureaucratic which affected the procurement of chemicals for essential water (mean=3.64). On the contrary, respondents disagreed that procurement management based on the PPA was too expensive to companies. They further disagreed that it has too many requirements which impedes the process (mean=2.27).

The study further elicited information on respondents overall view on the extent to which the procurement management has impacted on procurement of essential water chemicals. Majority 65.9% indicated that, it has significant effect whereas 27.1% cited very strong effect. The remaining 7.1%, however, believes that procurement management using the PPA has moderate effect on procurement of essential water chemicals as shown on Figure 4.

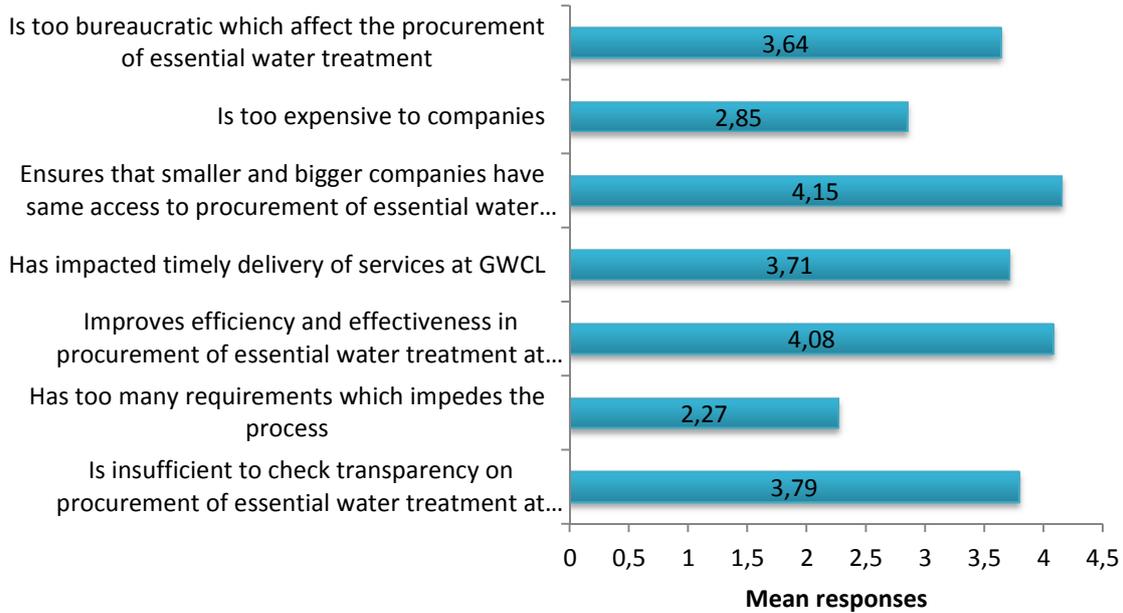


Table 4 Mean responses of how the Procurement Act enhances Procurement of essential water chemical at GWCL

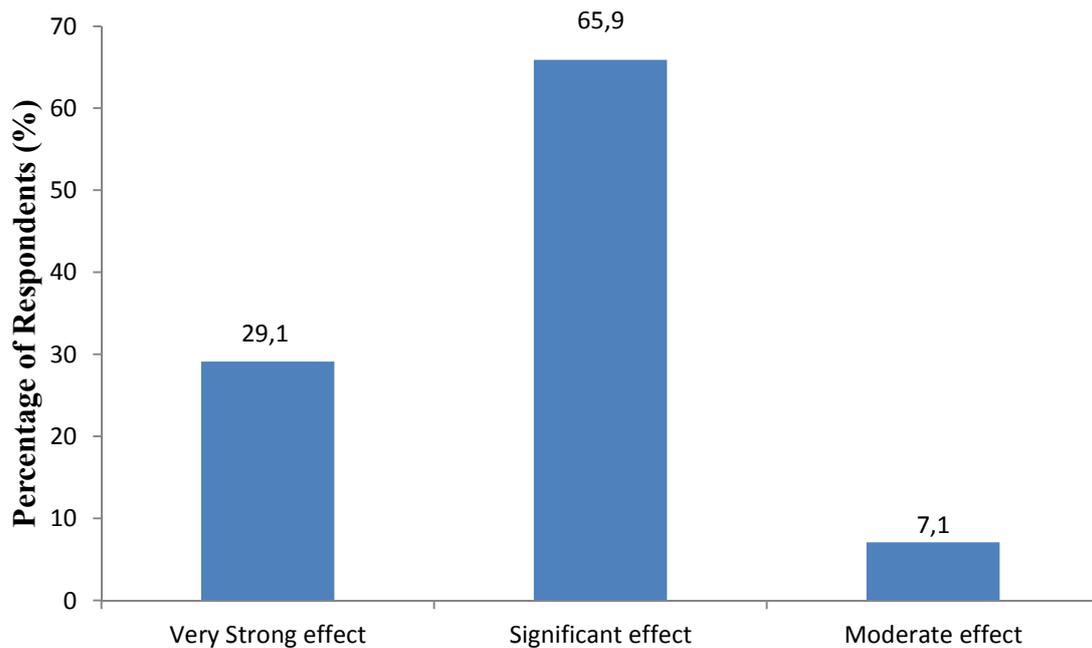


Figure 4: Extent to which PPA impacted positively on procurement of essential water treatment

#### 4 DISCUSSIONS

The aim of the study was to examine the impact of procurement act 663 on the operations of GWCL in relation to the procurement of essential water treatment chemicals. The study found out that the procurement act 663 of Ghana was purposefully formulated to enhance efficiency and effectiveness in all governmental agencies. The study results are consistent with previous findings [5, 6, 8]. According to their study, the aim of procurement is to ensure that public officials use public funds to finance public purchases in a way satisfactory and taking advantage of the market in order to get the best deal [5, 6]. Public procurement practitioners are public servants who have been entrusted with public funds so there is the need for them to be guided in the utilization of the funds. In this case, they will be bound by their code of conduct and

account for their stewardship [8]. This seems to be the situation at GWCL as officials are entrusted with various duties to perform all with the ultimate purpose of getting the best deal for the agency.

Additionally, the study found that there are structures in place to help handle procurement activities at GWCL. It was found that the procurement activities of the company are channeled through laid down structures. Similarly, the laid down structures has enabled systematic contract awarding processes. The processes are in order and it conforms to the procurement act 663 and key among them is the element of advertisement before the award of contracts. This is likely to attract interesting companies who might probably be interested to apply. It might be fair to suggest that procurement principle used on chemicals for essential water treatment is competitive. This is likely to result in efficiency and fairness in the procurement process as well as opening the market up for new players to enter. This might help to achieve transparency, value for money, economy and efficiency, and limit favoritism [1, 8]. This is consistent with studies by Abebe [22], Sánchez Graells [23], Fiorentino [13] and Basheka [24]. These studies discussed the importance of the phases of procurement in the life of a project or purchase of items for a given public entity. According to [12], [10] and [9], this is likely to attract the attention of potential bidders who become aware of any contract opportunity with a government agency or entity. This could induce fair competition among bidders as well as resulting in equal treatment given all prospective awardees. This finding collaborates with previous studies [8, 11, 12, 25, 26].

The Procurement Act 663 is carefully created to enhance the timely delivery of goods and services for Public Institutions like GWCL. Therefore, a strong and efficient procurement management in accordance with the PPA has significant effect on service delivery whereas a weak one may have adverse effects. The results of the study further states that the procurement processes of GWCL face a major task with regards to bureaucracy in the processes. Bureaucracy is a challenge in public institutions in Ghana due to centralization of activities and this has pervaded into the operations of GWCL with the coming into force of the procurement Act 663. This might affect the effectiveness of the act and its ability to achieve the expected outcome desired. This is consistent with studies which established that there is an established bureaucracy and unnecessary delay arising out of administrative procedure [14-16]. This study result further emphasized that the bureaucracy in the process comes from other institutions which are involved in the procurement process like the Ghana Standard Board.

## **5 CONCLUSION**

The results from the study demonstrate that using the PPA in procurement management ensures that smaller and bigger companies have same access to procurement of chemicals for essential water treatment at GWCL. The study further concludes that using the PPA in procurement management ensures efficiency and effectiveness in procurement of essential water. Despite these, responses suggested that using the PPA in procurement management is not sufficient to check transparency on procurement of chemicals for essential water treatment such that the process is too bureaucratic. Overall, the results from the study found that procurement management has significant effect on the procurement of essential water chemicals at GWCL.

## **IMPLICATION FOR POLICY**

Ghana has established the Public Procurement Authority (PPA) which provides information on regulations and procedures involved in purchasing and spending in public institutions. The study findings make it clear that there are policies or measures that should be addressed as a forward. In the first place, there should be decentralization of activities to agencies of GWCL in the regional and districts capitals. This to a larger extent could make room for congestions which probably lead to delays during the procurement cycle. Additionally, the study result demonstrated that the procurement of essential water treatment at GWCL indeed adheres to various principles and procurement phases such that procurement was on competitive bases. It is therefore recommended that efforts be made to strengthen the current practices to further make the procurement of essential water treatment more effective.

## REFERENCES

1. Public Procurement Authority (PPA), *Manuals-Public Procurement Act, 2003 (Act 663)*. 2006, PPA: Accra, Ghana.
2. Sarfo, P.A. and R. Baah-Mintah, *Assessing the Effect of the Procurement Act (663) on the Public Financial Management in Ashanti Region*. *Nature*, 2013. **1**(4): p. 91-98.
3. Public Procurement Authority (PPA), *Annual Report 2011*. 2011, PPA: Accra.
4. World Bank. *Ghana's Comprehensive Approach to Public Procurement Reform*. 2013 [cited 2014 June 3, ]; Available from: <http://www.worldbank.org/en/news/feature/2013/02/04/Ghana-8217-s-Comprehensive-Approach-to-Public-Procurement-Reform>.
5. Schapper, P.R., J.V. Malta, and D.L. Gilbert, *An analytical framework for the management and reform of public procurement*. *Journal of public procurement*, 2006. **6**(1/2): p. 1.
6. Adu, J.A. *Managing Public Sector Procurement In A Developing Country*. 2011 [cited 2014 June 4,]; Available from: <http://www.ghanaweb.com/GhanaHomePage/NewsArchive/artikel.php?ID=223717>.
7. Wittig, W.A., *Public procurement and the development agenda*. International Trade Centre, Geneva, 2003.
8. OECD, *Principles for Integrity in Public Procurement*. 2009: France.
9. Matechak, J.P., *Fighting Corruption in Public Procurement*. Center for International Private Enterprise CIPE. Feature Service Articles. Retrieved February, 2002. **12**(2004): p. 1047-1055.
10. Walker, D.H. and K.D. Hampson, *Procurement choices*. 2003: Oxford: Blackwell Publishing.
11. Abrams, J., *Procurement for local development: A guide to best practice in local government procurement in least developed countries*, J. Lynch, D. Yang, and J. Engen, Editors. 2013: New York.
12. United Nations Office On Drugs And Crimes (UNODC), *Guidebook on anti corruption in public procurement and management of public finances. Good practices in ensuring compliance with article 9 of the United Nations Convention against Corruption*. 2013, UNODC: Vienna.
13. Fiorentino, L. *Public Procurement and Competition*. in *Second International Public Procurement Conference*. 2006.
14. Oppong, D., *The Impact of the Implementation of Public Procurement Act 2003 (Act 663), on the Timely Delivery of Goods and Services: A Case Study of Ghana Water Company Limited (GWCL)*. *International Journal of Application or Innovation in Engineering & Management (IJAIEEM)*, 2013. **2**: p. 107 - 121.
15. Ofosu, S.A. and J.A. Owusu, *Procurement Practices in Urban Water Supply in Ghana*. Research Desk, 2013: p. 237-248.
16. Ameyaw, C., S. Mensah, and E. Osei-Tutu. *Challenges facing the smooth implementation of Ghana's public procurement law, 2003, Act 665 in West Africa built environment research (WABER) conference 19 - 21 2011*. 2011. Accra, Ghana.
17. Bokpe, S.J., *Project to promote transparency in public procurement unveiled*, in *Daily Graphic*. 2014, Daily Graphic: Accra, Ghana.
18. Osuala, E.C., *Introduction To Research Methodology*. 2005, Onitsha, Nigeria: Africana—First Publishers Limited.
19. Babbie, E.R., *The practice of social research*. 2013: Cengage Learning.
20. Payne, G., *Key concepts in social research*. 2004: Sage.
21. David, M. and C.D. Sutton, *Social research: The basics*. 2004: Sage.
22. Abebe, G. *Efficiency, Accountability and Transparency In Public Procurement: The Level of Compliance in Africa (Ethiopian Case)*. in *5th International Public Procurement Conference*. 2012. Ethiopia: International Public Procurement.
23. Sánchez Graells, A., *Competition and the Public Buyer Towards a More Competition-Oriented Procurement: The Principle of Competition Embedded in EC Public Procurement Directives*. Available at SSRN 1928724, 2009.
24. Basheka, B.C., *Procurement planning and accountability of local government procurement systems in developing countries: Evidence from Uganda*. *Journal of Public Procurement*, 2008. **8**(3): p. 379-406.
25. Ayitey, F.K., *Assessing the level of compliance with the Public Procurement Act 2003, (663) in Public entities in Ashanti Region of Ghana*. 2012, Kwame Nkrumah University of Science and Technology: Kumasi, Ghana.
26. Public Procurement Authority (PPA), *Manuals-Public Procurement Act, 2003 (Act 663)*. Accra, PPA: Ghana.