

Annual Review Conference of the Community Water and Sanitation Agency,2011

**Theme : Tracking Functionality of WASH facilities – *A key
to Sustainable Services***

Theme paper : Tracking Functionality for Sustainability

**Presented at the 2011 Annual Review Conference of the Community
Water and Sanitation Agency held in Kumasi**

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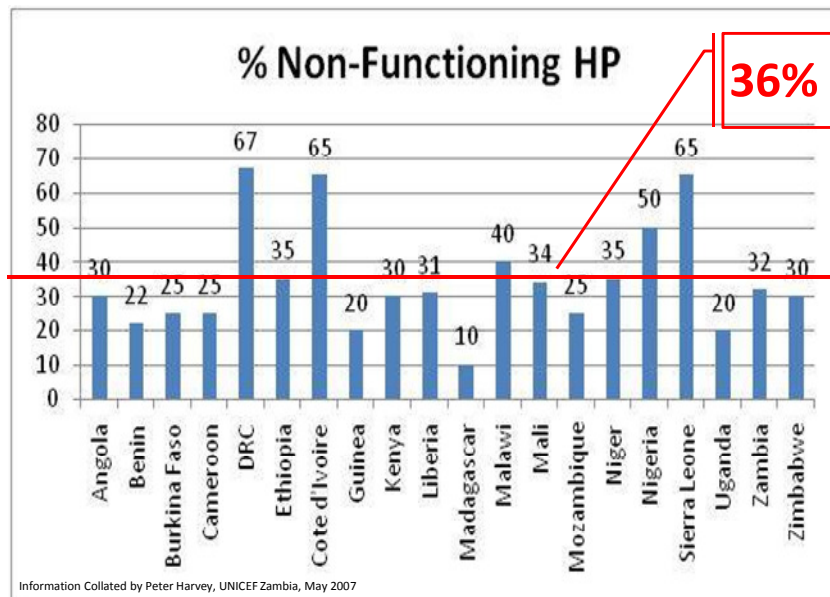
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Introduction

This paper has been prepared for the 2011 annual review conference of the Community Water and Sanitation Agency (CWSA) held in Kumasi in April 2012. It is intended to address the theme of the conference “Tracking Functionality of WASH facilities – A key to Sustainable Services”; and seeks to build a case for functionality and service monitoring as a bed rock for not only increasing ever higher levels of coverage, but ensuring that these provide sustainable and adequate levels of services. It focuses on the case of Ghana and provides a reflection on how past approaches to water supply have dealt with the challenge of sustainability, before considering the lessons learned and visions for the future.

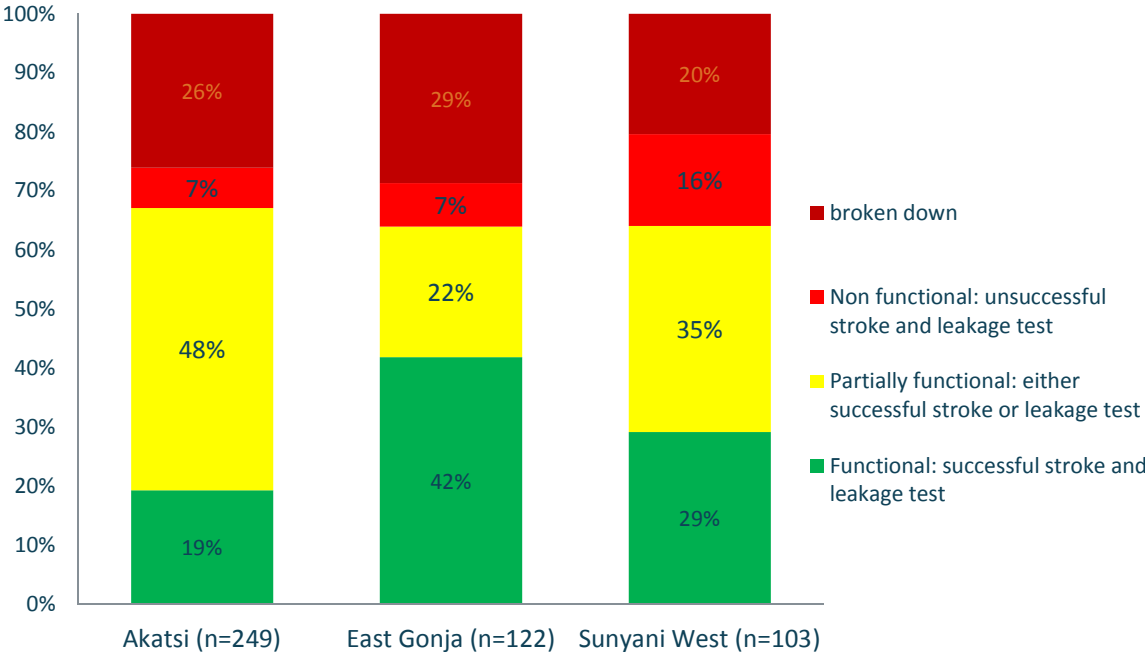
The last three decades have seen substantial investment and vigorous attempt to increase coverage of globally, about 700 million people gained access to improved water supply services between 1990-2008 but many challenges remain. As back far as the 1990's estimates suggested that, at any given moment, 30-40% of rural water systems in developing countries were not working (Evans, 1992). This situation has not changed much. Studies from various countries indicate that between 30% and 40% of systems particularly hand pumps either do not function at all or are working at sub-optimal levels. The figure below provides a global picture of the situation in sub-Saharan Africa. It shows data from an RWSN study which showed that in a sample of 20 countries the average non functionality rate was 36%. (Harvey 2007)

Investment loss in sub-Saharan Africa of between US\$ 1.2 to 1.3 billion over 20 years



The situation of Ghana is not different. Rural water supply has been successfully extended from 29% in the 90's to 62% of the rural population of Ghana (CWSA Annual Report 2010). Ghana is on track to achieve the Millennium Development Goals (MDGs) target for water, but behind this success are a complex set of challenges to turn newly provided water delivery infrastructure into sustainable services. At any time, a substantial proportion of water supply infrastructure is either not-functioning or functioning sub-optimally. Rural water supply services in Ghana still lack sufficient attention to long term sustainability issues, including post-construction support.

A functionality and sustainability study conducted by CWSA under the Triple-S initiative in three districts in Ghana shows non-functionality rates of around 35% (when considering both completely broken down point sources, as well as point sources that did not pass the stroke and leakage tests).



Recent research by the WASHCost project found that 29% of rural point-systems were non-functional at the time of visit. The same research found that only 23% of people relying on rural point-systems were accessing the nationally defined minimum level of service (in terms of quantity, quality, distance and cost) although in small towns this rose to 59% (Nyarko et al, 2011).

While data on functionality is not generally available for small towns, there are widely acknowledged problems with their sustainability in some regions, and in general they are seen as being something of a “time-bomb” in that most have been constructed in the last 10 years or so and little is known about their ability to deal with shocks such as major repairs or replacements.

Much has been achieved and many lessons learned in the past three decades about the provision of new systems but the challenge of making sure these systems continue to deliver a reliable, safe supply of water that everyone can access remains a significant one.

Before looking for solutions to the challenges of sustainable service delivery, it is therefore imperative to look back to identify the lessons of the past, and using these as the basis for a new vision for the future. The next section of the paper therefore takes a look at the historical account of the approaches adopted for rural water service delivery in Ghana from 1965 to date and at how they have evolved in tandem with, and been influenced by, the broader dynamics of the sector.

Rural Water supply in Ghana- the Road Travelled

Rural water supply in Ghana dates back to 1965 when there was a clarion call to increase coverage of water services. Rural water provision was supply driven. Beneficiary communities had little input in determining the priority and management arrangement for delivery of water. Planning and design was done in-house and implemented by staff of the rural water department of the erstwhile Ghana Water and Sewage Corporation. Maintenance of pumps was done by project staff with project supplied spare parts. The Beatty, Moyno and Mono pumps were introduced during this era.

The first of many similar projects was implemented in the Upper Region (now upper East and West) of Ghana with support from the Government of Canada. This was followed by the KFW 3,000 wells drilling programme in southern Ghana in early 80s. The project covered six regions including Brong Ahafo, Ashanti, Western, Central, Eastern and Volta regions. This project also adopted a supply driven approach, including introduction of the standard Indian Mark II hand pump. Even though this approach facilitated quick gains in coverage, it suffered from apathy by communities and lack of interest in sustaining the facilities.

The 1990’s marked the era of a gradual shift towards Community Ownership and Management (COM) with the realization that a purely supply driven approach did not



encourage community ownership and thus had problems with sustainability of the systems. AFD under the Rural Water Supply Project (implemented in the Central Region of Ghana), introduced elements of community involvement in operation and maintenance of the facilities. There was no community contribution to capital cost but communities were required to open bank accounts and pay for repair services rendered by pump repair men trained and equipped by the project. DANIDA under the Rural Water and Sanitation Project in the Volta region, introduced WATSAN Committees, extension supervisors, Environmental Health Officers and Assistants at the districts to community mobilization, employed district engineers and trained area mechanics and pump caretakers at community level. Community contribution to capital cost was also introduced. World Bank and United Nations Development Programme (UNDP) piloted the Village Level Operation and Management Concept in the Bolgatanga district using the Afridev pumps and existing boreholes. Local persons including females were trained to maintain the hand pumps.

The Sustainability Challenge

Ten years down the road of implementation from the Canadian International Development Agency (CIDA) assisted project in the Upper Regions of Ghana and KFW 3,000 well programme in southern Ghana, the problem of sustainability of the systems began to manifest itself. In search of solutions to the challenge, CIDA assisted the Government of Ghana with the Community Water Project (COWAP) in the Upper Regions of Ghana. Broken down boreholes were rehabilitated, existing hand pumps (Beatty, Mono, Moyno) were converted to Afridev pumps, water point committees were established and caretakers at the community level trained. Hand pumps and spare parts were distributed through a local supplier.

The sustainability challenge assumed a global dimension. As mentioned above, it was estimated that at any given moment, 30-40% of rural water systems in developing countries were not working (Evans, 1992). This prompted the need to look for global solution to address the challenge. It was established that the systems were not sustainable because communities had not been involved in decision making and management. The Demand Responsive Approach (DRA) and Community Ownership and Management (COM) concept were therefore introduced. The assumption was that once communities were fully involved, there would be strong ownership thus ensuring that the systems were maintained.

The World Bank under the IDA Rural Water and Sanitation Project Phase 1 supported the Government of Ghana to fully roll out this concept country wide in 1994. Participatory planning at community level, demand for services and the need for community contribution to capital cost were introduced. Under COM arrangement, communities were made responsible to cater for full cost of Operation and Maintenance, WATSAN committees were established in each beneficiary community, and three member District Water and Sanitation Teams (DWSTs) established in each participating district. Partner Organizations were used to facilitate community mobilization, and pump and spare parts distribution was set up through local supplier.

Another significant feature was the introduction of a higher level of service with the introduction of (16) Small Towns piped schemes on a pilot basis. The second phase of the IDA project introduced decentralized implementation and included a small town water supply component and trained Water and sanitation Development Board for operation and maintenance of the Small Town pipe systems. District Assembly contribution to capital cost was introduced.

In spite of the progress, the challenges of sustainability are even more significant today and in the future because as coverage increase, the need for direct support and capital maintenance increases. Global vision to attain universal coverage can only be attained if conscious efforts are made to consolidate the gains made while putting in additional investment to reach the unserved.

Looking to the future

There has been tremendous progress in the rural water sector. The transformational path to provide water services in Ghana has resulted in the establishment of institutional structures which have evolved through sector reforms, the definition of different management models, standardization of pumps, establishment of norms and standards for delivering water services and an appreciable level of acceptance of the Community Ownership and Management concept. Some challenges however remain and include:

Fragmentation of approaches

The different approaches and donor support received in the past has provided windows for testing new approaches and have offered varied solutions to challenges that confronted the sector in the 80's and 90's. These have however resulted in fragmentation of approaches. There is need to tap the best practices to develop a common approach for better harmonization and coordination of the sector.

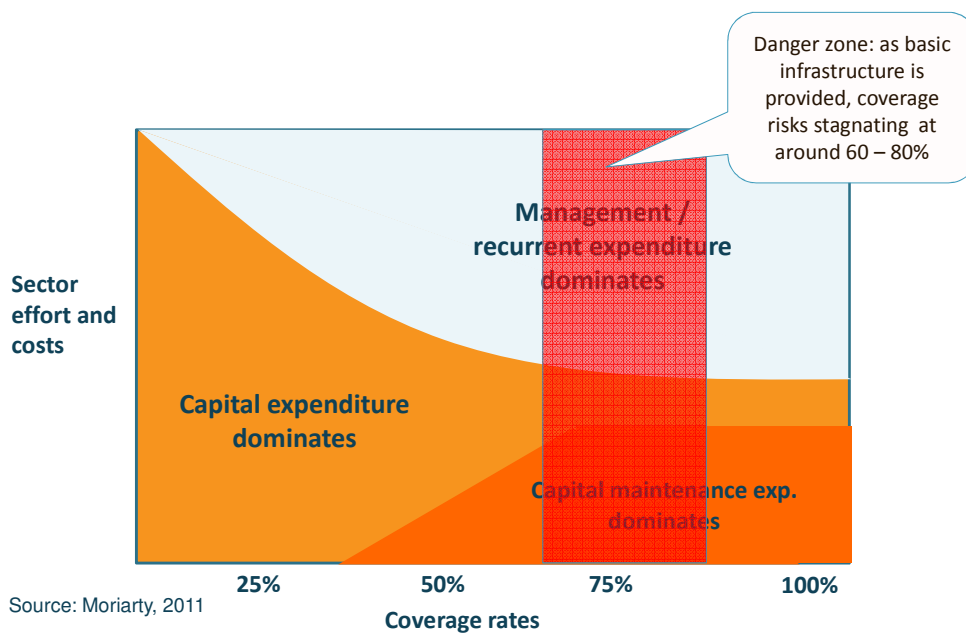
The role of District Assemblies in the provision of water service

The shift from a supply driven to a demand driven approach has to a great extent empowered beneficiary communities and to some extent has increased local capacity for management. However, in the process of the shift, less attention has been paid to developing local government capacity to provide the needed external support to COM. It is becoming obvious that communities struggle in providing sustainable water services. This includes issues like capital maintenance which is often beyond the capacity of communities and requires external support from local government.

Balancing the funding flow

As coverage increases, the profile of funding for new investment and operational requirement changes, with an increasing need to address long term support and rehabilitation needs. Ensuring sustainable service and moving current coverage levels to scale will require balancing of funding flows between capital investments to meet coverage targets and recurrent expenditures to sustain services indefinitely.

The graph below depicts the balance of different types of funding flow required to sustain services with the increase in coverage: as coverage increases the need for initial capital investment decreases while expenditure on management increases. What is more, the type of capital expenditure shifts, from initial capital expenditure to capital maintenance expenditure (that is expenditure on major repairs and rehabilitation).



This balance of financing will depend on the age of infrastructure and capital maintenance requirement. The balancing requires a Life-Cycle Cost Approach under which efforts are made to explicitly identify and plan for all expenses related to providing sustained services including: initial capital expenditure, operational and minor maintenance expenditure, capital maintenance expenditure, and the costs of capital. In addition, life cycle costs also include the costs of providing direct support (technical backstopping, training etc.).

Linking this to the Ghana context, rural water coverage in Ghana is 62% in 2011 (CWSA). Most of the small town systems constructed in the 90's are approaching the end of the design lifespan of 10 years. This is a clear indication that Ghana will be approaching the danger zone if the funding profile is not adjusted to be in tandem with emerging demands for direct support cost and major repairs and rehabilitation. The Government of Ghana in its statement for the SWA HLM in April, 2012 has committed to adopting a service delivery approach and to ensure that facilities provided continue to provide basic services overtime. This is very welcoming and calls for action on the part of government to review the profile of funding in order to make this a reality.

Moving towards a service delivery approach to monitoring

Monitoring have focused on coverage with less attention to functionality and other service level characteristics, such as reliability, accessibility, quantity and quality of the provided water. The current monitoring practices need to be altered to these indicators, in order to have a good picture of actual services provided. Furthermore, monitoring should include indicators related to structures and procedures that should be in place in order to ensure sustainable water services, like the presence of a well-constituted WATSAN Committee, collection of revenues that outweigh expenditure on O&M, efficient spare part supply and adequate monitoring and support from District and regional level.

Monitoring should thus take place at the following levels:

- The services received by users - usually in terms of quantity, quality, accessibility and reliability over time;
- The performance of (community-based) service providers or operators - fulfillment of basic technical, financial, management and organization functions necessary to deliver a sustainable service; and
- The performance of the service authority (local government) – fulfillment of planning, coordination, oversight and support functions to ensure the establishment and performance of service providers.

This will provide government, service providers and users with the information necessary to plan, set targets, budget, monitor progress and take remedial action and ensure accountability and sustainability of services.

Emerging solutions to tracking functionality and monitoring water services in Ghana

Many efforts have been made in the recent past by CWSA with support from Development Partners to establish mechanisms for monitoring water services. The establishment of Monitoring Operation Maintenance (MOM) Units in some CWSA regional offices with support from DANIDA, the development of District Monitoring Evaluation System (DIMES) with support from DANIDA, World Bank and GTZ and scaling up to some regions with support from UNICEF are some concrete examples.

The NGO community has also complemented these efforts. Some examples are the development of the Water Mapper tool by Water Aid, the functionality tracking using Field Level Operational Watch (FLOW) phone technology as part of the looking back study in 13 districts in the Afram plains region of Ghana, undertaken by the Water and Sanitation for Africa, just to mention a few.

As a step towards developing a national framework for monitoring functionality and water services within the community water sub sector, CWSA has developed indicators for monitoring functionality and water services based on the national norms and standards with support from Triple-S initiative. Data collection and analysis related to these indicators has been successfully tested in three pilot districts using FLOW phone technology as the data collection instrument. To institutionalize and scale-up the process, CWSA has initiated processes to review the DIMES to include the sustainability indicators. Discussions are also underway with the World Bank to scale-up to other regions.

Lessons from piloting these innovations and other pockets of experiences provide best practices for scaling up. The theme for the annual review conference offers opportunity to share and learn about these initiatives and to concretize a vision on how functionality and water services will be monitored in Ghana. In doing so, the rural water sector of Ghana is not only addressing a country challenge; but contributing to finding global solutions to water services that last.

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About the Triple-S Project

Triple-S (Sustainable Services at Scale) is an initiative to promote 'water services that last' by encouraging a shift in approach to rural water supply-from one that focuses on implementing infrastructure projects to one that aims at delivering a reliable and lasting service.

The initiative is managed by IRC International Water and Sanitation Centre in the Netherlands in collaboration with agencies in different countries. In Ghana, Triple-S is hosted by the Community Water and Sanitation Agency (CWSA).

For further information visit :<http://www.waterservicesthatlast.org>

