

Research Paper

Monitoring of water and sanitation services within an integrated decentralised monitoring system: experiences from Ghana

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ABSTRACT

Monitoring of water and sanitation services has for a long time been project driven in the developing world. The need for data to inform subnational planning and delivery of quality services has led to the adoption of decentralised integrated monitoring. However, little is known about the strengths and weaknesses of this approach in the monitoring of water and sanitation services. A case study design in which document reviews were combined with 22 key informant interviews held between March and July 2019 in the Upper West Region of Ghana were used to investigate the research problem. Findings show that integration enhanced the processes for validating and using monitoring data and ensuring downward accountability. However, logistical and financial support and inadequate critical reflection is a major challenge under the integration. The paper calls for special attention to be paid to funding and logistics for monitoring water and sanitation services.

Key words | decentralised monitoring, Ghana, integration, subnational, water and sanitation services

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HIGHLIGHTS

- Monitoring is critical to quality and sustainable water and sanitation services at subnational level.
- Integrating monitoring of water and sanitation services into decentralised monitoring affects the quality of their monitoring.
- Validation of water and sanitation data is enhanced under integrated decentralised monitoring.
- Capacity development for monitoring of water and sanitation is prerequisite under integrated decentralised monitoring.
- Water and sanitation services are unique and require special attention under integrated decentralised monitoring.

INTRODUCTION

This paper contributes to enhancing the effectiveness of monitoring of water and sanitation services at the subnational level of governance. Monitoring water and sanitation

services continue to attract attention beyond the post Millennium Development Goals (MDGs) and the Sustainable Development Goals (SDGs) at international, national and subnational levels. While significant work has examined the monitoring of water and sanitation services at the international level (Dar & Khan 2011; Onda *et al.* 2012; Bradley & Bartram 2013; Kayser *et al.* 2013; Bartram *et al.* 2014;

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Cumming *et al.* 2014; Wolf *et al.* 2014; Loughnan *et al.* 2015; Roche *et al.* 2017), and national level (Wells *et al.* 2013), there still remains a vacuum in research on monitoring water and sanitation services at the subnational level. Wells *et al.* (2013) examined the specific tools (social accounting, public expenditure tracking, citizen score cards) and sector review platforms, especially at the national level, including different forms of stakeholder reviews – learning alliances for sector monitoring. The subnational level, which is the operational centre for service delivery, has attracted little attention in terms of research. This paper documents the strengths and weaknesses of the integration of monitoring of water and sanitation services into decentralised district-wide monitoring system at subnational level in Ghana.

Decentralised monitoring became an integral part of poverty reduction papers in the 2000s. The purpose of decentralised monitoring is to enhance the quality and utilisation of monitoring data to inform subnational decision making and services delivery (Durand & Jackson (2004) cited in Anderson *et al.* 2015; Akanbang & Bekyieriya 2020). The need for comprehensive data to inform district planning; the emphasis on accountability; the need to determine if development interventions are achieving the needed impact at the local level; and the need to measure the commitment of government to decentralisation brought decentralised monitoring to prominence as a key component of the local governance processes in the developing world (Durand & Jackson (2004) cited in Akanbang & Bekyieriya 2020). Decentralised monitoring improves district-level capacity for data collection, analysis and use in their service programmes (WHO 2006). A good decentralised monitoring and evaluation system enhances organisational learning and information sharing by promoting reflection and sharing of knowledge and lessons from their implementation (International Federation of Red Cross & Red Crescent Societies (IFRC) 2011; Carvil & Sohail (2007) cited in Mohamednoor 2017). It reveals mistakes and recommends ways by which local authorities learn and improve upon their policies and practices (Gudda 2011).

An integrated decentralised monitoring system is operationalised in this study as the overarching governance system at subnational level for regulating monitoring of all aspects of a district's development including water and sanitation. It has a clearly defined process for collecting, analysing, reflecting,

communicating and using monitoring data on all aspects of a district's development. An integrated decentralised monitoring system is different from project-based and sector-based monitoring which are specific to a project or sector and concern only the sector or project staff or stakeholders. Integrated monitoring systems harmonise the different sector and project-based monitoring systems in order to increase the use of country-led monitoring systems to measure results and enhance mutual accountability (Anderson *et al.* 2015).

Ghana has implemented modern local government as part of its governance system since 1988. Since its return to constitutional rule in 1992, decentralisation has been guaranteed in Article 35 (60d) of the 1992 constitution. Several legislations were subsequently passed to give boost to the national decentralisation efforts (Akanbang & Bekyieriya 2020). In the early 1990s, the country also restructured the water sector to improve efficiency in production and distribution. Two key governance outcomes of the reforms were the decentralisation of rural and small-town water systems to the Metropolitan, Municipal, District Assemblies (MMDAs) in line with the national decentralisation process, and the establishment of the Community Water and Sanitation Agency (CWSA) to facilitate the provision of safe water and related sanitation services to rural communities and to provide technical assistance to MMDAs (MWRWH 2007). Under the reform, MMDAs have the responsibility for planning, implementing and managing water and sanitation services in rural and small town communities. They have the responsibility to support the District Water and Sanitation Teams (DWSTs) – a multi-disciplinary team made up of three people (hygiene person, technical person and community development person), mobilise funds for the financing of water infrastructure, and provide post project support and continuous hygiene education (TREND/GII/Transparency International 2009). The CWSA has officers at the regional level called the Regional Water and Sanitation Team (RWST) that play the role of facilitators and give technical and on-the-job training to the District Water and Sanitation Teams at the MMDA level in project development, procurement and financial management. They also assist communities to undertake water quality testing, buying of quality spare parts and equipment among others (CWSA 2014b). The CWSA head office dedicates itself as facilitators and regulators, providing policy guidelines and setting

standards, and providing back-up professional support to RWSTs, mobilisation of funds to support MMDAs and management of national level contracts (CWSA 2014b).

Water and Sanitation Committees and Water and Sanitation Development Boards (WSDBs) or Water and Sanitation Management Teams (WSMTs) at the community level undertake the operation and maintenance of facilities. Private operators, NGOs and civil society organisations have been assigned key roles in all phases of the sector activities. Community animation and organisational capacity building, hygiene education and sanitation promotion, support with repairs of hand pumps and pipe schemes, supply of spare parts and tools, drilling, construction and conduct of sector studies are carried out by the private sector (TREND/GII/Transparency International 2009).

The planning and implementation management of water and sanitation services are undertaken as part of the broader process of district medium-term development plan preparation and implementation. Allocation of resources to various activities of MMDAs is based on the MTDP which consists of Annual Action Plans (AAPs) and is reviewed on a yearly basis. The participation of citizens in the review process ensures that the priorities of citizens are considered. The AAPs thus determine priorities of the MMDAs in terms of spending (CWSA 2014b). Generally, the district level planning processes have improved over the period of the six planning phases the country has implemented since 1996.

In 2003, the National Development Planning Commission (NDPC) rolled out the implementation of a decentralised monitoring system for all local government authorities as an integral part of poverty reduction programming (Akanbang & Bekyieriya 2020). To facilitate effective monitoring of water and sanitation, CWSA facilitated the implementation of the District Monitoring and Evaluation System (DiMES) at the MMDA level (CWSA 2014b) as part of an integrated decentralised monitoring system at the subnational level. The process of the decentralised monitoring involves the following steps: stakeholder analysis, analysis of monitoring capacities and conditions, formulation of monitoring indicators, development of a monitoring matrix, preparation of an M&E work plan and calendar, preparation of an M&E budget, data collection and collation, data analysis and use, data reporting, and strategies for dissemination and communication of findings (NDPC 2014; Akanbang &

Bekyieriya 2020). The CWSA framework provides a set of indicators for monitoring service levels, tracking functionality and performance of service providers. The details of the indicators include: functionality of hand pumps and stand pipes; service level provided by the facility (based on reliability, accessibility, water quantity and quality); community-based water service provider indicators on governance; operations and financial management; and service authority indicators on support to community-based water service providers and other service authority functions (like planning, budgeting, coordination etc.) (CWSA 2014a). Using the Ghanaian context, this study examines the monitoring system for collecting, analysing, validating and using monitoring data in the rural and small towns water subsector as well as the strengths and weaknesses posed by this integrated monitoring system for monitoring water and sanitation services.

The justification for the study is that it contributes empirically to strengthening the support for monitoring of water and sanitation services at the subnational level in Ghana. After almost two decades of implementing a decentralised district-wide monitoring system, not much scientific research has gone into examining the effects and implications of this system on water and sanitation services delivery at the subnational level. The water and sanitation sector is unique in that its context is dynamic and uncertain (Wells *et al.* 2013) and therefore requires close observation through monitoring. Roche *et al.* (2017) call for an interaction between global monitoring and subnational monitoring as well as the need for monitoring data to be meaningful to service providers and users who mostly are at the community and subnational level. The ensuing sections of the paper discuss the basis for monitoring in decentralised water and sanitation services delivery, and the approaches and their limitations to water and sanitation monitoring. These have been discussed as pillars for interpreting and discussing the results. The study setting is presented as part of the methods. The conclusion presents the key message of the study.

BASIS FOR MONITORING OF DECENTRALISED WATER AND SANITATION SERVICES

Decentralization, conceived as the transfer of political, administrative and financial power to local authorities

(Smoke 2003; Zuka 2016), emerged strongly in the past three decades as a way of enhancing participation, accountability and sustainability in water services and generally for enhancing development effectiveness and poverty reduction (Ribot 2002; De 2009). Participation of key stakeholders (Wells *et al.* 2013; Olum 2014), downward accountability (Kakumba 2010), capacity development at the local level, careful implementation, and democratic governance (Wells *et al.* 2013; Olum 2014), are central to actualising the benefits of decentralised service provision. Without meaningful participation and adequate accountability mechanisms in place, decentralisation could be a tool for reinforcing relationships of subordination and entrenchment of corruption in service delivery (Olum 2014; Zuka 2016).

Sharma *et al.* (2013) highlighted that a significant impediment to the uptake of decentralised water and wastewater systems is that there is limited information available on the performance of these systems. This lack of information to validate the performance of decentralised systems has made it difficult to provide suitable regulatory frameworks and guidelines, which are important for the mainstreaming or acceptance of decentralised systems. Consequently, monitoring of decentralised systems is needed to validate their performance and to inform the development of industrywide standards and practices for their management and operation.

MONITORING OF WATER AND SANITATION SERVICES – IMPORTANCE, APPROACHES AND LIMITATIONS OF APPROACHES

Water and sanitation monitoring is imperative to tracking the progress in SDG 6, clean water and sanitation for all, and its eight targets at all levels of governance. The data generated from monitoring informs advocacy efforts towards shaping policy (Bradley & Bartram 2013; Bartram *et al.* 2014) and generating the requisite funding for water and sanitation, especially at the local level, in the developing world (Bradley & Bartram 2013). According to Bartram *et al.* (2014), it also informs implementation and research efforts in the sector as well as highlighting gaps and opportunities for accelerating progress. Bradley & Bartram (2013) observed that monitoring of water and sanitation services facilitates international comparison, policy development,

planning, system and programme evaluation, benefit estimation and enforcement of regulatory compliance and serves other needs in a rapidly changing and unpredictable context. From the perspective of Wells *et al.* (2013), monitoring water and sanitation services aids in the detection of early signs of problems and successes, provides information needed for decision-making, as well as identifying capacity development and institutional, organizational or technical innovation to improve service delivery. It also guides decision making on focal areas of investment, sustainability of water and sanitation services and understanding which policies and strategies work.

The monitoring of water and sanitation services has for a long time been project/donor driven (Akanbang & Larbi 2006) at local and national levels. Consequently, project-based monitoring is one key monitoring that goes on in the water and sanitation sector in the developing world. Donor-sponsored projects and local/international NGOs maintain their own (stand-alone) management information systems which capture data on the projects implementation progress and data on project efficiency. There is little information on the non-infrastructure aspects that describe the functioning, performance and use of facilities (CWSA 2014b). Project driven monitoring has been associated with duplications of efforts and resources; multiple reporting thus putting undue pressure on staff at the local government level; and collecting mostly implementation data and therefore does not provide a reliable source for computing water and sanitation coverage (Akanbang & Larbi 2006). International level monitoring is one other key monitoring that goes on in the water and sanitation sector. According to Bartram *et al.* (2014), international monitoring of drinking water and sanitation has been on-going since the 1930s under the auspices of first League of Nations Health Organisation, then the WHO, and now jointly by the WHO and UNICEF through their Joint Monitoring Programme (JMP). International monitoring currently reports on regional and global coverage estimates and progress assessments for countries. Current efforts under the JMP monitoring has been criticised for not responding adequately to issues on safety and sustainability; as in reliability of a water source and downstream aspects of sanitation as well as faeces from inadequate sewage disposal that contaminate the human environment. However, they allow for international representativeness, consistency and

comparability as well as collection of actual data on water use by households. JMP data cannot be disaggregated and is therefore not very suitable for decentralised planning purposes at the subnational level (Bartram *et al.* 2014).

As part of the effort to track the MDGs, now SDGs and poverty reduction efforts, many governments in sub-Saharan Africa established national frameworks for monitoring service delivery interventions (Anderson *et al.* 2015). In Ghana, access to water facilities is the number of people with all-year-round potable water supply of 20 litres per capita per day for point source services and 45 litres per day for small towns (piped schemes). The water source should be within 500 meters of walking distance from the farthest house in the community and should serve 300 persons per borehole/standpipe and 150 for a hand dug well. The key problem with national level monitoring is that sector agencies have inadequate capacity to monitor the process at the subnational levels (Akanbang & Larbi 2006).

The focus of research on monitoring of water and sanitation services since the launch of the MDGs has been on national and international systems with a focus on definitions, measurements and coverage issues (Bradley & Bartram 2013; Kayser *et al.* 2013; Bartram *et al.* 2014; Roche *et al.* 2017) with progress so far made on independence, comparability between countries, well-defined variables and transparency of the monitoring process at the international level. The decentralised provision of water and sanitation services, even though it has gained recognition in both the developing and developed world (Cook *et al.* 2009; Sharma *et al.* 2010), has not received commensurate attention in terms of monitoring research. However, decentralised monitoring has the capacity to provide quality, reliable and disaggregated data for informing subnational planning, computing coverage, and enhancing water and sanitation services quality and effectiveness when given the needed research attention.

STUDY CONTEXT AND METHODS

Study context

The study was conducted in the Upper West Region of Ghana. The Region was part of the pilot of the NDPC integrated decentralised monitoring system between 2006 and

2010 under the District Capacity Building Project (DISCAP), financed by the Canadian International Development Agency (CIDA). It has also benefited from a number of water and sanitation projects – Community Water and Sanitation Programmes 1 and 2 and the Sustainable Rural Water and Sanitation Programme, all funded by the World Bank and the Government of Ghana. The region thus provides a fertile ground for exploring monitoring of the water and sanitation sector.

Methods

A case study design was adopted for the study. Case study design focuses on a few participants in order to explore comprehensively, holistically and deeply into a given complex phenomenon usually from the perspective of the participants in the study (Flyvbjerg 2011; Creswell 2014; Yin 2014; Harrison *et al.* 2017). The conduct of the study spanned the period March 2019 and July 2019. Staff of the District Planning Coordinating Units (DPCUs) and the District Water and Sanitation Teams (DWSTs) of the eleven local government units – Nandom DA, Wa West DA, Wa MA, Wa East DA, Sissala East MA, Nadowli-Kaleo DA, Jirapa MA, Sissala West DA, Lumbussie DA, Lawra MA and Dafiama Issa Busie DA – that make up the region were targeted as research participants for key informant interviews. However, five planning officers and 15 members of the DWSTs across the region were available for the interviews. In addition, interviews were held with a staff of the Regional Economic Planning Unit, and an Extension Officer of Regional Water and Sanitation Team.

The study process commenced with a review of relevant documents. These documents included four policy documents, namely the Ghana water policy (Ministry of Water Resources, Works and Housing 2007), the NDPC guidelines for decentralised monitoring and evaluation (NDPC 2014), the CWSA framework for assessing and monitoring rural and small town water supply (CWSA 2014a), and the CWSA national strategy document (CWSA 2014b); and three Ghanaian water and sanitation sector studies, namely a case study report of Ghana water sector diagnostic study (Transparency International/Ghana Integrity Initiative/TREND 2009), case study report on capacity development at intermediate level of the Ghana community water sector (IRC/TREND 2006), and the Factsheet on monitoring of water supply

coverage under the WELL Project (Akanbang & Larbi 2006). These documents, which were discovered through snowballing as well as the author's knowledge and experience of the sector, contain information on the Ghana water sector and on monitoring of water and sanitation services. Data on processes of collecting, collating, analysing, validating and using monitoring information, as well as their strengths and weaknesses, were collected from the informant interviews. Thematic analysis involving compiling, disassembling, reassembling, interpreting, and concluding (Castleberry & Nolen 2018) was used to analyse the data.

RESULTS

Strengths of the monitoring system

On actors and their roles, it emerged that actors at different levels of governance – national, intermediate and local level – played key roles in the integrated decentralised district-wide monitoring system. Their roles are depicted in Table 1. The District Planning Coordinating Unit (DPCU) facilitated by the District Development Planning Officer plays a critical role in decentralised monitoring. A statement by an informant conveys this vividly:

‘The DPCU collaborates with the finance unit, the works department and the decentralised departments to undertake routine monitoring. In the specific case of water, the District Water and Sanitation Team (DWST) is a key collaborator in providing quality district data’ (Interview with DPCU Member, June, 2019).

As depicted in Table 1 and corroborated by an informant, the roles of each of the actors at the various levels have been clearly defined by the National Development Planning Commission, the central agency responsible for coordinating and providing guidelines for monitoring at the local level of governance:

‘We have no problems as far as roles assignment is concerned. Each level knows its role and has the mandate to undertake their roles’ (Interview with DWST Member, June, 2019).

Table 1 | Actors and their roles in integrated monitoring

Level of governance	Actors	Activities
National level	<ul style="list-style-type: none"> • M&E Division of NDPC • CWSA – National 	<ul style="list-style-type: none"> • Preparation of guidelines and manuals • Preparation of Annual Progress Report (APR) • Organisation of dissemination and validation workshops
Regional level	<ul style="list-style-type: none"> • RPCU • RWST • Representative of civil society groups (NGOs) 	<ul style="list-style-type: none"> • Capacity building for M&E at decentralised level • Routine monitoring of projects at district and community levels • Organisation of stakeholder review workshops at regional level • Preparation of regional progress reports • Submission of regional report to national level
Local/ MMDA level	<ul style="list-style-type: none"> • DPCU • DWST • Watsan Committees/ WSDB 	<ul style="list-style-type: none"> • Data collection, validation and analysis • Preparation of district monitoring plans and reports • Use of monitoring data to improve services • Interface meetings/ Public hearings at community level • Submission of report to RPCU

Source: Author's fieldwork (2019).

On the actual monitoring process, it was revealed that the steps and guidelines provided by the National Development Planning Commission on the decentralised integrated monitoring were largely adhered to. A DPCU member described the monitoring process as consisting of the following:

‘The monitoring process encompasses formation of monitoring team, coming out with a monitoring plan, design of forms/checklists to collect information on the core

district indicators outlined by NDPC; training of schedule staff on the application of the forms, fixing timeframe for the completion of the forms and their return; securing the release of funds, field data collection, collation and validation and reporting and recommendations to management' (Interview DPCU Member, April, 2019).

On data collection, the availability of checklists for use in data collection emerged as a key strength of the process. A view by a DWST member captured this point well:

'The CWSA developed a checklist to help community members collect information on inputs as the quantity of PVC pipes used, number of bags of cement used among others which we use to validate the reports of contractors and consultants' (Interview with DWST Member, July, 2019).

The checklist enabled communities to be actively involved in the process which is essential to ownership and sustainability of water and sanitation initiatives. Technology was also used to complement the checklist in data collection. A member of the DWST had this say on how data on water and sanitation is collected:

'Members of the DWST use questionnaires and checklists as well as smart phones to collect data. The RWST gives logistics and training to us to undertake the monitoring' (Interview with DWST Member, June, 2019).

On data analysis, it emerged that data analysis was done at the department or unit level. In the case of water and sanitation, this was done by the DWST in conjunction with the schedule officer who is often the district planning officer. Data analysis for water and sanitation was mainly geared towards computing the coverage rate for water and sanitation in the district. One of the district planning officers narrated how data analysis was carried out and how it enhanced learning in the following:

'The DWST under the leadership of the planning officer and some staff of the Assembly analyse the data. Learning takes place through the active participation of all

stakeholders. The results of the analyses are used to guide the provision of water and sanitation services in the district' (Interview with DPCU Member, June 2019).

Another informant also had this to say on the process of data analysis:

'After the data collection, we sit together in the office as a team to compile the data in order to come up with the coverage rates for the district' (Interview with DWST Member, April, 2019).

The processes of validating monitoring data within the decentralised integrated monitoring system are as follows:

- Peer review of data;
- Interface meetings between service providers and community members;
- District, regional and national review meetings;
- Representation of civil society and traditional authorities at review meetings;
- Comparing outputs with trial balances.

During the collation process, the DPCU members' quality check on one another's data using the various sources of information that are available. This mode of crosschecking ensured that any observed discrepancies in data were rectified through field visits to ascertain the true situation. A planning officer revealed how this process of validating data helped his/her district to capture reliable data:

'The DWST for instance, under reported the number of malfunctioning wells/boreholes. Further assessment of wells resulted in the identification of more malfunctioning boreholes than was captured by the district water and sanitation database' (Interview with DPCU Member, June, 2019).

Interface meetings between service providers and communities were held to disseminate and validate the data with communities that participated in data collection. According to a member of the DPCU, interface meetings were very insightful as they provided a platform for frank exchange of views and ideas:

‘Community members pointed out lapses in service delivery to the service providers thus bringing to light many issues that service providers were often not aware of. Similarly, service providers used the opportunity to educate communities on negative practices they undertake that impacts development negatively’ (Interview with DPCU Member, June, 2019).

The CWSA has a system for storing and retrieving water and sanitation data called DiMES – District Monitoring and Evaluation System. The system captures information on both implementation data and data on the functionality status of water facilities, including the wells that have been capped. It also contains GPS readings to facilitate plotting of maps to show the spatial spread of facilities/services in each of the districts. However, as reported by one of the DWST team members, the system is underutilised because of inadequate knowledge and skills in ICT:

‘DiMES is a software created by CWSA for the district for data processing and storage. DiMES allows for updating and establishment of trends and the generation of reports but it is difficult to work with’ (Interview with DWST Member, July, 2019).

Data was stored in desktop computers in the form of soft copies as well as hard copies, especially in the case of the reports.

Table 2 shows the uses of monitoring data at the different levels of governance. The key informant interviews revealed that the decentralised integrated monitoring information guided many decisions on water and sanitation services delivery at both district and regional levels. A response provided by one of the team leaders of the DWSTs shows the usefulness of the monitoring data:

‘Even though the poor state of sanitation in the district was not new, the district as a result of the monitoring exercise became more committed to dealing with the issue of sanitation because we were all confronted with the reality of the situation of sanitation. Hitherto, most of us at the MMDA were of the view that, sanitation was being unnecessarily hyped’ (Interview with a team leader of DWST, June, 2019).

Table 2 | Uses of monitoring data at the different levels of governance

Level of governance	Uses
District	<ul style="list-style-type: none"> • Development of proposals to raise funds for water and sanitation service • Profiling of issues hitherto neglected, e.g. sanitation • Designing strategies for dealing with problems • Targeting of communities for water and sanitation services • Enactment of byelaws • Determining suitable technologies for water provision
Region	<ul style="list-style-type: none"> • Directing development intervention into needy districts • Tracking the inflows and outflows of funds in and out of the districts • Analysing the performance of sectors against the targets set for them • Trouble-shooting of problems and alerting relevant districts • Intensification of monitoring and management support to problem districts

Source: Author's fieldwork (2019).

Another DWST member also pointed to how the decentralised integrated monitoring system helped to resolve water quality issues in his district:

‘A point source was identified in the district of which the quality of water was poor. Following from that, a decision was taken to test all wells in the district. Samples of the water from the point sources were taken by CWSA for further analysis resulting in the capping of some wells’ (Interview with DWST member, June, 2019).

Weaknesses of the monitoring system

The issues monitored during the post construction stage are summarised below:

- Functionality of facilities;
- The existences and effectiveness of the Water and Sanitation Management Team;
- Population size in relation to water facility to determine whether the population is under or over served;

- Cleanliness of surroundings of water facilities;
- Open defecation

It is important to note that post construction monitoring was not systematically done, as captured by an informant whose response resonated with many others in the following:

‘You know at the beginning of a project, there is a lot of interest and enthusiasm on the part of all – community, the MMDA, development partners. Everyone works to ensure that the project is completed successfully. At this level, interest in monitoring is high because the MMDA and development partners want evidence of work done before processing payments. However, after the project is completed, sad to say but is the reality, the interest wanes thus affecting monitoring at this stage of projects’ (Interview with DWST Member, March 2019).

Another weakness of the integrated decentralised monitoring process is the rush with which monitoring data was collected. A key informant explained how the rushed process of data collection affected the effectiveness of water and sanitation services monitoring in the following:

‘The data collection process is done in a rush such that there is little room for reflection and use of the data collected’ (Interview with DPCU Member, June, 2019).

Community level involvement in the analysis and interpretation of data was rare except in the District Capacity Building Project (DISCAP) pilot project implemented in four of the districts in the region. One of the informants who witnessed the use of citizens’ scorecards to collect and analyse data at community level during the DISCAP period of the implementation of the decentralised integrated monitoring system recounted the process and usefulness of community involvement in the collection and analysis of the data in the following:

‘The process involved the use of scorecards where community rated the performance of different service providers in their communities. It enabled communities to gain appreciation of the state and level of different

services in the community. Armed with this information, they engaged effectively with the service providers in the service provider–community interface. Similarly, service providers also gained insight into the state of service provision in the communities’ (Interview with DWST Member, June, 2019).

The community members undertook data analysis and came out with their findings with the support of an NGO as the facilitator. This proved to be very useful as it provided learning opportunities for communities to learn from each other and to understand the complex nature of their problems and the role each of them had to play in order to liberate themselves from poverty. However, since the DISCAP project which piloted community level collection and analysis of data through the use of the citizens’ scorecards, this practice has not been going on in the districts, as indicated by an informant in the following:

‘I must say community involvement in the analysis and use of monitoring data is on a limited scale. We are however considering the adoption of the use of the citizens’ scorecards once used during the pilot stage of the implementation of the NDPC framework for decentralised integrated monitoring’ (Interview with DPCU Member, May, 2019).

Under the DISCAP pilot Project on decentralised integrated monitoring, civil society organisations consisting of local NGOs and community-based organisations were used to help communities use the scorecards to assess the performance of service providers.

It also emerged that the logistics situation and financial support for monitoring water and sanitation services has further worsened under the integrated districtwide monitoring system. According to a DWST member, the greatest challenge to monitoring water and sanitation services under the decentralised integrated monitoring is budget support for water and sanitation monitoring activities:

‘It is not that we don’t know what we are to do as far as monitoring of the water and sanitation services are concerned. The issue is logistical support to enable you to carry out the monitoring. You will draw up your plans

but when it comes to implementation and you request for money, you will mostly be turned down in the name of no money' (Interview with DSWT Member, June, 2019).

The issue of logistical support for monitoring was conveyed by another informant in the following:

'Monitoring at the district level for water and sanitation has been compounded by the decentralised integrated monitoring. Monitoring is now mainly financed from the MMDAs internally generated funds. Consequently, monitoring vehicles are not readily available. When they are available, fuel to take you to the field is a problem. Field allowances are also not released on time and as a result there is inadequate cooperation and support by team members. In the midst of all these, monitoring is not done regularly as it should be, resulting in inadequate data especially for trend analysis' (Interview with DPCU Member, April, 2019).

An informant at the regional level had this to say on the capacity of districts to implement a decentralised integrated monitoring system in relation to water and sanitation:

'The district assemblies' capacity for data collection, analysis and work planning is weak. In data analysis for instance, due consideration is not given to population growth and functionality of systems in the computation of coverage rates' (Interview with RWST Member, June, 2019).

The RWST staff also had this to say on the capacity of the district assemblies for monitoring:

'DAs are supposed to generate data that will inform planning. However, they are less interested in such activities. Operation and maintenance (O&M) and therefore monitoring is not a priority for the districts. They are always willing to receive new projects. There is also understaffing leading to overstretching of existing staff. They are generally weak in knowledge and skills with regards to water and sanitation planning and management – such that minor issues are even referred to the RWST' (Interview with RWST Member, June, 2019).

DISCUSSION

Varied processes for data validation

A significant strength of the decentralised integrated approach to water and sanitation monitoring is the creation of varied opportunities for validating and quality assuring data generated by the DWSTs. Hitherto, DWSTs reported directly to the RWSTs/CWSA. The integration has allowed the members of the DPCU and staff of the decentralised departments to have inputs into the data collected by the DWSTs. This process did not only ensure the quality of the data but also served as a platform for the district level stakeholders to have up-to-date information on the status of water and sanitation in their districts. It is worth noting that monitoring data should be of high quality if it is to be able to influence decision making. Since there is also the political dimension to monitoring and compounded in a context of undeveloped excessive partisan politics, the need for accurate and reliable monitoring data is more compelling. It is within this context that the processes of validation of the monitoring data can be appreciated. The study is however disappointed that community validation workshops never went beyond the pilot level of the decentralised integrated monitoring implementation. Such workshops brought downward accountability to the door step of ordinary citizens as well as bringing citizens and service providers into close contact for them to dialogue and confront development challenges head-on.

Complementary role of CWSA within decentralised integrated monitoring

The complementary role of CWSA within the decentralised integrated monitoring has helped in avoiding the deterioration of the capacity of the MMDA for water and sanitation monitoring. The backstopping role has helped to ensure the uptake of technology and availability of a checklist to guide the monitoring process at district and community level. This implies that decentralised initiatives that seek to give autonomy to lower level organisations must always take the context into consideration and provide room for complementary support to continue to be received from the organisations that they are weaned from.

Compounding of logistics situation for monitoring

A major challenge of decentralisation in the developing world is the gap between political and administrative decentralisation on the one hand and fiscal decentralisation on the other. This gap has created a funding deficiency for local government authorities. Central governments succeeded in transferring the non-lucrative and difficult to collect taxes to local government authorities, thus they continue to depend on central transfers for funding. Development partners-driven project monitoring, hitherto practiced, made financial provision for project implementation monitoring. The adoption of an integrated decentralised monitoring approach has meant that monitoring has become a responsibility of the MMDAs. Within such a funding context, it is appreciable why logistical and financial support for water and sanitation has been compounded by the decentralised integrated monitoring. Taking the peculiarity of the context of water and sanitation as elucidated by Wells *et al.* (2013), it is important local authorities prioritise water and sanitation monitoring in order to ensure that the benefits of investments into the sector yield maximum benefits. Inadequate attention to monitoring of functionality and use of facilities could pose serious challenges with regard to quality of water. This is because quality of water could deteriorate with time and if this is not tracked, people could be drinking contaminated water, as observed by Dongzagla (2019). Besides, it is important to monitor water use practices because of their influence on the quality of water and the benefits consumers get from installation of water facilities. To ensure that water quality monitoring is given the needed attention, it should have a line budget separate from the budget for the general monitoring of the activities of the local government. This would ensure that water quality monitoring does not suffer along with general monitoring of activities of local government.

Weak and unexploited stakeholder involvement in data analysis and use

The decentralised integrated monitoring is pillared on participation and gives space for stakeholder involvement in the process. The benefits of stakeholder involvement in monitoring has also been recognised (Smits & Champagne

2008; Akanbang *et al.* 2016, 2019). However, community level involvement in data analysis and use of monitoring data was weak and grossly unexploited. The disconnect between policy and practice regarding stakeholder involvement in monitoring needs further research investigation and analysis. This would help to allay the fears of Wells *et al.* (2013) of monitoring becoming a tool for compliance reporting rather than a collaborative process for critical reflection and pro-active managerial action.

Process of data collection does not promote reflection and learning

Learning is one of the cardinal outcomes or purposes of evaluation (Chelimsky 1997; Patton 2008; Akanbang *et al.* 2016). The monitoring system should therefore be such that it allows for critical reflection on the outcome of the data and information generated for the purpose of informed or evidence-based decision making. The essence of monitoring is not to collect, analyse and store information so that it can be retrieved as and when demanded. Thus, the process of the data collection, analysis and reporting should allow for critical reflection and learning. This can be achieved if there is ample time for the collection and reporting on the data. The current practice in which data is collected hurriedly in order to meet timelines for the preparation of the annual progress report or meeting timelines for the submission of proposals for funding, among others, do not support critical reflection and learning at the community and MMDAs levels.

Weaknesses in capacity and conditions for monitoring

The readiness of an organisation to plan and implement a monitoring system is critical to its effectiveness (Kusek & Rist 2004). The organization's readiness includes its ability to perform its roles and responsibilities; incentives and demands for such a system (Richardson 2003); ability of the organization to sustain systems; availability of technical skills, technology quality of data systems and fiscal resources; and institutional experience (Wells *et al.* 2013). In respect of many of these capacity issues, this research revealed that there remains a major gap. Thus, capacity development for monitoring at the decentralised level is a

fundamental requirement to benefiting optimally from monitoring. Tailored training programmes for monitoring would complement government's efforts at profiling monitoring through the establishment of the ministry for monitoring and evaluation.

CONCLUSION

The integration of monitoring of water and sanitation services into decentralised integrated districtwide systems for monitoring has yielded mixed results. On the positive side, it has ensured that processes for validating and using of monitoring data for improving quality of services and downward accountability are available. However, the financial, logistics and capacity situation for monitoring water and sanitation services has further deteriorated. Its objective of enhancing the participation of community level stakeholders in the collection, analysis and use of monitoring data has been short-lived. The study thus recognises the setting up of an institutional framework for involving community level stakeholders in data collection; and with integrity systems for validating and using data as a vital foundation for the development of an effective system for monitoring water and sanitation services. However, this foundation step is not enough for monitoring to contribute to the effectiveness and efficiency of decentralized governance processes as well as assure accountability in water and sanitation services delivery. The need for special attention to be paid to monitoring water and sanitation services because of their uniqueness is critical to leveraging funding and logistics in support of their monitoring within a decentralised integrated monitoring system.

DATA AVAILABILITY STATEMENT

All relevant data are included in the paper or its Supplementary Information.

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