Assessing the Demand for Public Private Partnerships in Botswana's Water Utilities Corporation: The Case of Lobatse Management Centre

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Abstract: The water authority in Botswana has been experiencing increasing challenges of water supply and distribution since the reform of the sector in 2009. The centralization of water supply and distribution on the Water Utilities Corporation stemming out of the implementation of the water sector reforms resulted in the prominence of water supply shortage in various parts of the country (both urban and rural) raising questions on government's decision to reform the sector. The water supply service was previously provided by the Town and District Councils, The Department of Water Affairs and the Water Utilities Corporation. This paper investigates the possibility of engaging private companies through public private partnerships in the operations of the water service at Water Utilities Corporation's Lobatse Management Center. The methodological approach of this study is mixed method approach. The research strategy adopted is a survey under an intrepretivist paradigm. The study's findings illustrate that the corporation is overstretched in terms of its operational activities. The study's findings also establish causes of water shortage as well as levels of (dis)satisfaction on service provided. The demand for engaging private companies is ascertained hence the need to consider the public private partnerships at the Lobatse Management Centre.

Keywords: Assessing, Demand, Distribution, Public Private Partnerships, Supply

1. Introduction

The public sector has traditionally been the main actor in the production and distribution of public goods and services. Provision of services basic such as water, sewerage and electricity as well as infrastructural projects of the same were long seen as typical cases of natural monopolies and public goods (Thoenen, 2007:1). The role of the public sector in development however, changed substantially in many countries, especially from the mid-1980s (Ngowi, 2009:34). Public goods and services were now to be provided by the private sector. The rapid and widespread private sector participation (PSP) in the provision and financing of infrastructure became more apparent in the 1990s (Harris, 2003:1) with the role of the state now reduced to that of a facilitator for the private sector-led economic development and growth (Ngowi, 2006:3,4). In today's global economy, modern and efficient infrastructure and services are a necessary precondition for successful and sustainable economic growth (Partnerships Kosovo, 2009:1). A private sector-led economic growth and development has generally been more efficient (both productive and allocative efficiencies) and effective. In this evolution of provision of public goods and services, governments have now resorted to Public Private Partnerships (PPPs).

PPPs, long-term agreements between a public authority and the private sector to provide public services, have become a popular approach to provide infrastructure development (Moszoro & Kryzanowska, 2011:1). The concept entails various forms of collaboration between public and private sector organisations in service delivery (Ngowi, 2009:34). By implementing PPPs public authorities seek to benefit from cooperation with specialised partners (Batran, Essig & Schaefer, 2005:128) where resources, skills benefits and risks are shared. The aim is improved delivery of publicly funded goods and services (Dutz & Harris, 2006:1). According to Rao and Vokolkova (2006:2,3), if implemented well, PPPs would help in the accelerated implementation of projects with new approaches and better management techniques. PPPs also empower local contractors and consultants through participation of the private sector (Republic of Botswana, 2005:158). Conversely, Kinder & Wright (2009:1) however contend that in spite of the desired need for the private sector to play a significant role in PPPs, international and local private organisations have now become reluctant to provide expertise

and finance for infrastructure in the developing world due to negative experiences and high risks.

Internationally, countries such as Argentina, Bolivia and the United Kingdom (UK) adopted PPPs in the 1990s (Izaquire, 1998:1). The Asian experience shows that Vietnam received financial support for pilot projects whose impact has been positive (Public Private Infrastructure Advisory Facility, 2010:1). Western and Central African countries such as Mali, Côte d'Ivoire, Burkina Faso and Gabon also experimented with PPPs in the water sector (World Bank, 2009:1). In the Southern African Development Community (SADC) region, Mozambique, South Africa and Botswana are among countries that adopted PPPs (Farlam, 2005:20). In the SADC region, SADC has a PPP Network whose mandate is to serve as a platform for exchange of information and experiences to boost public and private sector capacity in PPPs across the region including providing guidance and support, facilitating policy programme and capacity building (Southern African Development Community, 2013). For Botswana, the need for PPPs has also been felt throughout the years. The water sector in Botswana is experiencing problems of service delivery and these could be improved in many ways, including the introduction of PPPs, among others. By implementing PPPs, the government will be able to provide infrastructure and services all sectors including water.

2. Water Sector Reforms in Botswana

The Government of Botswana (GoB) developed its first National Water Master Plan (NWMP) in the early 1990s which was reviewed in 2006 because government believed there were too many authorities responsible for water management (Mudanga, 2011). Following the review, the provision of potable water and wastewater services was centralised on the Water Utilities Corporation (WUC). The servicing of land for water was however retained by the Department of Water Affairs (DWA) and District/ Town Councils (Mudanga, 2011). In 2008, the World Bank was engaged by the GoB as a consultant to examine the recommendations of the 2006 NWMP review. It was found that the Water Sector Reforms (WSR) were necessary (Mudanga, 2011). Before the implementation of the WSRs, potable water was supplied by the DWA, District Councils and the WUC. The DWA operated in seventeen major villages and formulated policy for the whole water sector. The sixteen District Councils, which fell under the Ministry of Local Government, provided water in rural villages, while the WUC operated in six urban centres. The District Councils and the WUC also operated wastewater systems (Kgomotso & Swatuk, 2006:3; Mudanga, 2011).

3. Public and Private Sector Participation in Infrastructure Development

As in many other developing countries, Botswana faces challenges of delivery in public services and infrastructure development, including maintenance and operational obligations. New infrastructure needs to be provided and existing infrastructure upgraded or rehabilitated to deliver public services more effectively or extend access to services than at current levels (Rao & Vokolkova, 2006:4). The GoB carries out some of its projects through outsourcing to private contractors. The bulk of government projects outsourced continue to exceed their budgets straining the government coffers. For instance, in April 2011, a local publication reported that 200million Pula was paid in the construction of the Kang-Hukuntsi road under questionable circumstances. In the same period, it was also reported that tax-payers may lose millions in the Sir Seretse Khama International Airport project (Daily News, 2011).

The inability to establish a vibrant private sector after independence resulted in GoB creating specialised agencies that would not only focus on specific areas, but would also help in avoiding a bureaucratic system of administration and facilitate a close relationship between the government and private sector (Simukonda, 1998:51). However, a trend visible in the history of parastatals in Botswana is that these institutions have been retained in spite of their weak performance and high reliance on government. To this day, parastatals continue to operate under hefty government subvention despite operating at a loss year after year. A case in point is the Botswana Power Corporation (BPC) which was reported to have lost P1.57 billion in the 2009/2010 financial year. The organisation's operating loss according to the Auditor General's end of year report, based on an audit by Deloitte Certified Public Accountants, was P 563.57 million for the same year (Daily News, 2011). Meanwhile between 2010 and 2011, BPC received close to P2 billion from government to continue running (Botswana Guardian, 2013). The contemporary public outcry on the BPC is the ever soaring prices of prepaid electricity.

4. Conception of Public Private Partnerships in Botswana

PPPs are a recent phenomenon in Botswana, having been first mentioned in the Privatisation Policy of Botswana (Republic of Botswana, 2000:iv,v). PPPs are regulated through the Public Private Partnership Policy and Implementation Framework, which was introduced in 2009. The government announced through the 2002/2003 Budget speech and NDP 9 that PPPs would be used extensively as a form of procuring and financing infrastructure projects in the public sector. This would ensure sustainable investment in infrastructure as well as soundness in public finances and to bring down the budget deficit to a sustainable level (Republic of Botswana, 2009:1).

In an effort to establish a strategic framework for PPPs, the government engaged a consultancy to undertake an assessment of the privatisation environment for consideration of PPPs with a view to establishing whether policies, laws and sustainable institutions existed that could facilitate implementation of projects. The consultancy was also entrusted with determining additional measures that could be required to create a conducive environment for PPPs in the country (Rao & Vokolkova, 2006:3). The initiative was undertaken in the association with PEEPA and SADC Banking Association, with financial support from the Canadian International Development Agency (Rao & Vokolkova, 2006:3; Republic of Botswana, 2009:2).

4.1 PPP Policy Implementation Challenges

The introduction of the PPP Policy and Implementation Framework came with its own challenges. The challenges include absence of standardised approaches and processes guidelines to deal with the structure of PPP projects and uniform framework to guide treatment of tendered and unsolicited proposals. Furthermore, there is no clear role of government agencies and departments such as PEEPA, MFDP, and Ministry of Works and Transport, etcetera (Republic of Botswana, 2009:2). To date, PPPs have benefited only a handful construction projects in Botswana. These include the Ombudsman and Land Tribunal Office (OLTO), the SADC Headquarters building and the rehabilitation and maintenance of 827 kilometres of roads under the output and performance-based contracts. There are, however, other PPP agreements such as management contracts (Daily News, 2012:2).

PPPs in Botswana have also been implemented in the health sector. In 2004, the Initiative on Public Private Partnerships for Health conducted a study looking into how PPPs could improve access to drugs for HIV/AIDS-related issues.

5. Research Methods

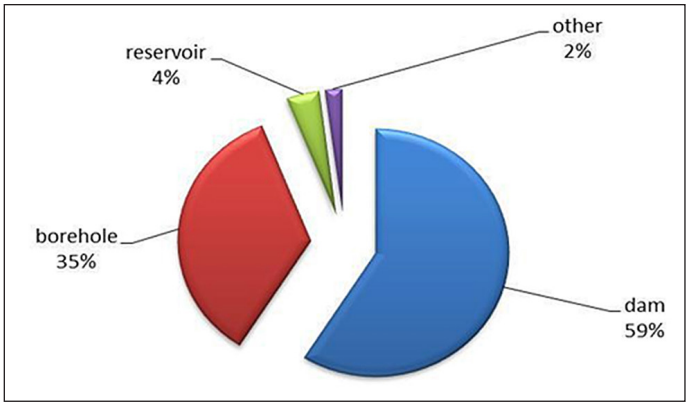
This study applied a mixed method approach. Triangulation of research strategies namely, research survey, case study and desktop research was applied in this study. The study further triangulated applying both qualitative and quantitative approaches. The study type is descriptive. According to Burns and Grove (2003:201), descriptive research "is designed to provide a picture of a situation as it naturally happens". It may be used to justify current practice and make judgment and also to develop theories.

There are several types of triangulation and these include: data triangulation that involves time, space and persons (Molefhe, 2011:99); investigator triangulation, which uses multiple observers (Eisenhardt, 1989:538); theory triangulation that uses more than one theoretical perspective to interpret the study phenomenon (McCreary, Seekamp, Cerveny & Carver, 2012:475) and methodological triangulation, which involves using more than one methodological strategy during data collection (Bryman, 2006:105; McEnvoy & Richards, 2006:71-76; Schell,1992:15,16). Triangulation has raised an important methodological issue in naturalistic and qualitative approaches to evaluation in order to control bias and establish valid propositions because traditional scientific techniques are incompatible with this alternate epistemology. Triangulation further provides in-depth data, increases the confidence in research results as well as enables different dimensions of the problem to be considered (Golafshani, 2003:603).

5.1 Sampling Method

Purposive sampling was used to select respondents. As Neuman (2007:142) points out, purposive sampling is used in situations where a researcher uses judgment in selecting cases with a specific purpose in mind. Three situations that apply to purposive sampling make this approach relevant to the study. First, purposive sampling is used to select unique cases that are especially informative; second, to select members of a difficult-to-reach, specialised population; and third, to identify particular types of cases for in-depth

Figure 1: Main Source of Water



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investigation. In purposive sampling, the purpose is less to generalise to a larger population than is to gain deeper understanding of types (Neuman, 2007:143). The second sampling technique used was the systematic sampling where the researcher accessed every 3rd house from the starting point.

5.2 Data Collection and Data Analysis

The study was conducted within the WUC LMC. Observation and survey research mainly applying questionnaires were techniques for conducting research. Questionnaires were administered in 5 villages namely Goodhope, Pitsane, Mogojogojo, Mogobane and Bethel. The population of the sampled villages was 13439 as per the last national census (Republic of Botswana, 2011:22,24,37). Data was analysed using descriptive data analysis technique that involves the design of tables, bar charts, column charts and pie charts.

6. Findings and Discussions

This section presents the results based on the research questions that include among others: sources of water; water usage and water situation over a three-year period. The section also presents results on the maintenance of boreholes and pump stations as well as to identify areas in which the private sector can play a role. Lastly, the section presents result on the WUC billing.

6.1 Water Sources and Water Supply

Main sources of water in rural communities are mainly either dams or boreholes or even reservoirs. In some instances, there can be both reservoirs and dams and boreholes.

Responses from members of the community illustrate that 59% of the respondents stated that the main source of water in their villages are dams. 35% indicated that boreholes are a main source of water in their villages while 4% mentioned a reservoir as the main source and 2% noting other sources such a stream. Numerous communities use various sources of water. Such differs from one community to the other. Due to drought and other related limitations' alternative sources of water are not easily available. See Figure 1.

Half (50%) of the respondents stipulated that there is no alternative source of water in their village. 22% mentioned boreholes as an alternative source of water while 12% provided dams for the same answer. 2% indicated a reservoir as the alternative source and 3% said their alternative source was a well. 7% of the respondents did not specify what the alternative source of water is in their villages while 4% did not respond to the question. See Figure 2 on the following page.

Responding to a question seeking their views regarding water situation in the past 3 years, 31% of the members of the community indicated that the situation was satisfactory while 22 were of the view that the situation was somewhat satisfactory. 11% also thought that the situation was very satisfactory. This bring to a total, 64% of responses on the satisfactory side indicating that in general, the water situation was satisfactory 3 years ago. 6% of the respondents did not answer the question while a 3% figure is for responses that were not applicable. See Figure 3 on the following page.

86% of the respondents stated that they had experienced water shortage in a period of 3 months. 12%

Figure 2: Alternative Source of Water

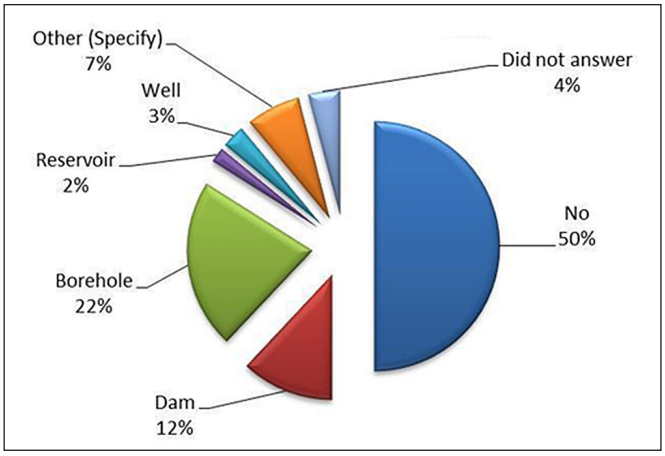

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Figure 3: Water Situation Over a Three-Year Period in your Village, Town or Community

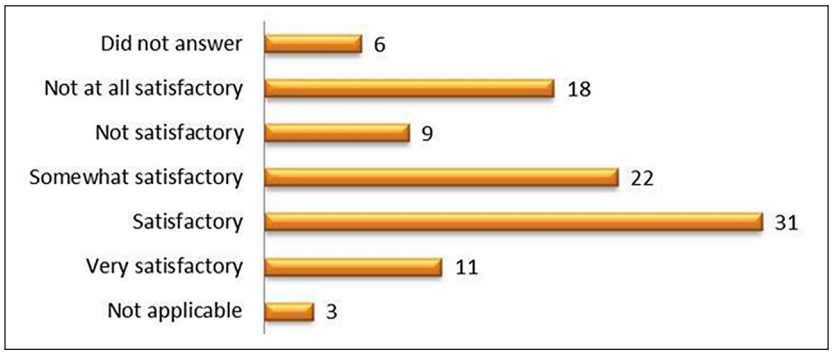

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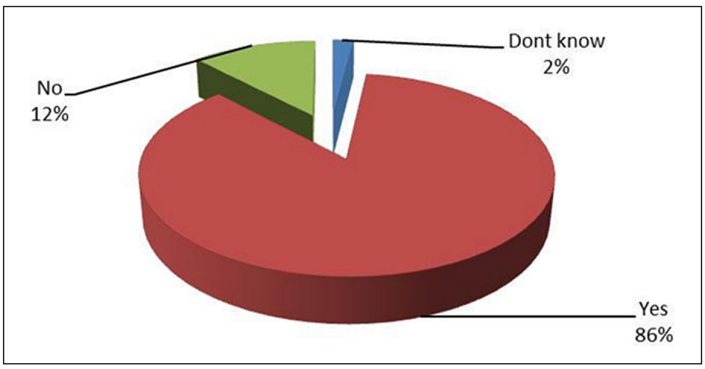
Figure 4: Water Shortage in the Past 3 Months



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said that had not experiment any shortage while 2% of the respondents either were not sure or did not know if there was any shortage of water. 31% of the respondents had experiment water shortage at least once while 23% had experienced water shortage 5 times. 15 respondents experienced water shortage twice, 9 respondents experienced water shortage on three occasions and 5 respondents had four encounters with water shortage. 5 respondents did not answer while 12 responses were not applicable to the question. See Figure 4 above.

A major cause of water shortage according other respondents from the community category is dilapidated pipes. The next major cause of water shortage is other factors not listed in the questionnaire. For instance, in a number of villages, respondents blamed their borehole operators for the shortage

Figure 5: Causes of Water Shortage/Interruptions

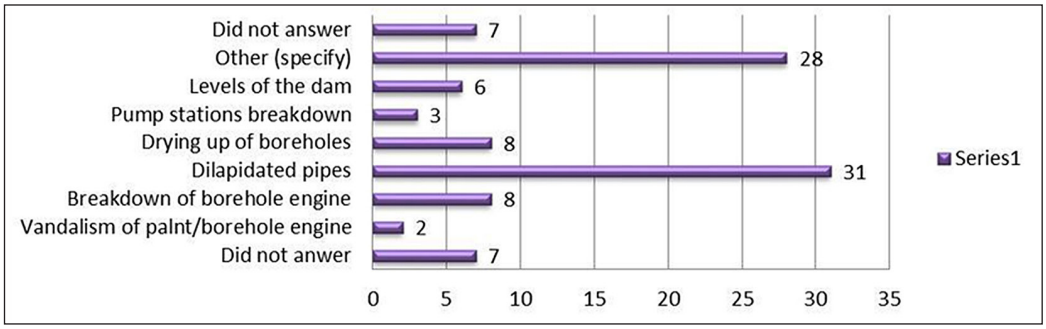

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Figure 6: Water Supply when there is a Shortage in your Village/Town

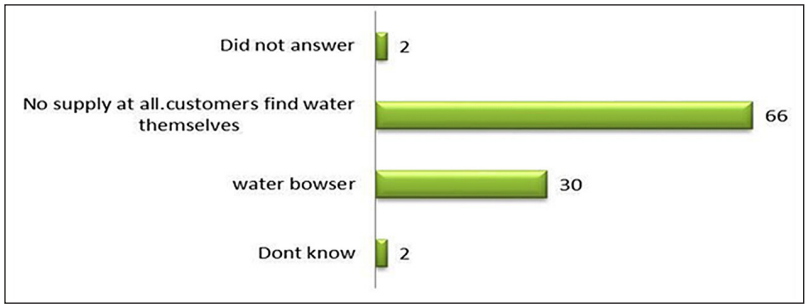

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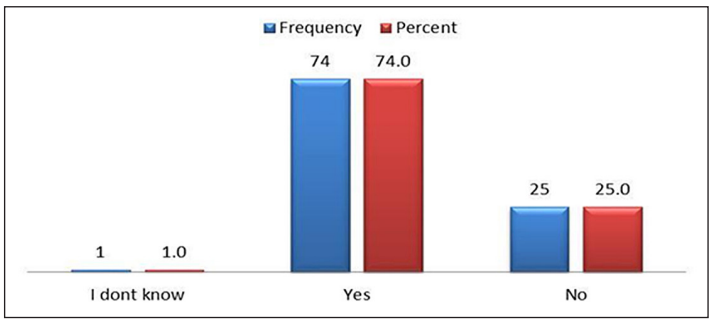
Figure 7: Contracting of Private Company's to Assist WUC in the Delivery of Water Services



Source: Author

of water. Others mentioned shortage of diesel used to fuel borehole engines as a cause while others blamed lack to equitable distribution of water in their villages. See Figure 5 above.

A huge 66% of the respondents stated that they find water themselves when there is water shortage. 30% indicated that a water bowser serves as a relief when there is no water. A small percentage of 2 for each response are for those who did not know and did not answer the question. See Figure 6 above.

6.2 Maintenance and Repair of Boreholes

Members of the community confirmed with a response rate of 62% that the repair and maintenance of boreholes is carried out by the WUC. Only 1% said the repairs and maintenance are carried out by the DWA. A tiny 5% provided PrivateCos for the same question. 16% of the respondents did not answer and 16 responses were not applicable to the question.

74% of the respondents stated that they would like PrivateCos to be contracted in the delivery of water service. A small figure of 25 % said they did not see the need to contract PrivateCos. Only 1 respondent was indifferent regarding government contracting PrivateCos in the service of delivering of water. See Figure 7 above.

6.2.1 If so, Where Should PrivateCos be Contracted?

Varying responses were provided when the respondents were asked to provide their views as

Figure 8: Satisfaction Towards Delivery of Water Service in your Area

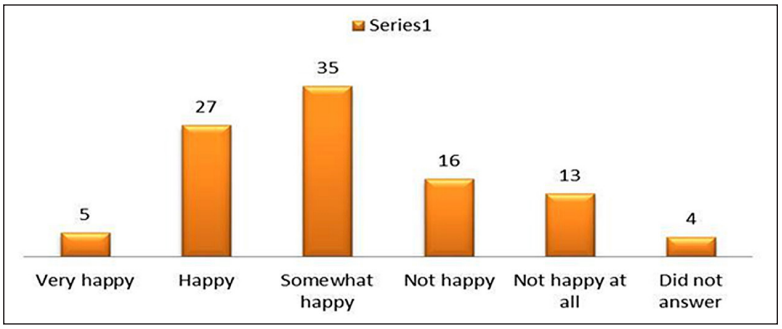


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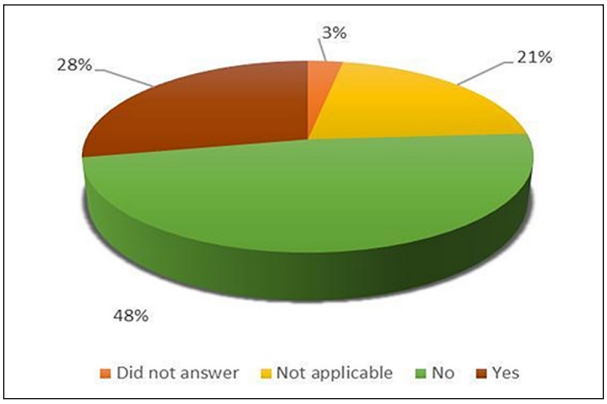
Figure 9: Satisfaction Towards Monthly Billing



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where they would like PrivateCos to be contracted. 11 respondents said that PrivateCos should be contracted in connecting towns and villages, 10 respondents would like the water bowsing activity to be performed by PrivateCos, 12 of the respondents are of the view than companies should be given the responsibility of distributing water within villages, 17 want the companies to carry out the repairs and maintenance of boreholes only four believe that companies should service land in new areas. 3 respondents did not answer while 4 were of the views that PrivateCos can be contracted in areas other than those provided as alternatives in the questionnaire. 23 responses were not applicable as the respondents saw no need to have PrivateCos contacted in the delivery of water services. A small number of 3 respondents did not answer the question.

When asked how happy they were with the delivery of water service in general, 35% of the respondents stated that they were somewhat happy with the service, 27% said they were happy while 5% were very happy with the delivery of water. 16% stated that they were not happy, 13% said they were not happy at all with the service while 4% of the respondents did not answer. See Figure 8 above.

6.3 Billing

This study used the term 'bill' rather than tariff for ease of understanding by respondents.

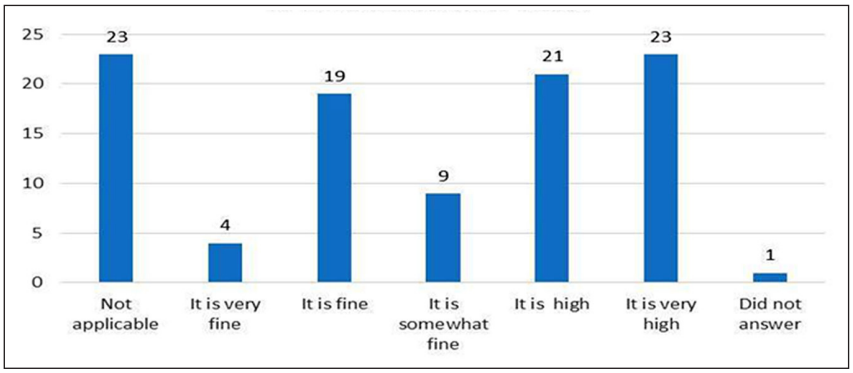
Regarding customer satisfaction to monthly billing, almost half (48%) of the respondents were not satisfied with their monthly bills. 28% were happy with their bills while no response could be retrieved from 21% of the respondents as they did not have household water connections hence no bills. Only 3% of respondents did not respond. See Figure 9 above.

6.3.1 Do You Receive Your Bills Regularly?

Just over half (51%) of the respondents indicated that they do not receive their bills regularly. 26% of the respondents however said they received their bills regularly by mailbox. The question was not applicable to 21% of the respondents and 2% did not answer.

Of the 100 respondents interviewed, 23 indicated that their monthly bills were very high while 21 said

Figure 10: How Do You Rate Your Billing?



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that their monthly bills were high. 9 respondents stated that theirs was somewhat high and 19 were of the view that their bills were fine. A small number of four respondents said their monthly bills were very fine. See Figure 10 above.

7. Discussions

The findings illustrate that water is utilised by members of the community mainly for domestic purposes. This includes consumption, cooking and laundry. The respondents strongly felt that a considerable amount is taken by construction of houses. Such an observation was noted mainly in newly occupied parts of villages where new structures were being erected. Regarding shortage of water in a three-year period, a trend was established whereby the water situation declined continuously. Prior to this, the water situation was satisfactory. This is supported by a cumulative 67% of responses being located on the satisfactory side of the spectrum in Figure 3 against a cumulative 27% arguing to the contrary and the rest of response wither being not applicable or did not answer. Dilapidated pipes were found to be the leading cause of water shortage. This testifies that either the infrastructure is seriously dilapidated or is not well maintained. Whichever the case is true, the WUC faces a significant challenge in delivering water to its clients. 66% of the respondents (see Figure 6) stated that they individually look for water if when there is water shortage. Majority of the respondents indicated that they did not a mode of transport while some had donkey carts and a few owning vehicles. Transport is a key factor in seeking water from either parts of the village of from a neighbouring village. For instance, residents of Pitsane relied on the services of donkey cart owners to sell them water fetched from a neighbouring village called Tlhareseleele. They also emphasised that their water shortages were frequent and were at times long.

The Majority of the respondents (74%) would like PrivateCos to be contracted in the delivery of water service. A lesser figure of 25% said they did not see the need to contract PrivateCos (see Figure 7). Within the 25 percentage of the respondents who answered in the negative some were of the view that contracting PrivateCos would bring about residual effects such as high billing charges as PrivateCos operate to make profits. Members of the community showed confidence in PrivateCos sighting efficiency as the main reason for their choice. Some indicated that they were aware that a PrivateCo would demand higher chargers while some likened the WUC to a PrivateCo as it was not a department within government like the DWA but a public enterprise.

When a general question was posed to the respondents regarding how happy they were with the delivery of services, despite indicating how dissatisfied they were with the delivery of services in other questions such as those of water shortages, the respondents provided a moderate answer to the same. What frequented the responses however, was the comparison of the WUC and the DWA. Respondents gave different views on the question regarding improving of the billing system. Some of the responses were repetitive throughout different villages thus emerging as main concerns and recommendations from respondents. Although some of the responses were not mentioned a lot, they are crucial in that they could bring about considerable improvement in the delivery of services in the water sector. Some of the respondents strongly recommend that the billing system should be overhauled and replaced by a new one. A considerable number of respondents called for the return of the DWA and Districts councils as the tariffs changed under the authorities two were affordable. Some of the respondents were of the view that a PrivateCo could

do a better job if engaged to conduct billing. They said that a PrivateCo would be effective in ensuring that bills would be accurate and would reach clients constantly and timely. Most of the responses were not out of the ordinary as they were mostly about service delivery. Respondents called for their monthly bills to be deposited at their main Kgotla's (Tribal Authority offices) where they could easily collect them. There were complaints regarding the high tariffs with some of the respondents pleading for the tariffs to be considerate towards the indigent persons. Still on service related concerns, respondents stated that the WUC should build more offices where they can pay bills as well as raise concerns regarding billing. Where offices exist, respondents were of the view that the WUC should hire more employees to curb waiting time for payment or querying of water bills. A small number of respondents suspected that some of the water meters were either faulty of damaged. They advised that the WUC should be checked regularly if they are functioning well. They said that the meters should also be serviced and where there is need they should be replaced.

8. Conclusion and Recommendations

This study interrogated the question of engaging PrivateCos in the form of PPPs at the WUC's LMC. The demand for the same has been ascertained and this comes as a recommended solution to the water problem at the LMC. The causes of water shortage have been identified. Operational deficiencies within the corporation have also been established. The aforementioned led to recommendations that will help the WUC to streamline its operations by among others, shedding off some of the non-core functions to the private sector through PPPs. This will improve operational efficiency of the WUC as well as inform future strategic as well as policy decisions

The following recommendations relate specifically to the applicability of PPP to the water sector at the LMC. The recommendations are based on the findings of the study and should be understood to be relevant to the time during which the study was conducted. First among the multiple recommendations this study advances are that unused and capped boreholes should be uncapped, rehabilitated and re-used. It is estimated that over 21,000 boreholes exist in the country, but many are not used and are capped. Groundwater supplies two-thirds of the water consumption (Matlok, 2008:2), while the rest are provided by other sources. Following to this is the need for the WUC to engage PrivateCos (OSC) to replace dilapidated pipes and reduce leakages. The Private Company's is responsible for the project cost and efficiency is achieved as repetitive bidding increases competition. Additionally, PPP will be of medium to long term in nature and can have a quick and substantial impact on system operation and efficiency, while providing a vehicle for technology transfer and development of managerial capacity. They enable governments to accomplish tasks for which, there is insufficient demand to develop using internal resources (Canadian Council of Public Private Partnerships, 2001:5).

The WUC should reform its administrative processes and procedures governing operations of is main office as well as satellite stations. It is evident from the study that the cause of frequent water interruptions in most villages is shortage of resources as well as administrative inefficiency on the part of the WUC. It was established that some of the borehole operators have not performed their duties effectively, leading to water shortage. There were also reports of diesel shortage. Diesel is used in fuelling both borehole engines and vehicles used in the daily operations of satellite stations. Shortage of vehicles used for various activities was also mentioned as well as the unreliability of the few vehicles available as they would often be taken for service or repairs. The WUC should hire a borehole operator to operate boreholes within a radius of ten kilometres. The borehole operators should be equipped with means of communication such as cell phones and transport so that they are able to communicate with the satellite station whenever the need arises. The operators should also have spare parts for borehole engines within reach so that the turnaround time for repairing boreholes is shortened to a maximum of 24 hours.

Public education on water conservation should be stepped up. During dry seasons, the WUC implements water restrictions and rationing. Public education on water conservation is carried out simultaneously with the water rationing exercise. However, indications are that water consumption reduces minimally, forcing the WUC to step up water rationing. The WUC should improve on its water conservation education strategies to achieve the desired results. The WUC should have a clear response strategy to water shortages and ensure

that the strategy is fully implemented at all times. Where the WUC does not have capacity to provide water using a water bowser, the corporation should contract a private party to bowser water. The WUC should play the role of a regulator to ensure that the private party complies with all obligations of the contracts, including those relating to the safety of water. As security of water is vital, the WUC should devise strict controls regarding the handling of water by private parties, while simultaneously carrying out regular inspections of the water bowsers. The WUC should introduce additional service centres within reach and for the convenience of its clients. The service centres could be introduced in the form of mobile stations, porter camps, renting of space in the Rural Administration Centres (RAC) or property belonging to individual owners. Awareness of the general public should be raised regarding the implementation of WSR which brought about government's decision to centralise the supply and distribution of water in the WUC. The formulation of the WSRs did not cascade down well to the general public. Their implementation equally caught the general public off guard. Lack of information on the part of customers regarding what the WSRs are and what they were formed for seriously placed the customers at a disadvantage as the policy lacked the necessary buy-in from the general public.

Lastly, consideration should be given to provide tariffs for the indigent. The poor often cannot afford tariffs due to their condition of being unemployed and having no alternative source of income. The standardisation of connection the fee and tariffs subsequent to the implementation of the WSRs clearly disadvantaged the poor. It should be noted that as Parastatal, the WUC's is expected to operate in a business-like manner. This could be reason for increasing connection fees as well as tariffs the corporation however maintains that the change in connection fees and tariffs is motivated by cost recovery. According to Rosenthal and Alexander (2003:35), the economies of scale with a monopoly give the incumbent company 'market power' to charge prices higher than it could command under competition.

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