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OF WATER AND SANITATION FOR ALL****Monitoring rural water services for sound evidence-based  
planning and finance decision making:  
lessons from Ghana***M. Adank, B. Kubabom & J. Atengdem, V. Duti (the Netherlands / Ghana)***BRIEFING PAPER 2551**

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*This paper presents the evolution of the national rural water service monitoring system in Ghana. In 2015, this system has been used to collect, process and analyse monitoring data from all water facilities, service providers and service authorities in six of Ghana's ten regions. This has confirmed the earlier findings from three pilot districts regarding the low level of compliance of water services with norms and standards and low level of performance of service providers and authorities. So far, these monitoring findings have informed evidence-based dialogue on improving water service delivery and triggered remedial actions to provide renewed access to over 15,000 water users through collaborative partnerships by the District Assemblies and development partners.*

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**Introduction**

Various monitoring systems have been developed and tested in Ghana over the last decades to monitor progress in increasing rural and small town water coverage and to monitor operation and maintenance of systems. However, these monitoring systems were commonly project-driven, addressing specific project rather than sector needs and transfer of skills to the relevant stakeholders by the project consultants was limited. Therefore, these monitoring systems were not sustained after each project ended and led to a “graveyard” of monitoring systems (Kubabom, 2012). In 2000, the lead agency for rural water supply in Ghana, the Community Water and Sanitation Agency (CWSA), began work on a uniform, comprehensive, computerised monitoring and evaluation system. The result was the District Monitoring and Evaluation Systems (DiMES), which was first implemented in 2007 (Dickinson and Bostoen, 2013). DiMES was developed as an MS ACCESS database with the possibility of storing comprehensive (monitoring) data.

However, DiMES faced several challenges. There was a lack of a coherent framework for analyzing and presenting data (beyond coverage only) and its technological platform was cumbersome to input the collected data and ensure effective data transfers between the different levels. As a result, DiMES was not used to its full potential. It was mainly used for counting systems and assessing coverage, which informed national level strategic planning in the time of considerable coverage expansion. In order to address these challenges, CWSA and partners have over the last years focused on developing and testing improvements to DiMES, including a set of service delivery indicators for monitoring water services and a technological platform for the collection of monitoring data, using mobile phone technology for monitoring data collection (Akvo FLOW), linked to DiMES.

The indicators and data collection tools were developed and tested in three pilot districts over a period of three years (2012-2014). CWSA published its monitoring framework with the resulting refined monitoring indicators, scoring systems and benchmarks in 2014 (CWSA, 2014). Subsequently, the monitoring framework and the data collection tools were applied in 119 districts in six out of the 10 regions in the country to establish a baseline situation in 2015. In addition, later in the year, monitoring baseline data was collected in selected districts in two additional regions (Greater Accra and Volta), bringing the total number of covered districts to 131. This collection of “baseline” data was realized with pooled funding from the Bill

and Melinda Gates Foundation, Dutch Government, World Bank, Unicef and the Conrad N. Hilton Foundation within the framework of a partnership between CWSA, IRC, AKVO and Skyfox.

This paper presents the main results of the baseline data from 119 districts in six regions, how these have been used to inform decision making and the way forward in terms of challenges and opportunities.

### The monitoring indicators

Monitoring indicators have been developed to enable CWSA to monitor the adherence to norms and standards related to the level of water services that should be provided under its Community Ownership and Management (COM) model, as prescribed in its Legislative Instrument (CWSA, 2011). See table 1.

<b>Table 1: Monitoring indicators</b>	
<b>Service level indicators</b>	<b>Standard</b>
Quantity	Handpump and standpipe: 20 lpcd; Household connection: 60 lpcd
Quality	Meets all Ghana Standards Authority standards for water quality of drinking water
Crowding	Hand dug well: max 150 people per facility; Borehole or standpipe: max 300 people per facility
Distance facility and users	Up to 500 metres
Reliability	The facility is providing water for at least 95% of the year.
<b>Handpump service level</b>	<b>Description of handpump service level</b>
III	The handpump provides water services meeting the standard on all the service level indicators
II	The handpump fails to meet the standard on one or more of the service level indicators
I	The handpump is not functioning or not used
<b>Piped scheme service level</b>	<b>Description of piped scheme service level</b>
IV	The piped scheme provides service as per design standards for population category and meets all the sub-indicators
III	The piped scheme does not meet one of the sub-indicators
II	The piped scheme provides service not in line design standards
I	The piped scheme is not functioning

Source: Adapted from CWSA, 2014

In addition, monitoring indicators and benchmarks were developed to assess and monitor the operational, financial and institutional arrangements that should be in place at community, district and regional level, in order to ensure sustainable service delivery. This involved monitoring the performance of service providers (Water and Sanitation Management Teams) and service authorities (Metropolitan, Municipal and District Assemblies (MMDAs) and Regional CWSA).

### Water services

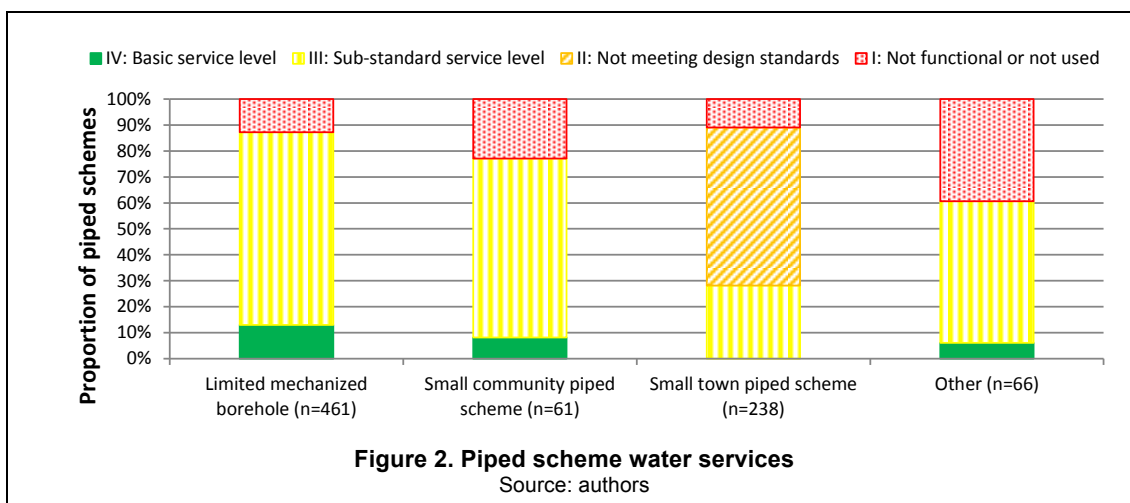
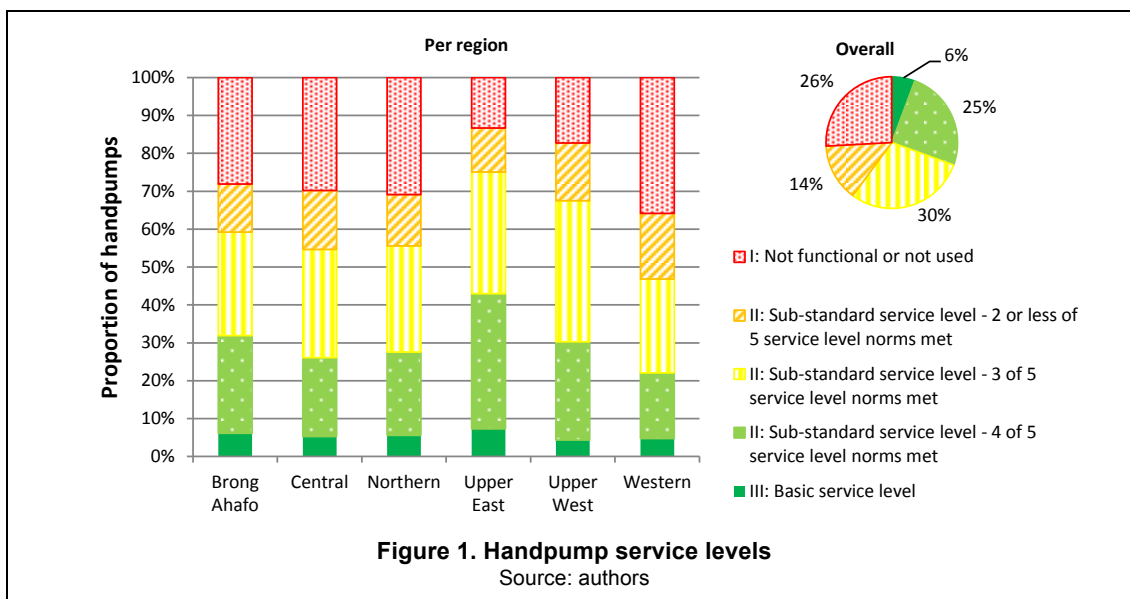
This section gives an overview of the level of water services provided by the 20,366 handpumps and 827 piped systems in the six regions. Figure 1 presents the proportion of handpumps providing basic, sub-standard and no services. In line with the findings from the initial three pilot districts (Adank et al, 2013), the overall proportion of handpumps providing basic services in line with national norms and standards was found to be very low (6%). The majority (61%) of functional handpumps which provide sub-standard services failed on the distance indicator as they do not have all users within 500 m.

Upper East Region was found to have a slightly higher proportion of handpumps with a basic service level and sub-standard service level with four out of the five service level standards being met than in the other five regions. Here also the proportion of non-functioning handpumps was found to be lower than in the other five regions as well.

Correlations were found between the year of construction of the facilities and functionality. Furthermore, the proportion of functional handpumps was found to be higher for the standardised handpumps than for the non-standardised handpumps.

The proportion of piped schemes that provide basic services in line with norms and standards differs between different types of piped schemes, as presented in figure 2. It shows that many small town piped schemes (with a population of 2000 or more) have not been designed in line with the set design standards, i.e. with the prescribed proportion of household connections. Disregarding whether or not the design standard has been met, only 3% of small town piped schemes were found to provide basic services.

The majority (88%) of piped schemes providing sub-standard services failed to meet the quantity indicator of providing at least 20 litres per capita per day for standpipes and 60 lpcd for household connections.



### Service provider performance

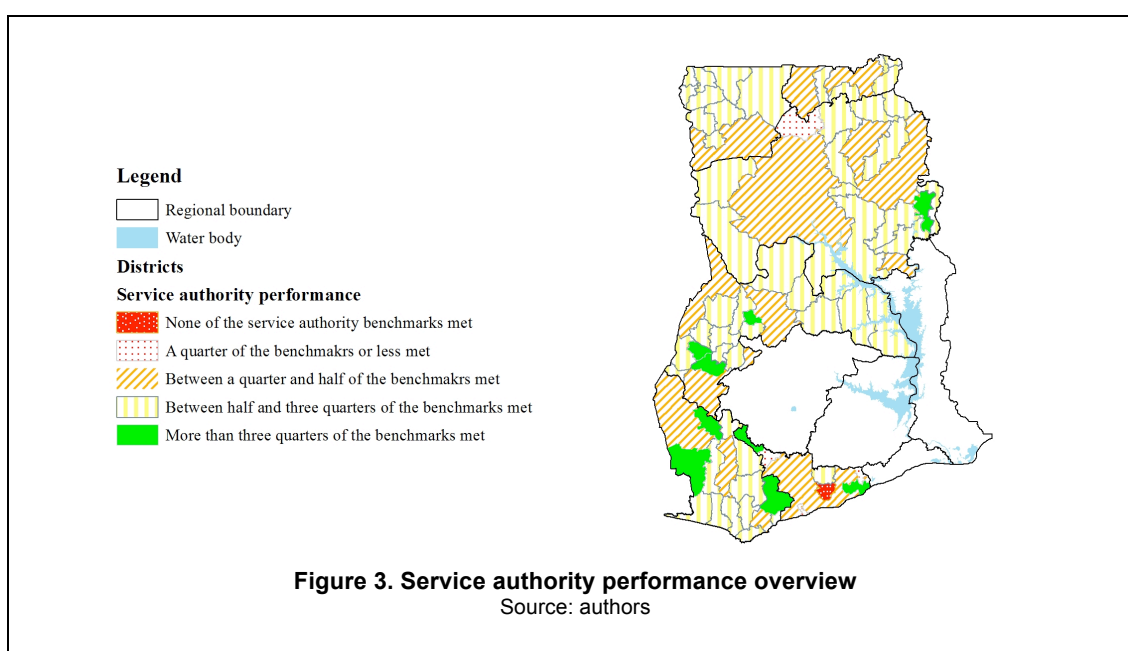
Table 2 gives an overview of the proportion of Water and Sanitation Management Teams meeting the benchmarks set on the different service provider performance indicators. The tables shows that on several indicators, especially the ones related to financial management, small town Water and Sanitation Management Teams (WSMTs-ST, which manage piped schemes) score better than the Small Community Water and Sanitation Management Teams (WSMTs-SC, which manage handpumps). This is likely due to the fact that WSMTs-ST managing more complex piped water schemes tend to be more professional. In addition, WSMTs-ST tend to receive more support from district staff. Overall, only 13% of WSMTs-SC reported to be monitored by the MMDA on their O&M on a regular basis and to receive direct support when needed, while 35% WSMTs-ST reported this as well.

Table 2. Service provider performance: Proportion of WSMTs meeting the benchmark			
Indicator group	Indicator – Benchmark	WSMT-SC	WSMT-ST
Governance	WSMT composition - In line with guidelines and members have been trained	6%	40%

	<b>Operational team (PS only)</b> - At least half filled by qualified staff	NA	33%
	<b>Financial and operational records</b> - Kept up-to-date	10%	31%
	<b>Political interference</b> - no political interference in composition of WSMT	97%	85%
<b>Operations</b>	<b>Spare parts</b> - Available within 3 days	54%	74%
	<b>Area mechanic (HP) / technical services (PS)</b> - Available within 3 days	68%	
	<b>Routine maintenance</b> - Done at least annually (HP) / according to maintenance schedule (PS)	44%	21%
	<b>Water quality testing</b> - Done by certified institute on regular basis (HP) / annual basis (PS)	6%	25%
<b>Financial management</b>	<b>Revenue/expenditure</b> - Positive balance	14%	85%
	<b>Bank account</b> - available and accounts up to date (HP) / 3 bank accounts and accounts up-to-date (PS)	10%	11%
	<b>Tariff</b> - Tariff set	22%	80%
	<b>Facility management plan (HP only)</b> - Facility management plan in place	22%	NA

### Service authority performance

The majority of districts (88%) reported having a full WASH unit with good coordination and collaboration at district level. Also many districts (71%) reported to have at least half of the NGOs active in the district inform the MMDA about activities and align to the District Water and Sanitation Plans. More than half (61%) of the districts have developed a District Water and Sanitation Plan with active participation of relevant district departments and 58% reported having WASH Budget allocation with at least 50% disbursement. However, only few (13%) reported having bye-laws for Water and Sanitation Management Teams published and gazetted. Figure 3 presents an overview of service authority performance per district.



### The use of monitoring data for evidence-based decision making

The baseline monitoring data has been collected and cleaned by staff of the Municipal and District Assemblies, with technical support from regional CWSA staff and has subsequently been used to inform planning and budgeting of WASH activities within the District and NGO projects. In Wassa East District in the Western Region for example, monitoring data has been used as a major input for the preparation of a District Water and Sanitation Plan (2015-2018). Bongo District in the Upper East Region led an NGO Consortium Meeting in the district in July 2015 with representatives from Water Aid and European Union (EU) participating to discuss findings from the baseline. The district secured the commitment of Water Aid and the EU to help address the poor performance of WSMTs and low basic services delivered by water supply facilities.

In several districts, monitoring data has been used to identify boreholes which needed to be repaired or rehabilitated. In Northern region for example, a total of 51 broken down boreholes have been repaired or rehabilitated by Assemblies (e.g. in East Gonja, where the Assembly repaired three broken down boreholes), NGOs (e.g. Humanity First in East Gonja, which repaired ten broken down boreholes) and projects (e.g. ten boreholes which have been rehabilitated in Kumbungu district as part of the USAID Resiliency in Northern Ghana (RING) project). This has improved water services to at least 15,000 people.

The monitoring data has also stimulated District Assemblies and CWSA to take action related to the management of the water services. In Wassa East District in the Western Region for example, findings were presented to community leaders and following deliberations, they agreed to form WSMTs where these were non-existent and to ensure people pay for water at the facilities when they fetch. This will ensure that there is a team in place to oversee the facilities and funds available for routine and minor maintenance of the facilities. Furthermore, CWSA in partnership with UNICEF have undertaken community animation processes in four districts to improve water supply services. This resulted in the formation and training of four small town Water and Sanitation Management Teams for managing piped schemes, the reconstitution and training of 20 rural Water and Sanitation Management Teams managing handpumps and the identification and training of 12 area mechanics by Community Water and Sanitation Agency.

The monitoring data has informed strategic plans of the regional CWSA offices for the five year period that is from 2016 to 2020.

### **The way forward: opportunities and challenges**

The findings from the monitoring baseline from the six regions have been presented in October 2015 at a national forum 7th of October 2015 in Accra with the theme “From Data to Impact: Leveraging Partnerships for Sustained Rural Water Services”. This event, organised by CWSA in collaboration with the Ministry of Water Resources, Works and Housing, involved a wide variety of stakeholders, including government representatives from national, regional and district level, development partners, civil society and academic institutions. The forum secured sector buy in for the adoption of the rural and small town water services monitoring framework and provoked discussions on the baseline data and reflections on how to improve upon performance, inform policy decisions and help to enhance sound investments. The forum also resulted in interest from INGOs to further support the baseline data collection process in the remaining 85 districts.

Although the leveraging of funds from different development partners and (I) NGOs in order to finance the baseline data collection can be considered a big success, it does pose questions about financial and institutional arrangements for ensuring future continuous monitoring beyond baseline data collection. Ghana's attainment of lower middle income status has gone hand in hand with a gradual withdrawal of Development Partner grants and concessional loans for funding sector activities, without yet an alternative reliable funding for the sector.

Capacities for use of data to plan and budget have been deployed to district officials in several districts. However, having access to service monitoring data is only one piece of the puzzle for improving water services in the district. The challenge of inadequate funding could be a major deterrent to converting the plans to investment actions that will impact on increased access, improved functionality and service levels.

The above stated application of the baseline data notwithstanding, there is still immense potential for the further use of monitoring data at all levels. At MMDA level, the information can serve as the basis for comprehensive technical and financial audits of water schemes and for comprehensive water asset registers and asset management systems. As monitoring data gives better insight into *who* owns and operates *what* service and *where*, it has the potential to empower MMDAs to coordinate and align stakeholders' activities in the water sector, thus resulting in proper harmonisation of water sector activities. Monitoring data could also help MMDAs as well as water users holding service providers accountable for the services that they provide. At the national and regional levels the data could be used to guide the equitable distribution of potable water services within and across districts. The national level can also use it to undertake policy reviews and updates. The monitoring data could be used at different levels to inform evidence-based advocacy.

The service monitoring data has the potential to enable CWSA to take up its role as a regulator of community-based water services with respect to adherence to standards, performance management and accountability. However, the necessary regulatory capacity at both the national and district levels to ensure compliance with the national norms, standards and service regulation are almost non-existent. The absence of a regulator for the rural sub-sector has long been recognised as a critical limitation in Ghana. However,

with the political intention to finally enforce decentralisation and the growing appetite to establish CWSA as the sector regulator, the Agency is evolving to take on this new function and empower the MMDAs to take other important responsibilities in support of its new mandate.

Finally, the presence of a monitoring system for rural and small town water services presents an opportunity for feeding a sector information system which could facilitate sector reporting and tracking of progress towards achievement of the SDG targets. However, at the time of writing of this paper, such a Sector Information System was still under development under the Ministry of Water Resources, Works and Housing.

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