triple-S
WATER SERVICES THAT LAST

LOOKING BACK STUDY

A study of rural water service delivery models in the Northern Region of Ghana



IRC-CWSA publication with support from Triple-S

an initiative of IRC

COMMUNITY WATER AND SANITATION AGENCY

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ABBREVIATIONS

AFD	L'Agence Française de Développement
CIDA	Canadian International Development Agency
CRS	Catholic Relief Services
COM	Community Ownership Management
CWSA	Community Water and Sanitation Agency
DA	District Assembly
DANIDA	Danish International Development Assistance
DCDs	District Coordinating Directors
DCEs	District Chief Executives
DFOs	District Finance Officers
DPOs	District Planning Officers
DWD	District Works Department
DWST	District Water and Sanitation Team
EU	European Union
GAP	Ghana Assistance Project (Funded by CIDA)
IDA	International Development Association (of the World Bank)
IRC	International Water and Sanitation Centre
IWRM	Integrated Water resources Management
JICA	Japan International Cooperation Agency
MLGRD	Ministry of Local Government and Rural Development
MWRWH	Ministry of Water Resources, Works and Housing
NLLAP	National Level Learning Alliance Platform
NCWSP	National Community Water and Sanitation Programme
NGO	Non-Governmental Organisation
O&M	Operation and Maintenance
OIC	Opportunities Industrialization Centre
PO	Partner Organisation
RWSN	Rural Water and Supply Network
UNICEF	United Nations Children's Fund

Triple-S	Sustainable Services at Scale
VLOM	Village Level Operation and Maintenance
WATSAN	Water and Sanitation Committee
WHO	World Health Organisation
WSDB	Water and Sanitation Development Board

1 INTRODUCTION

1.1 BACKGROUND

The over-riding strategy of the National Community Water and Sanitation Programme (NCWSP) in Ghana is its focus on sustainability premised on the demand-driven approach. It requires communities to initiate the demand for the facilities of their choice, based on their ability to contribute to the capital cost and the maintenance of these facilities. This is to ensure that ownership and management of the water system is exercised by the community through established structures to provide potable water for the community all year round. The national strategy to secure the intended sustainability includes:

- A demand-driven approach, with self-selection and clear commitment by communities to own, operate, manage and maintain the facilities.
- A central role by District Assemblies (DA) in supporting community management.
- A key role by Government in promoting service provision
- A role for the formal and informal private sector in the provision of goods and services.
- Ensuring equity and widespread coverage through targeted subsidies supporting basic service levels.
- A special focus on women, as both the users of water as well as planners, operators and managers of community level systems.

The decentralisation policy of Ghana makes the District Assemblies, by law the responsible agents for local development, and by proxy the owners of all water facilities provided in the districts.

Since its inception in 1994, the CWSA has facilitated the installation of over 28,000 point sources, and close to 500 small town water supply systems. Despite these achievements, some challenges have emerged and new ones continue to emerge, especially relating to ensuring sustainable service provision. At a presentation to stakeholders of the water sector on the findings of a review of the NCWSP,

Mr.R.K.D Van Ess of the Community Water and Sanitation Agency (CWSA) noted some of the emerging issues associated with the NCWSP to include the following:

- The NCWSP is project focused. This brings to the fore the issue of sustaining the interventions following the end of project.
- Life-cycle cost of project - does this inform project design, Operational and Maintenance (O&M) and facility replacement? How do we ensure full cost recovery - who takes what responsibility?
- Capital cost contribution: Will its abolition affect district and community ownership?
- Pumps and spare parts supply: how holistic has the issue been addressed?
- Institutional structures for water service delivery: Are they giving us the right results?
- Water and Sanitation Management Teams1 (WSMTs) Do they have the requisite skills to perform the role as set out in their bye-laws?
- Role of district assemblies: have they been properly placed to play their role in water service delivery?
- How do we professionalise Community Ownership and Management (COM) without losing the ownership element of the concept?

In a bid to understand these emerging issues better, the Triple-S Project, in collaboration with Community Water and Sanitation Agency (CWSA), has started collating experiences on water service provision in

1 Water and Sanitation Development Boards (WSDBs) are now referred to as WSMTs for small towns and Water and Sanitation (WATSAN) Committees referred to as WSMTs for small communities

Ghana and challenges related to sustainable water service provision. In 2010 - 2011, a first round of case studies was undertaken in Volta and Northern regions.

In Northern region, there have been a number of rural water projects implemented by various donors since 1994. Canadian International Development Agency (CIDA), International Development Agency (IDA), United Nations Children's Fund (UNICEF), World Vision Ghana, Water Aid Ghana, European Union (EU), Church of Christ Rural Water Project, Catholic Relief Services (CRS), Opportunities Industrialisation Centre (OIC), Japan International Cooperation Agency (JICA), World Health Organisation (WHO) and the Government of Ghana have all invested substantially in provision of rural water infrastructure in the Northern Region. However, little is known about the sustainability of these facilities. This report aims at documenting service delivery and the arrangements put in place to ensure sustainable rural water service provision in the Northern Region in Ghana. It gives an assessment of how and where these arrangements deviate from the guidelines and standards set by CWSA and the effect of this on sustainable service provision.

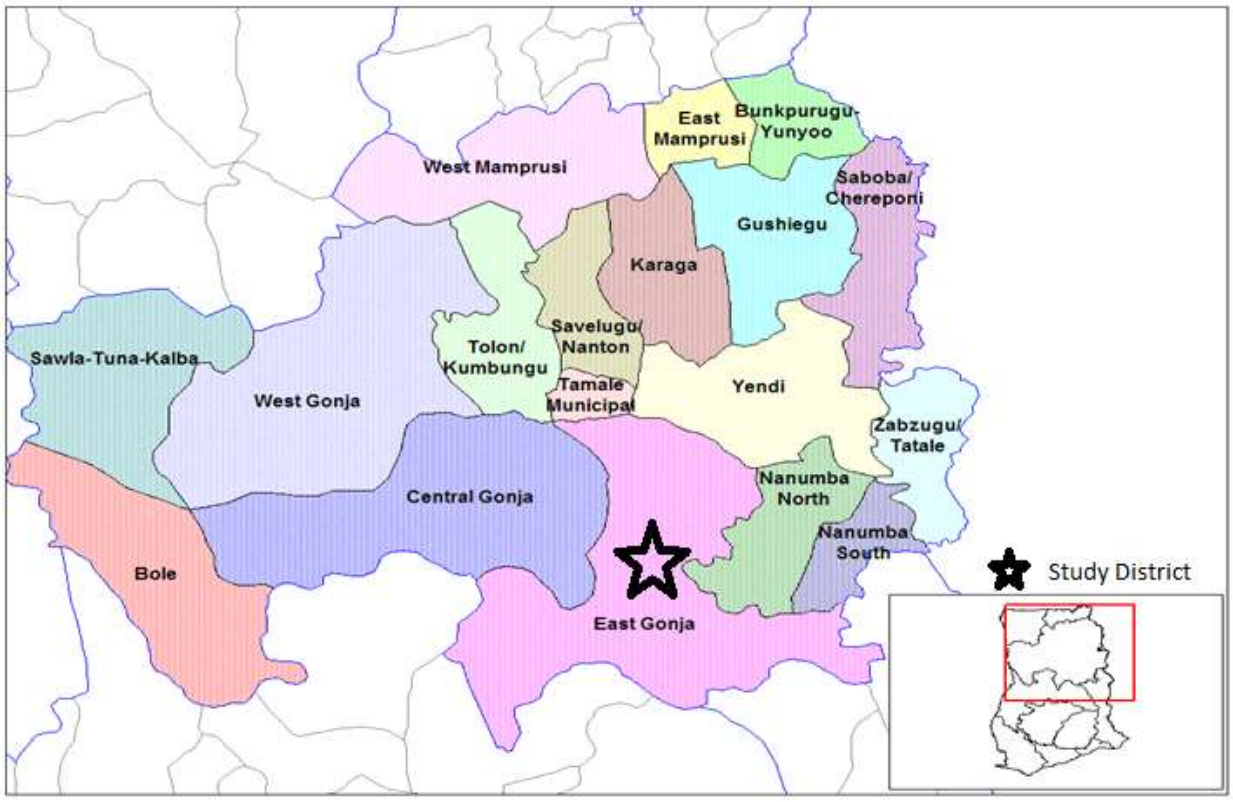
Following this introduction chapter, the methodology used for this study is described in Chapter 2. Chapter 3 presents the results of the case studies. This is followed by a discussion of the results in Chapter 4. Conclusions and recommendations are finally presented in Chapter 5.

2 STUDY METHODOLOGY

2.1 STUDY METHODOLOGY

In Northern region, six small towns with small town piped systems were selected as case studies. These towns were selected to include variability in project design, system and age of water system. Each system was assessed as an independent unit. An overview of the case study towns is presented in Table 1below.

FIGURE 1: MAP OF NORTHERN REGION SHOWING STUDY DISTRICT



Source: http://en.wikipedia.org/wiki/Districts_of_Ghana#Northern_Region

TABLE 1: LIST OF STUDY PROJECTS

TOWN	DISTRICT	IMPLEMENTATION PROJECT - DONOR
Nanton	Savelugu-Nanton	Rural Water and Sanitation Project - AFD
Bimbilla	Nanumba North	Ghana Assistance Project - CIDA
Yoggu	Tolon-Kumbungu	Rural Water and Sanitation Project - AFD
Busunu	West Gonja	Rural Water and Sanitation Project - EU
Wulensi	Nanumba South	Ghana Assistance Project – CIDA
Lito	Central Gonja	Rural Water and Sanitation Project - EU

Source: Author's creation

2.2 ASSESSMENT FRAMEWORK: SERVICE AND SUSTAINABILITY INDICATORS

Triple-S, CWSA and the study team jointly developed a set of draft service delivery and sustainability indicators as a framework to be used for this study. These were based on the draft CWSA guidelines for small towns and communities, the CWSA Project Implementation Manual and the model bye-laws for the establishment and operation of Water and Sanitation Management Teams. For each indicator, a scoring table was developed. The draft indicators and scoring tables were presented to stakeholders at the National Level Learning Alliance Platform (NLLAP) workshop on October 2010 for review.

Inputs from the stakeholders were incorporated to obtain the final assessment tool. The tool comprises 21 indicators, organised into six clusters, namely:

- Service Delivery: 1 indicator
- Community Mobilisation: 1 indicator
- Management & Governance: 4 indicators
- Financial Management: 4 indicators
- Operations: 4 indicators
- Enabling environment: 7 indicators

The management and governance, financial management and operation indicators together give an indication of the performance of the service provider, which in this study are the Water and Sanitation Management Teams (WSMT) managing small town piped systems.

The full set of indicators and scoring tables can be found in annex 1.

2.3 SPECIFIC ACTIVITIES

Data collection took place in December 2010. Documentation available on projects and systems in each of the selected cases were reviewed. This included O&M Manuals; As-Built Drawings; Water and Sanitation Development Board (WSDB) Constitution; Records of Meetings held; Environmental Issues, technical, operational and financial records, Project Evaluation and Completion Reports among others.

Focus Group Discussions and scoring were the primary methods for data collection. For each system, a focus group discussion was held with the Management team and the WSMTs. Focus Group Discussions were also held with core staff of 6 District Assemblies and 6 WSDBs in the Northern Region to gain insight into stakeholders' opinions, views and understanding of the operations and management of water systems.

The districts were West Gonja, Central Gonja, Nanumba North, Nanumba South, Savelugu-Nanton, and Tolon Kumbungu. The Focus Groups had membership of between 8 and 15, allowing for diverse interest groups to participate. The composition at the District Assembly level included: District Chief Executives (DCEs), District Coordinating Directors (DCDs), District Finance Officers (DFOs), District Planning Officers (DPOs), and DWST.

At the community level, it comprised the entire membership of the WSMTs as stipulated in the Small Towns Sector Policy of CWSA.

Discussions were held for each of the six clusters of sustainability indicators. Indictors for a particular aspect were assessed immediately after discussing that aspect before proceeding to the next issue. Scoring was based on the extent to which a water system met all or some of the sub-indicators progressively, or conforms to the CWSA standards and guidelines, using the above mentioned framework.

3 RESULTS

The results of the assessment of the 6 selected water systems for each of the group of indicators are presented below.

3.1 SERVICE DELIVERY

The six towns selected for this study were all served by small town piped systems. In addition, point sources like boreholes and hand dug wells serve the towns. This study focused on the small town piped system and their management. The table below gives an overview of the main characteristics of the systems in the 6 case study towns.

TABLE 2: OVERVIEW OF THE CHARACTERISTICS OF THE SYSTEMS IN THE CASE STUDIES

CHARACTERISTICS	NANTON	BIMBILLA	YOGGU	BUSUNU	WULENSI	LITO
Population	4,564	29,158	4,564	2,572	18,105	3,200
Number of boreholes	8	0	17	6 (+3 HDWs)	6	1
Minimum number of people to be served by the piped system	2,164	24,058	4,564	322	16,305	2,900
Actual number of standpipe spouts	14	98	14	10	30	10
Actual number of household connections	0	195	0	0	57	0
% of population not using the improved service	10%	5%	6%	60%	55%	100%

Source: Survey 2011 Note: HDWs = Hand dug wells

To determine the population with access to a certain service level, a score is determined using the scoring table below.

TABLE 3: SERVICE LEVELS SCORING

SERVICE LEVEL SCORE	SERVICE LEVEL	CHARACTERISTICS OF SERVICE LEVEL
100	High	People access a minimum of 60 litres per capita per day (lpcd) of high quality water on demand. Reliability is 95% (CWSA handpump household connection standard).
75	Intermediate	People access a minimum of 40 lpcd of acceptable quality water from an improved source, at a distance less than 500m. The number of people using the hand pump is 300 in the case of a bore hole and 150 in the case of a hand dug well and reliability is 95%
50	Basic	People access a minimum of 20 lpcd of acceptable quality water by Ghana Standard Boards (GSB) from an improved source, at a distance no more than 500 m. The number of people using the hand pump is 300 in the case of a bore hole and 150 in the case of a hand dug well and reliability is 95% (CWSA handpump and standpipe standard)
25	Sub-standard	People access service that is an improvement on having no service at all, but fails to meet the basic standards on one or more criteria (quantity, quality, reliability, distance, max number of people served)
0	No service	People access water from insecure or unimproved sources

Source: Moriarty et al. 2010

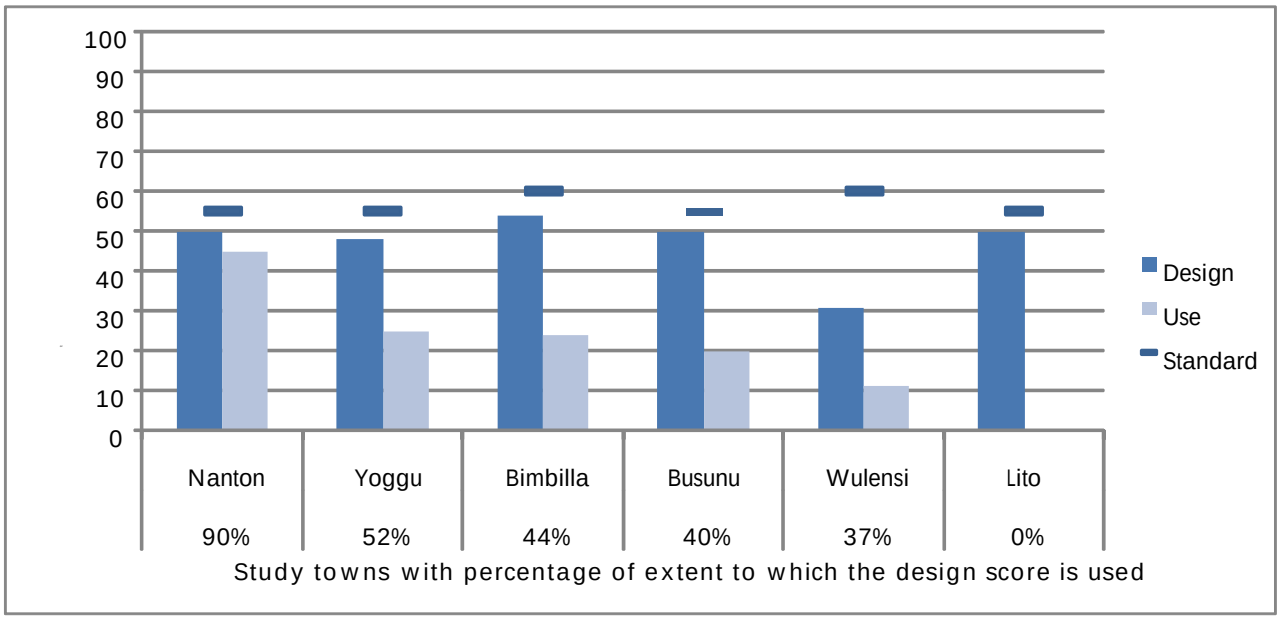
In four out of the six cases studied the system serves a population under 5000 people. The CWSA design guidelines suggest that systems servicing a population of 2000 – 5000 people, should serve at least 10% of this population through household connections, providing them with a high level of service of 60 lpcd. The remaining population should be served through standpipes, providing basic level of service of 20 lpcd within a distance of 500m, with a maximum of 300 people per standpipe spout (to illustrate the pressure on a standpipe spout serving 300 people: If it takes 2 minutes to fill a bucket of 20 litre, then it meant that the standpipe would be in constant use for 10 hours per day).

According to the CWSA standards, these systems should thus have a minimum service level score of 55.

The two larger systems, Bimbilla and Wulensi fall in the category of towns with a population of 15,000 to 30,000, which are recommended to serve at least 20% of the population through households connections, giving a service level score of 60.

However, in reality, systems are not necessarily implemented fully according to these standards. In the studied cases for example, the proportion of the population served by household connections was lower than the recommended proportion, resulting in lower service level scores. In addition to a service level score based on the design, a service level score can be determined for the actual use of the system, based on the percentage of people that make use of different service levels. The figure below gives an overview of the score of the service level according to the standard, the design and the use of the system for each of the six cases.

FIGURE 2: SERVICE DELIVERY SCORES



Seven standpipes with 2 spouts served 300 people each, the piped water system in Nanton had the potential to serve 4200 people with a 20 lpcd. The system is thus designed to provide for 100% of the population depending on the system with a basic service level score of 50. In reality however, 10% of the population still relied on unimproved sources of water for various reasons, including the costs of accessing the services provided by the piped water system. This gives an actual service delivery score of 45.

Seven standpipes with 2 spouts served 300 people each, the piped water system in Nanton had the potential to serve 4200 people with a 20 lpcd. The system is thus designed to provide 100% of the population depending on the system with a basic service level score of 50. In reality however, 10% of

the population still relied on unimproved sources for various reasons, which are mainly related to the costs of accessing the services provided by the piped water system. This gives an actual service delivery score of 45.

In Yoggu, the system with 14 standpipe spouts can provide a basic level of service of 20 lpcd within a distance of 500 m with a maximum of 300 people per standpipe, to 4200 people, which is 92% of the total population. The remaining 8% received a sub-standard service level, giving a design service level score of 48. The actual service level provided by the system is low because of the problem of poor ground water yield, which set in within 3 months of commencement of operations. The static water level went down from 22.26 meters in March 2007 to 41.73 meters in July 2010. As a result, the system is unable to meet the total water demand of the community in the dry season (November – June). During this period, community members resort to unimproved sources of water, like rivers and streams. There is enough water only in the rainy season (July-October), when demand falls drastically due to the availability of rain water. The Yoggu system thus provides a sub-standard service to all community members, giving a score of 25.

With its 195 household connections and 98 standpipe spouts, the system in Bimbila should be able to provide a high level service to an estimated 7% of the town's population and a basic level service to the remaining 93%, giving a potential service delivery score of 53.

However, in reality, service delivery is challenged by a number of factors. The system produces only 28.2 m^3/day, as against a total daily water demand of 1021 m^3, including a domestic daily demand of 583 m^3/day. The low daily average production is as a result of frequent breakdowns, power failures and malfunctioning of the system. This means the system supplies service at a sub-standard level. In addition, an estimated 5% of the population did not access water from the system at all and relied on unimproved sources for their water supply. This results in a service level score for the use of the system at 24.

The town of Busunu is served by a mechanised borehole, powered by a solar pump. By design, the system has enough capacity to meet the drinking water needs of the entire community, i.e., it is capable of providing a basic level of service of 20 lpcd throughout the year. All households appeared to be within 500 meters of a standpipe. The design service delivery score is thus 50. However, by estimation, the system currently operates at less than 50% of its capacity, as four out of the six solar panels were non-functional as at the time of this study. It is estimated that 60% of community members do not make use of the system. The remaining 40% received only a basic level service, resulting in a total service delivery score for the use of the system at 20.

In Wulensi, service delivery was challenged by a number of factors, including limited infrastructure. Though the current total daily water demand by the community is about 270m^3, the installed capacity of the system as per the design is only 45m^3/day. With 57 household connections, the system is supposed to serve at least 570 people with 60 lpcd. This would only leave about 11 m^3 per day for standpipe uses, which is less than 20 lpcd. The total design score therefore is only 31. In reality, an estimated 55% of the population did not make use of the system at all. The rest used a sub-standard level of less than 20 lpcd, resulting in a service delivery score for the use of the system of 11.

In Lito, the system was a mechanised borehole, powered by a solar pump. By design, the system has enough capacity (1,800 m^3 per day) to meet the water needs of the entire community depending on the piped system, based on 20 lpcd. The potential service delivery score is thus 50. However, in June 2010, the submersible pump broke down, and the community had not been able to fix it at the time of the field work beginning 2011.

The main challenge was the lack of funds to purchase the needed parts. In the interim, all community members had resorted to the stream for their water supply, resulting in an actual service use score of 0.

3.2 COMMUNITY MOBILISATION

In the six studied cases, CWSA provided the required technical, environmental and financial guidance to assist the community in making an informed choice about a preferred service level. However, it is not clear how much they influenced the choice of solar power in Busunu and Lito as this appeared to be the norm in all the communities that benefited from this project in the West and Central Gonja Districts under the EU funded Rural Water and Sanitation Project. The Bimbilla system was one of Ghana Water Company Limited (GWCL) oldest water supply systems that had been handed over for community management. The system, which had broken down and was non-functional for years, was rehabilitated under the Ghana Assistance Project (GAP) by the Ghana Water and Sewerage Corporation. As a result, the community had limited choice on the technical options and level of service they preferred. However, the community was mobilised to contribute their portion of the capital investment cost of the rehabilitation, and the management teams and staff were trained.

In all cases, Partner Organisations (consultants) were contracted by CWSA to mobilize the communities towards community ownership and management. The communities were required to contribute 2.5% of the capital cost of the project. In four of the six case studies, the communities fully paid their share of the contribution. The communities in Busunu and Lito could however not raise the full amount of the expected contribution towards the implementation of the mechanised boreholes powered by solar pumps. In Busunu, the community was supposed to contribute GHC 5,500[2] but they were able to raise only a little over GHc 1,000 over a two year period. In Bimbilla and Wulensi, the communities contributed 5%, being part of the first batch of communities to implement the community management of small town water systems under the CIDA funded Ghana Assistance Project.

BOX 1: LACK OF COMMUNITY DEMAND IN BUSUNU

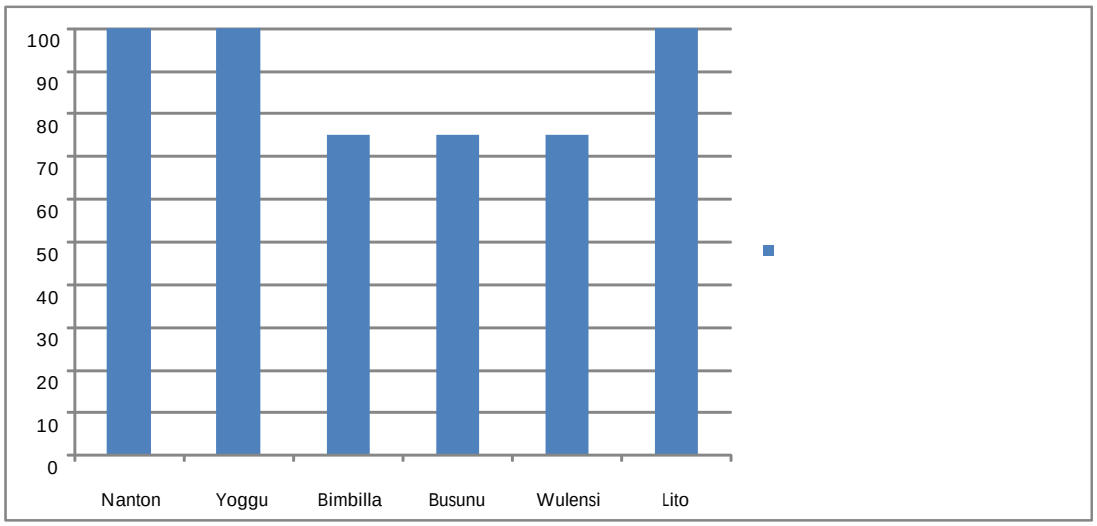
According to the Extension Services Specialist (ESS) of CWSA who had oversight responsibility for the community mobilisation for the project, Busunu did not show much interest to demand for the system. Busumu was one of the most difficult communities to deal with, and the Partner Organisation (PO) had a difficult time organising meetings. By all standards, this community failed the demand-responsiveness test (criteria) for the service. Under normal circumstances, the community would have been disqualified from the project, but the District Assembly intervened and paid the remaining portion of the community's contribution on their behalf to enable the project proceed. According to a District Water and Sanitation Team (DWST) member, none of the 5 small towns in the West Gonja District was able to fully raise its share of the capital cost contribution. In most of these cases, the District Assembly intervened by paying the communities contribution.

In all six cases, consultants managed to constitute and train WSMT. Management staff were also recruited and trained. The community was sensitized on the need to use clean water, and also to pay for the water they used. During the construction of the facilities, the board members participated in site meetings with the contractor, and monitored the progress of work, based on the training they had received from the consultant.

Based on the above, the cases were scored, as indicated in Figure 3 below.

[2] 1 USD = 1.9 GHC as at May, 2012

FIGURE 3: SCORING ON COMMUNITY MOBILISATION AND PLANNING INDICATORS

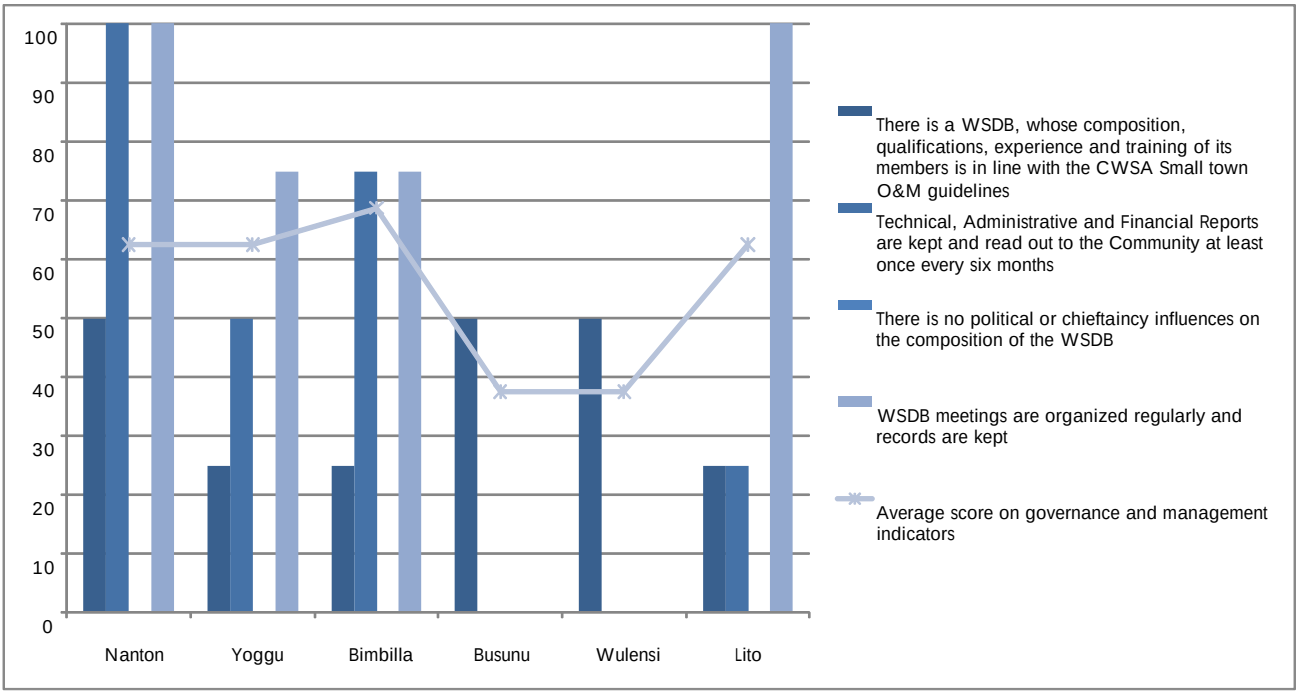


Though a score of 75% should be assigned to Busunu, as 3 out of the 4 criteria were met here, stakeholders in the validation workshop argued for a score of 10% due to the attitude of the community towards the project. However, in order to be consistent, the score of 75 is presented and used in this study.

3.3 MANAGEMENT AND GOVERNANCE

The figure below gives an overview of the scoring of six towns on the management and governance indicators (see annex 1 for the scoring tables).

FIGURE 4: SCORING ON GOVERNANCE AND MANAGEMENT INDICATORS



3.4 WATER AND SANITATION MANAGEMENT TEAMS (WSMTS).

In all six case studies, there was a Water and Sanitation Management Team for small towns, comprising 9-12 members, but in most cases, the composition of these management teams is not consistent with the CWSA guidelines. There is a conscious effort to balance representation of men and women, though men still appear to dominate decision making even on a well balanced team. All teams received initial training, but have since not been trained again after taking over the systems.

The Water and Sanitation Management Teams for small towns is required to include a system Manager, an accounts clerk, and a system operator. However, in Bimbilla and Wulensi there was a set-up like this, though in Wulensi, the number of DA and Area Council representatives on the Water and Sanitation Management Team for small towns was less than the 33% as prescribed by the CWSA guidelines. In the much smaller towns like Busunu, Lito and Yoggu, none of these staff existed, following resignations within the first year of appointment due to the inability of the systems to raise enough revenues to pay their salaries.

In these systems, interim managers have taken over these responsibilities, usually with a single person performing all the roles, without any training or experience in performing the tasks involved. In Busunu for instance, the operator, without the qualifications for this role except for some on-the-job training he got from the consultant during monitoring visits, also took on the role of a manger and accounts clerk after the position occupants had resigned.

BOX 2: HIGH TURN-OVER OF WSDB MEMBERS IN YOGGU

According to Acting Manager of the Yoggu Water System, "CWSA just sent out an advertisement, emphasising Higher National Diploma (HND) qualification as the requirement for the position, without thinking that a person with this qualification may not be willing to stay in the community. The advert was silent about the self-financing nature of the job. So many applicants rush in thinking it is a job to be paid by the government. When they get in and find out that is not the case, they immediately rush out without proper accountability and handing over". The gravity of this problem is better appreciated when he continued to elaborate that "these people were trained, followed the contractor to learn, and the consultant signed off. Then within a few days, they leave, and leaving behind problems for the Management team and the community".

3.4.1 Record keeping

In Nanton, records are kept and read out to the community at least every six months. In Bimbila and Yoggu records are kept, but are only read out to the community on an annual basis in Bimbila, but not in Yoggu. In Lito, only partial records are kept and were, despite pressure from the community, only shared on irregular basis, as illustrated in the box below. No records are kept at all in Busunu and Wulensi.

BOX 3: THE ACCOUNTANTS FEAR OF THE WRATH OF THE LITO COMMUNITY

Following persistent pressure from the community, the Management team was obliged to render accounts to the community in a public forum. This has happened only once in the last 3 years though, and did not include the financial report. The Management team ordered the accountant to prepare the financial reports to be presented to the community, but on the day of the forum, the accountant sneaked out of the community to avoid their wrath, upon rumours and suspicions that the community had planned to lynch him. He has since not been seen in public. He has since been nicknamed "Osama Bin Laden" by the community.

3.4.2 Political interference

In Nanton, there have been changes in the composition of the WSMT for small towns. Here, more than half of the WSMT for small towns was replaced.

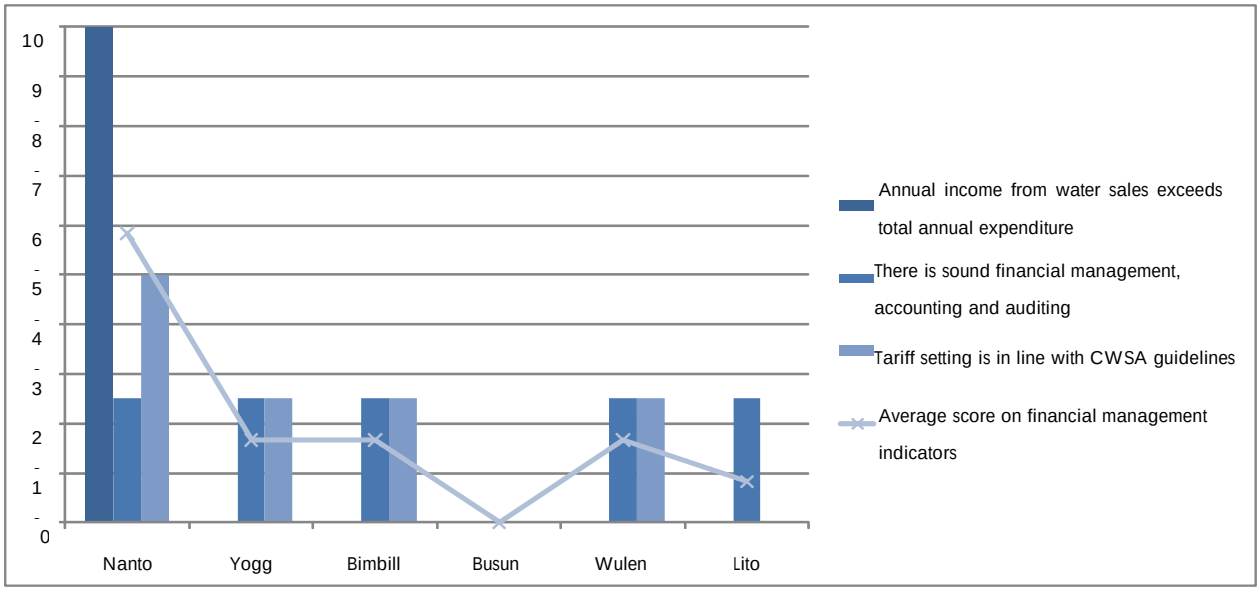
3.4.3 Meetings and minutes

With the exception of Busunu and Wulensi, the studies found that WSMT for small towns met on frequent basis and kept records. However, only in Nanton and Lito that these minutes are shared with the wider community.

3.5 FINANCIAL MANAGEMENT

All cases performed poorly in the Financial Management area. The performance of the systems in financial management was measured against CWSA guidelines as indicated below (see annex 1 for the scoring tables).

FIGURE 5: SCORING ON FINANCIAL MANAGEMENT



3.5.1 Income and expenditure

Nanton is the only system that managed to break even, with renenues exceeding expenditure.

3.5.2 Financial management

There is no sound management of finances, linked to absence of qualified finance officers. In several cases, financial officers involved in the WSMTs resigned in a matter of months. In the absence of retraining opportunities, existing staff who volunteer to take on the roles of financial management, do so with no knowldege of proper book keeping and accounting procedures. In Busunu for instance, the system operator also doubled as the accounts clerk following the resignation of the accountant. In Yoggu, in spite of good intentions of the system manager, financial management is a big challenge as well, as illustrated in the box below.

BOX 4: AMAZEMENTS OF THE YOGGU SYSTEM MANAGER

The Yoggu System Manager taking over the role of the manager following the resignation of the substantive manager, attempted to institute systems and procedures to safeguard the finances of the system. He contacted the District Assembly to arrange for the accounts of the system to be audited, and to train him on basic book keeping, but received no positive response. He is amazed that nobody is worried about how much income the system generates, and how it is used. According to him, under these circumstances he could easily without running into any problems. He has reported the matter to the CWSA regional office, but no action has been taken, and they still have to cope with an untrained systems manager. Amidst all these problems, he is not motivated as he is allowed only GHc 50 as a monthly allownace by the board for his services, on the grounds that he is only acting.

In none of the systems, all three of the recommended bank accounts (running account for day-to-day operations; capital account for repairs and major maintenance and an account for hygiene and

sanitation promotion activities) are in place. In Nanton and Yoggu, the WSMT for small towns manages two bank accounts: one for day-to-day operations, and another for savings to cover costs for repair and major maintenance. In Bimbilla, Wulensi and Lito, the WSMT for small towns s manage only one account for day-to-day operations, while in Busunu the WSMT for small towns does not has an account at all.

Both in Lito and Busunu the lack of a bank account for repairs and major maintenance has had serious negative effects on service delivery. In Lito, the system has not been functioning for 6 months because the submersible pump is currently broken. It would cost GHc 9,000 to replace, but the WSMT for small towns only had GHc 1,000 in its Bank Account. In Busunu, three of the six solar panels that power the pump are broken, causing the system to run far below its capacity. Replacing the panels would require GHc 2,100. When asked how much the Busunu WSMT for small towns had in their "coffers", they exclaimed they did not have anything like "coffers" let alone to talk of having something in it. Three of the six solar panels that power the pump are broken, but the WSMT for small towns did not have sufficient funds to replace them. Each panel costs GHc700, meaning a total of GHc 2,100 is required to purchase all three panels. Bimbilla faced a similar problem two years ago, causing the system to remain non-functional for about one year.

In all the schemes, auditing has never been carried out in the past 2 years.

3.5.3 Tariff setting

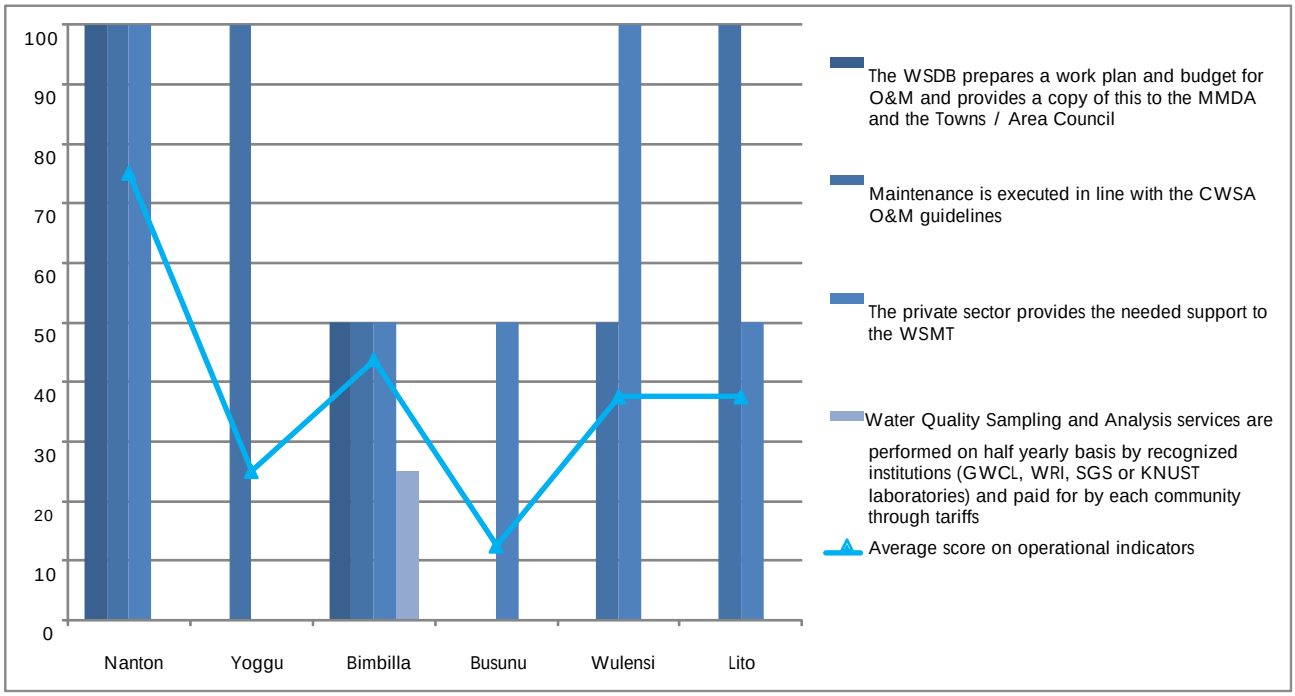
In Nanton, Tariff setting is partly in line with CWSA guidelines, but slightly adjusted following concerns about affordability by community members. In the other cases, tariff setting is not in line with CWSA guidelines due to political and community pressure to keep the tariff low.

BOX 5: ATTEMPTS TO ADJUST THE TARIFF IN LITO

The current tariff in Lito was set in 2006 when the WSMT first took over the management of the system with the support of the consultant. The initial tariff, set with the support of the District Assembly, was 5Gp per bucket (GHC 2.50/m^3). This was considered realistic in terms of operation and maintenance costs, but the community rejected it, and coerced the board to change the tariff to 1Gp per head pan (GHC 0.50/m^3). This was later increased to 5Gp per 3 head pans (GHC 0.83/m^3). Since then, the Board has attempted reviewing the tariff upward on three occasions. However, on all occasions community members rejected the revised tariffs, and still stuck to the old tariff.

3.6 OPERATIONS

FIGURE 6: SCORING ON OPERATIONAL INDICATORS:



3.6.1 Workplan and Budgets for maintenance

The WSMT for small towns in Nanton and Bimbila prepared a work plan and budget for O&M, but only the Nanton WSMT for small towns also shared this with the Metropolitan Municipal and District Assemblies (MMDA) and town council. In the other cases, WSMT for small towns do not prepare work plans and budgets.

3.6.2 Execution of maintenance

In Nanton, Yoggu and Lito, the (acting) system operator is able to do routine maintenance, using the system manual. Nevertheless, the submersible pump in Lito has broken down and the WSMT for small towns does not have sufficient funds saved to replace the pump. In Bimbila and Wulensi, maintenance takes place on an ad hoc basis. In Busumu, maintenance does not take place at all.

3.6.3 Availability of Spare Parts and Private Sector Support

Most spare parts are avaialble from Tamale (within 24 hours) but some parts, such as the pump, can only be obtained from Accra. In the cases where the system has been implemented with support from AFD (Nanton and Yoggu), the WSMT for small towns has been told by the contractor who installed the system that, for some of the parts, they have to order from France, but the WSMT for small towns s are not sure which parts this concerns. Also in Busunu, the WSMT for small towns is not sure where to get the parts from. They mentioned they were told they could order them from France through the original supplier. The European Union (EU) left a stock of spare parts for them and they have since used a small part of that.

3.6.4 Water quality testing

In all the cases, routine water quality sampling and analysis was not undertaken, except in Bimbila, where water quality checks take place on infrequent basis. The main reason for not doing water quality testing is however the lack of funds. According to a DWST member of the Tolon/Kumbungu District Assembly (where Yoggu town can be found), the Water Research Institute charges GHc 600 for a test, whilst GWCL charges GHc 160, which is considered too high for the WSMT for small towns to afford.

3.7 ENABLING ENVIRONMENT

Three indicators out of a total of six related to the enabling environment were directly connected to service provision at the level of case study towns. These indicators are:

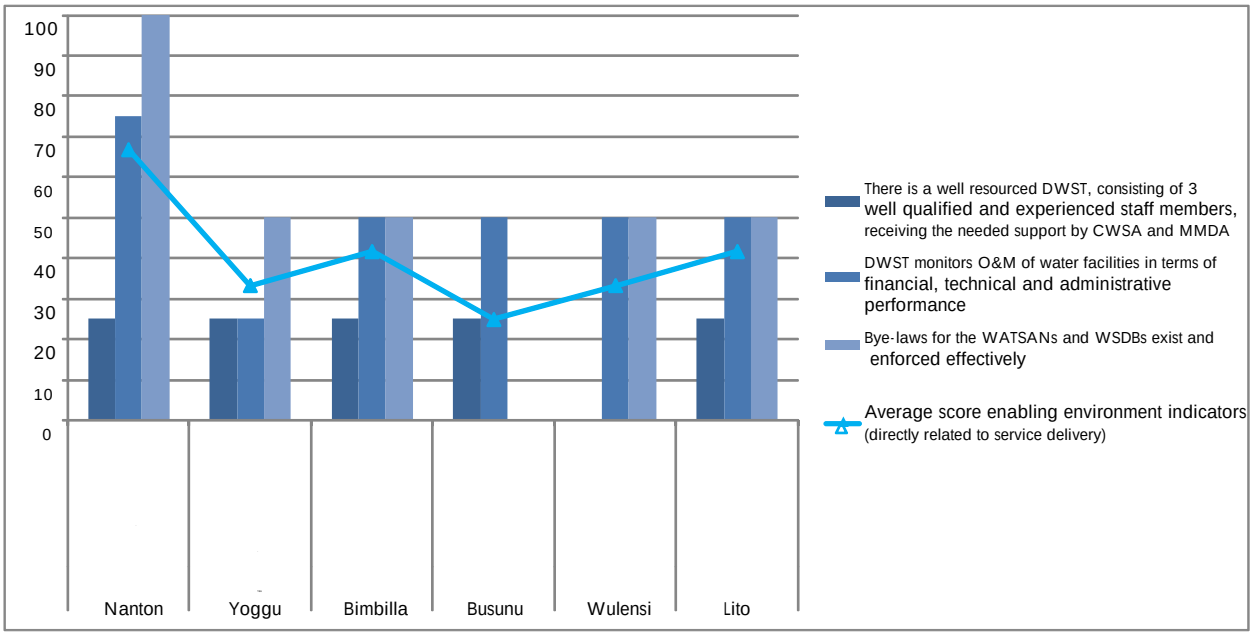
- There is a well-resourced DWST, consisting of 3 well qualified and experienced staff members, receiving the needed support by CWSA and MMDA
- DWST monitors O&M of water facilities in terms of financial, technical and administrative performance, including periodic audits, and provides support where needed.
- Bye-laws for the WSMTs for small towns exist and are enforced effectively

The remaining three enabling environment indicators are not directly related to service provision level. These are:

- Existence of efficient monitoring and data flows out

MMDA Water and Sanitation Plan is incorporated into medium term development plans and budget of the assembly, which is used to guide implementation NGOs and Civil Society Organisations (CSOs) providing water facilities do so in coordination with the MMDA.

FIGURE 7: SCORING ON ENABLING ENVIRONMENT



Again Nanton toped in terms of enabling environment, with an average score higher than 80. The enabling environments of Lito and Bimbila exceeded the benchmark of a 50 score as well. Busunu and Wulensi both had an average score of below the benchmark. The average enabling environment score was lowest in Yoggu.

3.7.1 District Water and Sanitation Development Teams (DWST)

A DWST is in place, consisting of well qualified and experienced staff (3 members) in all case studies, with the exception of Wulensi, where the DWST only consists of 2 staff. However, none of the cases had DWSTs sufficiently resourced in order to monitor water service delivery at community level and provide the required technical support.

3.7.2 Monitoring Operation and Maintenance

DWST members undertake monitoring, but unfortunately, due to financial constraints, the monitoring is not regular. During project periods, there are sufficient funds for monitoring, but afterwards it is a challenge. Only in the case of Nanton, the DWST managed to monitor and provide required support in a structured way.

3.7.3 WSDB Bye-Laws

Though bye-laws for the WSMTs for small communities and WSMTs for small towns existed, they were not enforced effectively, with the exception of Nanton, where they were enforced.

Enabling environment indictors not directly related to the water service

Monitoring and data flows are the major challenges across all districts.

The District Water and Sanitation Plans are incorporated into the District medium term development plans, and budget for, but they hardly get these budgets funded.

NGOs and CSOs in the district provide water facilities in coordination with the MMDA. Existing NGOs worked closely with the Assemblies, and the DWSTs were deeply involved in the selection of beneficiary communities, and jointly visited these communities together with the NGO staff.

It is the strong opinion of the Board that a greater involvement of government and the District Assembly is still necessary for the sustainability of the systems. The current practice of abandoning communities to their fate is not helpful. Yet, there were serious resource constraints for DWSTs to move frequently to support communities.

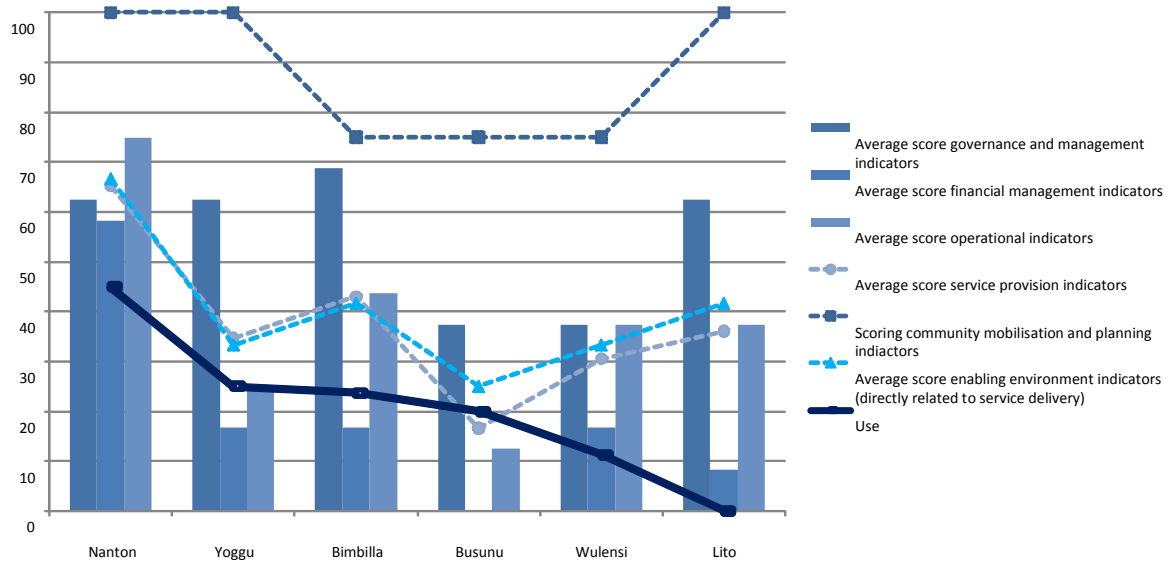
3.8 THE ASSOCIATION OF WATER AND SANITATION DEVELOPMENT BOARDS: AN EXAMPLE OF AN INNOVATION TO IMPROVE SUSTAINABILITY

A significant innovation in the Northern region is the formation of the Association of Water and Sanitation Development Boards. The Association has been registered as a company limited by guarantee since 1997, with a full time secretariat headed by an executive secretary. The Association has a pooled fund into which member water boards contribute into. Members, who encounter breakdowns that cost beyond their immediate means to fix, are given support to purchase the needed parts and fix their problems immediately. The affected system is then given time, usually between 6 months to one year, to pay back their loan to the group, whilst continuing their monthly savings into the pool.

Members who belong to the Association have also built a strong voice for advocacy in the sector, and are currently receiving support from Water Aid to embark citizen's engagement actions on WASH at the District Assembly level. The Association presents a good case for further exploring financial protection mechanisms for community managed water systems through mutualisation and pooled funding arrangements.

In Bimbila and Lito, where systems had been implemented under the Rural Water and Sanitation Project funded by the EU, both were found to have challenges fixing their breakdowns documented in this assessment were newly commissioned under an EU project, and have not formally joined the Association. This is largely a result of weak management from the start, which have not allowed the communities to make any savings of any form to be able to join the Association. gives an overview of the scores of the six case studies on the different service and sustainability indicators.

FIGURE 8: OVERVIEW OF SERVICE AND SUSTAINABILITY INDICATOR SCORE



4 Discussions

As shown in figure 8 except for Nanton, the level of service used scored 25 or lower. In five out of the six studied cases, people were thus on average using water services of a sub-standard level. The average score of the service provision indicators presents the average of the scores of the governance and management, the financial and the operational indicators at service provision level. Also on this, it is only Nanton that scored above the benchmark. The average score on the enabling environment indicators follows a similar pattern as the average score on the service provision indicators.

4.1 KEY ISSUES FROM THE STUDY

High levels of support from district and regional level resulted in improved performance of service providers at community level (in these cases the WSDBs for small towns), which in turn translates in higher service levels.

There was big discrepancy between potential service levels, as per the design of the system, and the actual use of service levels. This discrepancy is smallest in Nanton, which scored highest on the service provision indicators.

In the area of governance and management, the voluntary nature of the WSMTs for small towns WSDBs and the lack of clarity on their official status result in high turn-over of WSMTs for small towns staff. Combined with the lack of capacity and systematic training and re-training, this negatively affects the ability of the WSMTs for small towns to deliver services at an appropriate level.

Financial management is a major challenge. Although tariffs should be high enough to cover operation and maintenance in order to sustain appropriate service levels, tariffs are often kept lower than the required level. In addition, mechanisms for ensuring sufficient financial resources for replacement of parts of the system in case of a breakdown, like the recommended capital account, are often not in place. This results in many cases in systems failing and service levels dropping below an acceptable level.

And even when financial resources are available, acquiring the appropriate spare parts has proven to be a challenge. WSDBs are not always clear where they can obtain the required spare parts for the small town piped systems.

However, besides the managerial and attitudinal challenges, which were emphasised in this study, low service levels were also caused by physical limitations. In the case of Yoggu for example, although demand for water supply is high (unlike Busunu) and people are willing to pay (unlike Lito), service levels are low because of lack of sufficient ground water in the dry season. This in turn obviously affects the financial performance of the system. In the case of Wulensi, inadequate infrastructure (by design) was a major factor that contributed to low service levels. Here, rapid growth in population of the town on assuming the status of a District capital for a newly created district has overstretched the capacity of the existing water infrastructure.

4.2 CHALLENGES WITH THE SERVICE AND SUSTAINABILITY INDICATORS FRAMEWORK

Through the use of the service and sustainability indicator framework, a number of challenges related to the application of the framework have been identified.

The community mobilization indicator does not measure the extent to which a community is truly mobilized. Focus is on process rather than on outcomes. CWSA's approach to community mobilization has challenges. Little attention is paid to the quality and outcome of Partner Organisations (PO) interventions. High scores in community mobilization for all systems studied did not reflect in the levels of sustainability service levels.

The weighting system for a cumulative score as a proxy measure of the overall performance of the system does not have the right balance. The simple average of the scores of the different sub-indicators as applied in this study could be misleading.

5 RECOMMENDATIONS AND CONCLUSION

The sector as a whole should undertake a comprehensive review of the community management approach. Radical changes in its core principles are required, especially in the area of ownership, pooling funds from different systems into a single district account, unrealistic expectations that communities can recover system replacement costs from tariff etc.

Recommendations related to service provision:

- Simple and secure investment options should be explored to improve the financial viability of the systems.
- Financial Risk protection/mitigation measures should be explored to protect systems against unpredictable catastrophes that result in breakdown of expensive parts, like thunder blowing off transformers and breakdown of submersible pumps as a result of power fluctuations. Commercial insurance should be considered for the short term. In the long term the possibility of establishing a Mutual Insurance Scheme for all the water systems should be explored
- Community level Integrated Water Resources Management (IWRM) practices should be incorporated in community drinking water supply schemes to improve ground water recharge and quality

Recommendations related to the enabling environment

- CWSA and Development Partners should invest substantial resources for long term support to communities to improve operations and maintenance
- CWSA and District Assemblies should jointly explore the possibility of recruiting District Systems Managers to be based at the District Assembly as a full time staff. This staff would spend time with each system and be responsible for ensuring that day to day activities are duly carried out and basic records are kept.
- The District Assemblies should consider assigning a finance officer to be in charge of providing support to all WSMTs for small towns to keep their books properly

Recommendations related to the sustainability indicators

- The scope and content of what constitutes community mobilization activities that consultants undertake should be reviewed to reflect its importance to the sustainability of the systems. The role of community mobilization according to established standards did not reflect strongly in the performance of the systems
- Review weighting system for computing the overall score of the various indicators. Striking a simple average of the scores for the different indicators does not appear to be a good proxy measure of the overall performance of the system

6 ANNEX 1: SERVICE AND SUSTAINABILITY INDICATOR SCORING TABLES

Service delivery indicator: Water services provided are in line with the CWSA standards

Scoring:

SERVICE LEVEL	CHARACTERISTICS OF SERVICE LEVEL
High	People access a minimum of 60 lpcd of high quality water on demand. Reliability is 95% (CWSA hand pump household connection standard).
Intermediate	People access a minimum of 40 lpcd of acceptable quality water from an improved source, at a distance less than 500m. The number of people using the hand pump is 300 in the case of a bore hole and 150 in the case of a hand dug well and reliability is 95%
Basic	People access a minimum of 20 lpcd of acceptable quality water (Ghana Standard Board) from an improved source, at a distance no more than 500 m. The number of people using the handpump is 300 in the case of a bore hole and 150 in the case of a hand dug well and reliability is 95% (CWSA hand pump and standpipe standard)
Sub-standard	People access service that is improvement on having no service at all, but that fails to meet the basic standards on one or more criteria (quantity, quality, reliability, distance, max number of people served)
No service	People access water from insecure or unimproved sources

Source: CWSA service delivery and sustainability indicators, 2010

Community mobilisation and planning

Indicator*Community mobilisation for O&M has taken place in line with the Project Implementation Manual (PIM)

Scoring:

OPTIONS	SCORE
None of the critical issues in the PIM have been addressed	0
1 out of 4 critical issues in the PIM have been addressed	25
2 out of 4 critical issues in the PIM have been addressed	50
3 out of 4 critical issues in the PIM have been addressed	75
Community mobilisation for O&M has taken place in line with the PIM	100

Source: CWSA service delivery and sustainability indicators, 2010

Management and Governance Indicators

Handpump specific indicator: A well-qualified, trained and experienced gender balanced WSMT is in place

Scoring

OPTIONS	SCORE
There is no WSMT committee	0
There is a WSMT, but it has not been constituted in line with the guidelines.	25
There is a WSMT which has been constituted in line with the guidelines, but members have not received initial training	30
Benchmark: There is a gender balanced WSMT, which has been constituted in line with the guidelines and members have received initial training.	50
There is a gender balanced WSMT, which has been constituted in line with the guidelines, which has received initial training, and retraining regularly (CWSA standard)	75
Ideal: There is a gender balanced WATSAN, which has received initial training, and bi-annual retaining (or retaining every time a new member joins)	100

Source: CWSA service delivery and sustainability indicators, 2010

Piped water specific indicator: There is a WSMT, whose composition, qualifications, experience and training of its members is in line with the CWSA Small town O&M guidelines

Scoring

OPTIONS	SCORE
There is no WSMT	0
There is a WSMT, but its composition is not in line with the model bye-laws and CWSA guidelines	25
Benchmark: There is a WSMT. Its composition is in line with the model bye-laws and CWSA guidelines. WSDB members have received initial training.	50
There is a WSMT, which has received initial training, and retraining every 3- 5 years. Its composition is in line with the model bye-laws and the CWSA guidelines. (CWSA standard).	75
Ideal: There is a WSMT. Its composition is in line with the model bye-laws and CWSA guidelines. WSMT members have received initial training, and bi-annual retraining (or retaining every time a new member joins).	100

Source: CWSA service delivery and sustainability indicators, 2010

Indicator: Technical, Administrative and Financial Reports are kept and read out to the Community at least once every six months

Scoring:

OPTIONS	SCORE
No technical, administrative and financial reports are kept	0
Some technical, administrative and financial reports are kept	25
Technical, administrative and financial reports are kept but not shared with the community	50
Technical, administrative and financial reports are kept and irregularly shared with the community	75
Technical, administrative and financial reports are kept and read out to the community at least once every 6 months (CWSA standard)	100

Source: CWSA service delivery and sustainability indicators, 2010

Indicator: There is no political or chieftaincy influences on the composition of the WSMT

OPTIONS	SCORE
There are major changes in WSMT members (more than 50% of members have been changed) as a result of political or chieftaincy influence	0
There are minor changes in WSMT members (less than 50% of members have been changed) as a result of political or chieftaincy influence, but these changes have not had a negative effect on the functioning of the WSMT	50
There are no changes in WSMT members as a result of political or chieftaincy influences	100

Source: CWSA service delivery and sustainability indicators, 2010

Piped water specific indicator: WSMT meetings are organised regularly and records are kept

Scoring:

OPTIONS	SCORE
The WSMT never meets.	0
The WSMT meets occasionally (less than once every 6 months) or it meets more often, but no records are kept and decisions are not communicated to the community.	25
The WSMT meets at least every 6 month. The Secretary of the WSMT keeps correct records of decisions made each meeting.	50
The WSMT meets at least every 3 month. The Secretary of the WSMT keeps correct records of decisions made each meeting.	75
The WSMT meets at least every 3 month. The Secretary of the WSMT keeps correct records of decisions made each meeting. These records are posted on the community notice board or communicated in another way to all communities covered by the system.	100

Source: CWSA service delivery and sustainability indicators, 2010

Financial Management

Indicator: Annual income from water sales exceeds total annual expenditure

OPTIONS	SCORE
Total annual expenditure exceeds annual income from water sales	0
Annual income from water sales exceeds total annual expenditure	100

Source: CWSA service delivery and sustainability indicators, 2010

Indicator: There is sound financial management, accounting and auditing

Handpumps scoring:

OPTIONS	SCORE
There is no bank account and there is no record keeping	0
There is a bank account, but records are not kept, or, records are kept, but there is no bank account.	25
There is a bank account and records are well kept.	50
There is a bank account and records are well kept. Auditing is carried out irregularly (less than once a year).	75
There is a bank account and records are well kept. Auditing is carried out at least once a year. (CWSA standard)	100

Source: CWSA service delivery and sustainability indicators, 2010

Piped water scoring:

OPTIONS	SCORE
There is no bank account and there is no record keeping	0
There is at least one bank account, but records are not kept or deposits are not in line with the bye-laws	25
There are 3 bank accounts and records are well kept. Money is deposited into the accounts, but not 100% in accordance with bye-law requirements (so less than 20% into the capital account and less than 10% into the sanitation account)	50
There is a bank account and records are well kept. Money is deposited into the accounts in accordance with bye-law requirements (at least 20% into the capital account, at least 10% into the sanitation account).	75
There is a bank account and records are well kept. Auditing is carried out at least once a year. (CWSA standard)	100

Source: CWSA service delivery and sustainability indicators, 2010

Indicator: Tariff setting is in line with CWSA guidelines

Handpumps scoring:

OPTIONS	SCORE
No tariff has been set	0
Tariff setting is done by WSMT and approved by Metropolitan, Municipal and District Assemblies(MMDAs), but is not based on projected/ planned costs	25
Tariff setting is done by WSMT and approved by MMDA and is based on projected/ planned costs of operation and maintenance (payment of vendor, payment of spare part and area mechanic)	50
Tariff setting is done by WSMT and approved by MMDA and is based on projected/ planned costs of operation and maintenance (vendor, spare part for minor maintenance etc.) and some additional costs, like replacement costs of handpump and water quality tests	75
Tariff setting is done by WSMT and approved by MMDA. Tariff is based on projected/ planned costs of operation and maintenance (vendor, spare part for minor maintenance etc.), as well as capita maintenance expenditure costs (rehabilitation and replacement of the handpump) and support costs (water quality tests).	100

Source: CWSA service delivery and sustainability indicators, 2010

Piped water scoring:

OPTIONS	SCORE
No tariff has been set	0
Tariff setting is done by WSMT and approved by MMDA, but is not based on projected/ planned costs	25
Tariff setting is done by WSMT and approved by MMDA and is based on projected/ planned costs of operation and maintenance (item 1-4 and 6))	50
Tariff setting is done by WSMT and approved by MMDA. Tariff is based on projected/ planned costs of operation and maintenance (item 1-4 and 6), as well as either capita maintenance expenditure costs (item 7-8), or water quality testing costs (item 5) or provision has been made for a sanitation fund (item 9).	75
Tariff setting is done by WATSAN and approved by MMDA. Tariff is based on projected/ planned costs of operation and maintenance (item 1-4 and 6), as well as capita maintenance expenditure costs (item 7-8), water quality testing costs (item 5) and provision has been made for a sanitation fund (item 9).	100

Source: CWSA service delivery and sustainability indicators, 2010

Piped water specific indicator: Interference of the MMDA in the setting of the tariff does not affect the revenues

Scoring:

OPTIONS	SCORE
The MMDA does not pay the difference in revenue into the WSMT account in case of a reduction in expected tariff revenue as a result of action by the MMDA	0
The MMDA pays part of the difference in revenue into the WSMT account in case of a reduction in expected tariff revenue as a result of action by the MMDA	50
The MMDA pays the difference in revenue into the WSMT account in case of a reduction in expected tariff revenue as a result of action by the MMDA	100

Source: CWSA service delivery and sustainability indicators, 2010

Operational Indicators

Piped water specific indicator: The WSMT prepares a work plan and budget for O&M and provides a copy of this to the MMDA and the Towns / Area Council

Scoring:

OPTIONS	SCORE
The WSMT does not prepare a work plan and budget for O&M	0
The WSMT prepares a work plan and budget for O&M, but does not submit it to the MMDA and town / area council	50
The WSMT prepares a work plan and budget for O&M and provides a copy of this to the MMDA and the Towns / Area Council	100

Source: CWSA service delivery and sustainability indicators, 2010

Indicator: Maintenance is executed in line with the CWSA O&M guidelines

Handpump scoring:

OPTIONS	SCORE
Spare parts are not readily available, there is no area mechanic in the district and no record of maintenance is kept.	0
Spare parts for handpump maintenance and repair are available at all levels at all times but there is no area mechanic available in the district. Corrective maintenance is carried out, but not within 24 hours.	25
Benchmark: Spare parts for hand pump maintenance and repair are available at all levels at all times and there is an area mechanic available in the district. Corrective maintenance is carried out within 48 hours.	50
Spare parts for handpump maintenance and repair are available at all levels at all times and there is an area mechanic is available in the district. Corrective maintenance is carried out within 24 hours. Preventive maintenance is carried out by the Area Mechanic occasionally.	75
Ideal: Spare parts for handpump maintenance and repair are available at all levels at all times and there is an area mechanic available in the district. Corrective maintenance is carried out within 24 hours. Preventive maintenance is carried out by the Area Mechanic, at least once	100

yearly. Records of all maintenance activities are kept. (CWSA standard)	

Source: CWSA service delivery and sustainability indicators, 2010

Piped water Scoring:

OPTIONS	SCORE
O&M manuals are not available or are not being used. Maintenance does not take place.	0
O&M manual are available. Ad hoc maintenance takes place.	50
A relevant personnel has been trained in the effective use of O&M manuals and execute regular maintenance in accordance with these manuals which are available.	100

Source: CWSA service delivery and sustainability indicators, 2010

Piped water specific indicator: The private sector provides the needed support to the WSMT

Scoring:

OPTIONS	SCORE
Spare parts are not readily available and there is no private sector available to carry out maintenance.	0
Spare parts and private sector to support repairs and maintenance are available within a week	50
Benchmark: Spare parts and private sector to support repairs and maintenance are available within 48 hours	100

Source: CWSA service delivery and sustainability indicators, 2010

Indicator: Water Quality Sampling and Analysis services are performed on half yearly basis by recognised institutions Ghana Water Company Limited (GWCL), Water Research Institute (WRI), SGS or Kwame Nkrumah University of Science Technology (KNUST) laboratories and paid for by each community through tariffs

Scoring:

OPTIONS	SCORE
No quality sampling has taken place since installation	0
Water Quality Sampling and Analysis services are performed irregularly (less than once a year) by recognised institutions (GWCL, WRI, SGS or KNUST laboratories) and paid for by each community through tariffs (CWSA small comm., O&M, p 8)	25
Water Quality Sampling and Analysis services are performed on yearly basis by recognised institutions (GWCL, WRI, SGS or KNUST laboratories)	50
Water Quality Sampling and Analysis services are performed on half yearly basis by recognised institutions (GWCL, WRI, SGS or KNUST laboratories)	75
Water Quality Sampling and Analysis services are performed on half yearly basis by recognised institutions (GWCL, WRI, SGS or KNUST laboratories) and paid for by each community through tariffs (CWSA standard: CWSA small comm., O&M, p 8)	100

Source: CWSA service delivery and sustainability indicators, 2010

Enabling Environment

Indicator: There is a well-resourced DWST/DWD, consisting of 3 well qualified and experienced staff members, receiving the needed support by CWSA and MMDA

Scoring:

OPTIONS	SCORE
The DWST consists of less than 3 members	0
There is a DWST, consisting of 3 members, but are not sufficiently resourced in order to do their jobs	25
There is a DWST, which is sufficiently resourced in order to do their job	50
There is a DWST, which is sufficiently resourced in order to do their job and received irregular retaining	75
There is a DWST, which is sufficiently resources in order to do their job and is regularly retained	100

Source: CWSA service delivery and sustainability indicators, 2010

Indicator: DWST monitors O&M of water facilities in terms of financial, technical and administrative performance (general CWSA, p 9), including periodic audits, and provides support where needed.

Scoring:

OPTIONS	SCORE
DWST does not monitor O&M of water facilities in terms of financial, technical and administrative performance.	0
DWST sometimes (on ad hoc basis) monitors O&M of water facilities in terms of financial, technical and administrative performance.	25
DWST monitors O&M of water facilities in terms of financial, technical and administrative performance, but does not (immediately) provide the direct support when needed.	50
DWST monitors O&M of water facilities in terms of financial, technical and administrative performance, and provides direct support where needed when challenges are identified.	75
DWST monitors O&M of water facilities in terms of financial, technical and administrative performance, including periodic audits, and provides direct support where needed. (CWSA standard)	100

Source: CWSA service delivery and sustainability indicators, 2010

Indicator: Bye-laws for the WSMTs exist and are enforced effectively

Scoring:

OPTIONS	SCORE
Bye-laws do not exist	0
Bye-laws exist for either WSMTs or bye-laws exist for both but are not enforced	50
Bye-laws exist for WSMTs and are enforced effectively (CWSA standard)	100

Source: CWSA service delivery and sustainability indicators, 2010

Indicator: There are efficient monitoring and data flows

Scoring:

OPTIONS	SCORE
No Monitoring of Operations and Maintenance(MOM) data is collected and compiled into District Monitoring and Evaluation System	0
Some data is collected by the DWST or the regional CWSA office on irregular basis	25
DWST submits MOM reports to the regional CWSA office on an irregular basis. CWSA regional office collects and compiles data and feeds it into District Monitoring and Evaluation System (DiMES) and submits it to CWSA Headquarters.	50
DWST submits quarterly MOM reports to the regional CWSA office, which collects and compiles data and feeds it into DiMES on quarterly basis and submits it to CWSA Headquarters. (CWSA standard)	75
DWST submits quarterly MOM reports to the regional CWSA office, which collects and compiles data and feeds it into DiMES on quarterly basis and submits it to CWSA Headquarters. The data is used for regional and national level planning.	100

Source: CWSA service delivery and sustainability indicators, 2010

Indicator: MMDA District Water and Sanitation Plan is incorporated into medium term development plans and budget of the assembly, which is used to guide implementation

Scoring

OPTIONS	SCORE
There is no District water and sanitation plan	0
There is one (or multiple) District water and sanitation plan(s). However, these were developed with little to no participation of the MMDA and DWST and are not used.	25
There is one (or multiple) District water and sanitation plan(s). These were developed by external consultants, with little or no input from the MMDA and DWST but is the basis for annual planning and implementation	50
There is a District Water and Sanitation Plans, developed by the DWST, or by a consultant with intensive participation of the DWST. The plan is the basis for annual planning and implementation and incorporated into Medium Term Development Plan (MTDP) but not in the budget of the Assembly.	75
There is a District Water and Sanitation, developed by the MMDA and DWST, or by a consultant with intensive participation of the MMDA and DWST. The plan incorporated into MTDP and budget of the assembly. (CWSA standard)	100

Source: CWSA service delivery and sustainability indicators, 2010

Indicator: NGOs and CSOs providing water facilities do so in coordination with the MMDA

Scoring:

OPTIONS	SCORE
None of the systems implemented by NGOs and CSOs have been implemented in coordination with the MMDA	0
Less than half of the systems implemented by NGOs and Civil Society Organisations(CSOs) have been implemented in coordination with the MMDA	25
About half of the systems implemented by NGOs and CSOs have been implemented in coordination with the MMDA	50
More than half of the systems implemented by NGOs and CSOs have been implemented in coordination with the MMDA	75
All systems implemented by NGOs and CSOs have been implemented in coordination with the MMDA	100

Source: CWSA service delivery and sustainability indicators, 2010

Hand pump specific indicator: MMDA assists the community in case of major repairs and borehole rehabilitation

Scoring:

OPTIONS	SCORE
MMDA has never assisted a community in case of major repairs and borehole rehabilitation	0
MMDA occasionally assists communities in case of major repairs and borehole rehabilitation (CWSA standard)	50
MMDA always assists communities in case of major repairs and borehole rehabilitation and has done so in the past	100